

MINUTES OF  
BUDGET AND CONTROL BOARD  
MEETING

September 6, 1990

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STATE OF SOUTH CAROLINA  
**State Budget and Control Board**  
OFFICE OF THE EXECUTIVE DIRECTOR

CARROLL A. CAMPBELL, JR., CHAIRMAN  
GOVERNOR

GRADY L. PATTERSON, JR.  
STATE TREASURER

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COMPTROLLER GENERAL

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JAMES M. WADDELL, JR.  
CHAIRMAN, SENATE FINANCE COMMITTEE

WILLIAM D. BOAN  
CHAIRMAN, WAYS AND MEANS COMMITTEE

JESSE A. COLES, JR., Ph.D.  
EXECUTIVE DIRECTOR

September 12, 1990

MEMORANDUM

TO: Budget and Control Board Division Directors  
FROM: Donna K. Williams, Assistant Executive Director  
SUBJECT: Summary of Board Actions at September 6, 1990, Meeting

This listing of actions is an unofficial **summary** of the Board actions taken at the referenced meeting. The minutes of the meeting are presented in a separate, more detailed document which becomes official when approved by the Board at a subsequent meeting.

The Board heard requests from the following agencies:

State Department of Education  
Educational Television Commission  
State Library  
Arts Commission  
Department of Archives and History  
School for the Deaf and the Blind  
Wil Lou Gray Opportunity School

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FAX (803) 734-2117

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**MINUTES OF STATE BUDGET AND CONTROL BOARD MEETING**

**September 6, 1990                      9:00 A. M.**

The Budget and Control Board met at 2:00 p.m. on Thursday, September 6, 1990, in Room 105 of the Gressette Office Building, with the following members in attendance:

Governor Carroll A. Campbell, Jr., Chairman;  
Mr. Grady L. Patterson, Jr., State Treasurer;  
Mr. Earle E. Morris, Jr., Comptroller General;  
Senator James M. Waddell, Jr., Chairman, Senate Finance Committee;  
Representative William D. Boan, Chairman, Ways and Means Committee,

Executive Director Jesse A. Coles, Jr., Ph.D., and other Board staff were present.

**Continuation of 1991-92 Budget Preparation Process**

Dr. Lewis J. Perelman of the Hudson Institute, opened the session with a presentation on technology restructuring and higher order thinking skills.

**Agency Budget Requests**

The Board heard requests from the following agencies:

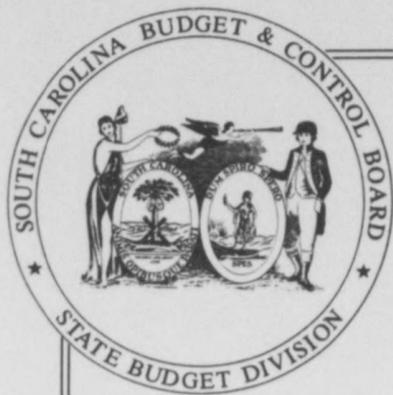
State Department of Education  
Educational Television Commission  
State Library  
Arts Commission  
Department of Archives and History  
School for the Deaf and the Blind  
Wil Lou Gray Opportunity School

Information relating to these matters has been retained in these files and is identified as Exhibit 1.

[Secretary's Note: In compliance with Code §30-4-80, public notice of this meeting was given to news media representatives and others on numerous occasions during the months of June, July and August.]

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**EXHIBIT**

SEP 6 1990 1

STATE BUDGET & CONTROL BOARD

**BUDGET HEARINGS**

**Fiscal Year 1991-92**

**September 6, 1990**

**002078**

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**EXHIBIT**

SEP 6 1990 1

STATE BUDGET & CONTROL BOARD

PRESENTERS FOR AGENCIES APPEARING

THURSDAY, SEPTEMBER 6, 1990

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STATE DEPARTMENT OF EDUCATION

Dr. Charlie G. Williams, State Superintendent

\*\*\*\*\*

EDUCATIONAL TELEVISION COMMISSION

Jack W. Newton, Chairman  
Henry J. Cauthen, President

\*\*\*\*\*

STATE LIBRARY

James B. Johnson, Jr., Director

\*\*\*\*\*

ARTS COMMISSION

Scott Sanders, Executive Director

\*\*\*\*\*

DEPARTMENT OF ARCHIVES & HISTORY

Dr. George L. Vogt, Director

\*\*\*\*\*

SCHOOL FOR THE DEAF & THE BLIND

Joseph P. Finnegan, Jr., President

\*\*\*\*\*

WIL LOU GRAY OPPORTUNITY SCHOOL

Mary Catherine Norwood, Ph.D., Superintendent

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STATE DEVELOPMENT BOARD

Wayne L. Sterling, Director

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**EXHIBIT**

SEP 6 1990 1

STATE BUDGET & CONTROL BOARD

State Budget & Control Board

**FY 1991-92  
BUDGET REQUEST HEARINGS**

**ELEMENTARY & SECONDARY  
EDUCATION**

Thursday, September 6, 1990

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**FY 1991-92 BUDGET HEARINGS**

**Thursday, September 6, 1990**

**ELEMENTARY & SECONDARY  
EDUCATION**

2:00 - 3:00

**Curing 'Acanemia': More Bang, Fewer Bucks**  
Dr. Lewis J. Perelman, Hudson Institute

Introduction by: Mary J. Willis

3:00 - 3:30

State Department of Education

3:30 - 3:50

Educational Television Commission

3:50 - 4:00

State Library

4:00 - 4:10

Arts Commission

4:10 - 4:20

Department of Archives & History

4:20 - 4:30

School for the Deaf & the Blind

4:30 - 4:40

Wil Lou Gray Opportunity School

4:40 - 4:55

State Development Board

4:55 - 5:15

Question & Answer Session

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Guest Speaker

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EXHIBIT

LEWIS J. PERELMAN

SEP 6 1990

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STATE BUDGET & CONTROL BOARD

Senior Research Fellow  
Hudson Institute

Lewis J. Perelman, a Senior Research Fellow of the Hudson Institute, directs Project Learning 2001, a study of restructuring education and training sponsored by eight U.S. corporations and foundations. Dr. Perelman works in the Washington office of the Institute, which is headquartered in Indianapolis.

Since joining Hudson Institute in 1989, Dr. Perelman has produced several publications on training and education, including the widely discussed Briefing Papers, "Closing Education's Technology Gap" (November 1989) and "The 'Acanemia' Deception" (April 1990). His report for Hudson Institute's Workforce 2000 project, *The American Learning Enterprise in Transition*, was published by the Organization for Economic Cooperation and Development (Paris, 1990).

As an independent consultant from 1983 to 1989, Dr. Perelman aided public and private policymakers concerned with human resource and economic development issues. His 1987 report for the National School Boards Association, *Technology and Transformation of Schools*, is considered essential reading in the field of education technology policy. He coined the phrase *The Learning Enterprise* to describe the total universe of education and training in a report with that title published by the Council of State Planning Agencies in 1985. And his study for the Western Governors' Association, *Human Capital Investment for State Economic Development* (1989), was the first attempt to chart the entire "portfolio" of a state's many investments in human resource development. Perelman's first book, *The Global Mind*, was cited one of the sixty best scientific/technical books of 1976 by the *Library Journal*.

Dr. Perelman's work in education and training has been widely discussed in the national press, cited in legislative testimony, and used in university courses. Perelman has made speeches and presentations of his work before numerous audiences throughout the United States and in Europe.

From 1981 to 1983, Dr. Perelman was a director in the corporate planning department of Holiday Corporation in Memphis. From 1979 to 1981, he was a senior scientist in the Social Systems Group at Caltech's Jet Propulsion Laboratory. In 1980, Dr. Perelman was a visiting scientist at the International Institute for Applied Systems Analysis in Laxenburg, Austria. Previously he was a program analyst at the federal Solar Energy Research Institute and a staff economist at the Colorado Highway Department. Perelman taught physics and mathematics in public schools in New York and California and has taught graduate courses at the Harvard Graduate School of Education and the George Mason University School of Business Administration.

Dr. Perelman earned his doctorate in administration, planning, and social policy at the Harvard Graduate School of Education. He graduated cum laude with a B.S. in mathematics from the City College of New York, where he was elected to Phi Beta Kappa. He also did graduate study in space and atmospheric physics at the Goddard Institute and at the Harvard Division of Engineering and Applied Physics. Dr. Perelman is a member of the Institute of Electrical and Electronic Engineers.

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Reprinted February 1990

September 6, 1989

No. 110

**The Hudson Institute Background Briefing  
for The President's Education Summit**

A great number of government policies, laws, and regulations already applies to the nation's vast system for education, training, and human development. What is most needed now is not more ad hoc initiatives but a coherent strategy--a national "learning policy" addressing the radically different needs and opportunities of the 21st century's knowledge-based economy.

Hudson Institute senior staff have produced several reports in recent years documenting the need for basic change in the nation's education and training systems: *Workforce 2000* (William B. Johnston & Arnold H. Packer), *Winning the Brain Race* (Denis P. Doyle), and *Technology and Transformation of Schools* (Lewis J. Perelman). Based on these studies and ongoing work on this subject, we believe the President and the governors could make a useful contribution to the national effort to restructure education by publicly agreeing to a set of basic principles and assumptions that will guide future policy.

From our work, we suggest that such a national strategy should be grounded on the following critical observations:

**1. LEARNING IS THE KEY TO THE  
INFORMATION AGE ECONOMY.**

Knowledge has replaced material resources as the cardinal commodity in the postindustrial economy. Knowledge and skill embodied in both human capital and automated technology

are now the key factors of international competitiveness. The creation, manipulation, and transmission of knowledge have become the strategically critical production processes. But another name for these processes is simply "learning." The learning enterprise--comprised of education and training along with activities bearing other titles such as communication or research--has become the keystone industry of the modern era. In these circumstances, the nation most likely to lead the world in the 21st century is the one that is the most efficient "learning society."

**2. EMERGING TECHNOLOGY OFFERS  
THE OPPORTUNITY TO COMPLETELY  
TRANSFORM EDUCATION, TRAINING,  
AND LEARNING IN GENERAL.**

Existing technologies for programming and automating instruction can double the cost-effectiveness of teaching. Emerging multimedia, digital networks will make instruction even more productive, and accessible anywhere, anytime, to whoever wants it. Biotechnology will lead to better understanding of brain functions, and even to pharmaceuticals that will enhance intelligence and creativity. Teaching and learning increasingly will be combined with the work of most jobs, and will be imbedded in diverse media completely divorced from schools or classrooms, from business equipment to entertainment products.

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### **3. THE BUREAUCRATIC STRUCTURE OF THE CONVENTIONAL EDUCATION SYSTEM IS A BARRIER TO PROGRESS.**

The problems of the American education system are similar to those of the Soviet economy, for similar reasons. The public school is, in effect, America's "collective farm." The poor productivity of both the American school and the Soviet farm stems not from the absence of technology per se. Rather, technological backwardness and declining productivity both are symptoms of the lack of incentives for efficiency and innovation inherent in government owned, operated, and regulated monopolies.

### **4. PRODUCTIVITY IS THE CENTRAL ISSUE.**

Education, as a whole, is America's least productive major industry, yet the one most strategically critical to future economic growth and development. Education is tied as the most labor-intensive industry; has the lowest level of capital investment of any industry; and makes the most minuscule investment in research and innovation of any sector of the economy. As a result, while technology has primed explosive productivity growth in other information-based industries, the efficiency of education has steadily declined.

### **5. THE NATION NEEDS TO REALLOCATE, NOT EXPAND, THE FINANCIAL AND OTHER RESOURCES DEVOTED TO EDUCATION.**

Real-dollar spending per student in public schools has grown four times since the 1950s and some 30 percent since the latest wave of school "reform" began in 1983, with no comparable increase in performance. Extensive research shows no strong or systematic

relationship between students' actual achievement and the amount of money spent on schools or teachers' salaries. The most-educated members of the U.S. workforce receive the most investment in training and education. The "forgotten half"--the less-educated and often functionally or marginally illiterate--of the adult workforce gets only a tiny fraction of education and training resources.

Roughly a half trillion dollars is spent annually on education and training of all kinds in the U.S.--leaving the learning enterprise virtually tied with health care as the economy's biggest industry. Expanding this huge budget is neither feasible nor necessary. Existing resources can and must be redistributed to meet unserved needs and to achieve more bang for each buck.

### **6. MARKETS ARE THE KEY TO TECHNOLOGICAL INNOVATION AND PRODUCTIVITY GROWTH IN THE LEARNING ENTERPRISE.**

"Restructuring" the U.S. education economy has the same essential goal and requirements as restructuring, or "perestroika," in the entire Marxist economy: replacing government monopoly and bureaucratic administration with a market system where entrepreneurial organizations are free to compete and consumers are free to choose.

There is no path to competitiveness that does not include competition. Only in a competitive market will schools and other instructional providers have both the motive and opportunity to adopt the kinds of technological innovations that can provide more effective learning at lower cost. Only when educators and students have incentive and freedom to purchase productive learning tools will producers be able to sell new educational technologies profitably. And only when vendors can sell such products profitably will the technologies be available and affordable for popular use.

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**7. THE PRIVATE SECTOR HAS AN ESSENTIAL ROLE TO PLAY TO MAKE EDUCATIONAL RESTRUCTURING HAPPEN.**

History offers no evident examples of large bureaucracies restructuring themselves entirely from internal motivation. While many professional educators--probably even the majority--hunger for basic change in the existing, stagnant system, the massive inertia of the education bureaucracy is as unresponsive to their aspirations as it is to the needs of the educational consumer. The impetus for basic, structural change must come from outside, from the private sector: employers, investors, workers, and families.

While consciousness has been raised of the failures of the education system and of the resulting disabilities of the U.S. workforce, private initiatives aimed at "reform" so far have been diffuse, unorganized, unduly cautious, often misdirected, and largely without positive effect. What is needed in the private sector is a strategically focused coalition committed not only to altering established education and training institutions, but to bypassing and replacing them with new technologies and organizational structures.

**8. A CLEAR GOAL IS NEEDED TO FOCUS THE STRATEGY.**

The work that needs to be done to reinvent the vast, complex economy of education, training, and learning must proceed on many fronts. To unify and focus these diverse activities, the governors and President should aim at **doubling the productivity of investments in education and training in the U.S.**

Neither the governors nor the President can realize the objective of higher productivity by themselves. But they can work to mobilize the political, economic, and technological ini-

tiatives necessary to achieve this goal, and if not in the entire country, then in whatever states, cities, communities, industries, or companies are ready to act.

This goal is not especially ambitious. All the essential technologies, methods, and organizational arrangements required for its achievement already exist and have been demonstrated somewhere in America today. What is needed is only to combine the necessary ingredients and put them into practice.

Furthermore, this goal is not proposed as an ultimate solution, but only as a first step toward greater innovation and efficiency. Considering that the power of computer, telecommunications, and related information technologies has been growing by several orders of magnitude every decade or two since the middle of this century, far swifter progress in educational technology should be expected.

Once a culture of innovation is established by restructuring and replacing the education bureaucracy, continued rapid growth in learning productivity should be attained in the beginning of the 21st century. Achieving this bolder goal will require substantial national investments in:

- (1) measures of educational competencies valued by employers;
- (2) new educational technologies, such as computers;
- (3) training of teachers and other staff in the use of these technologies;
- (4) R&D in cognitive science; and
- (5) implementation of a digital communications network, based on fiber optic and related technology, linking every home and business in the nation.

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*Please see following page for biographies of Hudson Institute research staff on education.*

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**DENIS P. DOYLE**

*Senior Research Fellow*

Denis P. Doyle is a co-director of Hudson's *Learning 2001* project. He is a coauthor of *Winning the Brain Race: A Bold Plan to Make Our Schools Competitive*, which was listed by *The American School Board Journal* as one of "Eight Must Books of 1988." He also wrote "Endangered Species: Children of Promise," an education "white paper" published in *Business Week* in November 1989, the longest special section ever run by that magazine.

Before joining Hudson, Mr. Doyle was Director of Education Policy and Human Capital Studies at the American Enterprise Institute. There he was project codirector for the policy statement *Investing in Our Children: Business and the Public Schools*. He has also served as an assistant director at the National Institute of Education. Mr. Doyle is a widely-published writer and frequent spokesman on education issues.

**WILLIAM B. JOHNSTON**

*Vice President for Special Projects  
and Senior Research Fellow*

William B. Johnston is coauthor of *Workforce 2000*, a long-range look at trends affecting work and workers in the late 20th century which has become a cornerstone of national debate on human capital issues. He is also coauthor of *The Catastrophe Ahead*, a study the economic, social, and political implications of the AIDS epidemic during the next decade, to be released in Spring 1990 by Praeger Publishers.

Before joining Hudson, Mr. Johnston was Director of Public Policy Research for the Conference Board. He previously served as Assistant Secretary of Transportation and as Associate Director of the White House policy staff under President Carter. He is the author of numerous books and articles.

**ARNOLD H. PACKER**

*Senior Research Fellow*

Arnold H. Packer is coauthor of *Workforce 2000* and, as a part of that study, head of a Hudson Institute project on workplace literacy.

Dr. Packer is a former Assistant Secretary of Labor in the Carter Administration. Before that, he was an economist for the Office of Management and Budget and the first chief economist for the Senate Budget Committee. In 1982, he formed a company to produce interactive videodisc training courses to teach basic workplace skills. Dr. Packer has written extensively on economics, employment and training policies, and the use of technology for training.

**LEWIS J. PERELMAN**

*Senior Research Fellow*

Lewis J. Perelman is a co-director of Hudson's *Learning 2001* project. He wrote "Closing Education's Technology Gap," a Hudson Institute Briefing Paper issued in November 1989.

Dr. Perelman is the author of *Technology and Transformation of Schools*, which he produced for the National School Boards Association, as well as *The Learning Enterprise*, *Human Capital Investment for State Economic Development*, and *The Global Mind*, which was cited by *Library Journal* as one of the best scientific/technical books of 1976.

Dr. Perelman's background includes work on technology policy as a Senior Scientist at the Jet Propulsion Laboratory in Pasadena and as Director of Technology Assessment for Holiday Corp., independent consulting on public and private policies for human resource development, and teaching in public schools in New York and California.

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## Closing Education's Technology Gap

by Lewis J. Perelman

*[SUMMARY: Viewed as an economic sector, education has the worst productivity record of any major U.S. industry. Part of the reason is that education invests a hundred to a thousand times less in research and development than other, information-based businesses. To close the gap, U.S. education and training institutions should set aside at least 1% of their budgets for an R&D fund to be managed by a new National Institute for Learning Technology.]*

Education costs too much. At the same time that the learning enterprise--the vast business of education, training, and learning activities--is becoming more crucial to an information age society,<sup>1</sup> the spiralling cost of conventional education's dubious output is becoming a millstone around the neck of the entire national economy. Education's productivity crisis lies at the heart of our country's overall human capital predicament.

Emerging initiatives to not merely reform but to "restructure" the nation's educational enterprise in radical ways<sup>2</sup> will be essential to undoing education's productivity malaise. These structural changes--opening public schools to choice and competition, cutting centralized bureaucracy and red tape, holding education and training accountable for actual knowledge and skill gained by students, and revising employment practices to reward competence and

flexibility--will finally create an environment where instructional efficiency matters.

But the combination of modern technological and organizational innovations that has enabled productivity to soar in other industries will not occur even in a restructured educational system unless education makes an investment in research and development comparable to other economic sectors. The shocking truth is that, compared to any other major industry, American education's investment in research and innovation is almost nonexistent.

Advocates of restructuring education have tended to overlook the magnitude and importance of education's R&D gap. Closing that gap must be made a top priority item on the restructuring agenda.

**Education's productivity crisis**

A four-year study by the U.S. Congress' Office of Technology Assessment<sup>3</sup> concluded that the key obstacle thwarting America's shift to an information age economy is the egregiously poor productivity of the education sector. In particular, OTA found that education is tied (with social work) as the most labor-intensive business in the economy, with labor costs equal to 93% of output value, compared to 54% for all private business.

*Lewis J. Perelman is a Senior Research Fellow at Hudson Institute and a former Senior Scientist at the Jet Propulsion Laboratory. He is the author of Technology and Transformation of Schools (National School Boards Association, 1987) and is working on a book on The Learning Revolution.*

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Education's productivity is not only poor but declining. Since 1950, the real dollar (inflation-adjusted) cost of elementary/secondary (K-12) education in the United States has quadrupled! College is no better bargain: The price tag for higher education doubled in the last decade as costs grew much faster than inflation.

Costs zooming upward, enrollments staying the same or declining, and the quality of the output of schools and colleges either staying as good (according to their fans) or deteriorating (according to their critics) altogether mean that educational productivity--in terms of the ratio of effectiveness to cost--has been going sharply downhill.

The immediate cause of this dreary performance is education's gross lack of investment in technology. OTA's study revealed that education has by far the lowest level of capital investment (another name for "buying technology") of any major industry: only about \$1,000 per employee. The average for the U.S. economy as a whole is about \$50,000 of capital investment per job. Some high-tech industries invest \$300,000 or more in technology for each worker. Even other, relatively labor-intensive, "service" businesses provide at least \$7,000 to \$20,000 worth of equipment and facilities for each employee.

This is a good place to call attention to a unique characteristic of the education industry, or learning enterprise, that sets it apart from all other businesses, and that makes the above and other unflattering comparisons even worse. That is: **Education is the only business where the consumer does the essential work.** To the extent that learning is education's essential (though not only) business, it's clear that the productivity of the student or learner--not teachers or administrators--is what ultimately counts.

If we count the student, rather than the paid staff, as the "worker" to be compared to workers in other sectors, education's productivity/technology gap looms even larger. Thus, the public schools' niggling capital investment of \$1,000 per employee becomes a pathetic \$100 per worker if worker means student. As a matter of fact, while the average U.S. public school budget now comes to about \$5,000 per student annually, the typical school district expends only about \$100 to \$200 of that exorbitant sum on materials and tools for each student to use directly for learning.

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**The combination of modern technological and organizational innovations that has enabled productivity to soar in other industries will not occur even in a restructured educational system unless education makes an investment in R&D comparable to other economic sectors.**

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In a world where life cycles of product and production technology now are measured in months rather than decades, scanty capital investment inevitably leads to creaking technological backwardness. So we should be dismayed but unsurprised to observe that--in the midst of a global information revolution--the instructional technology available to most students, most of the time, in most American schools and colleges today ranges from 100 to 1,000 years old. While the power of information technology has been leaping upward by factors of 10 every few years since the 1950s, a report a few years ago by the late Ithiel Pool of MIT<sup>4</sup> found that classroom instruction was the only one of some two dozen communications media studied whose productivity sharply declined during the past two decades.

Had the power of educational technology (not in some laboratory but in common use) grown at the same pace over the last four decades as the power of computer technology, a high school or college diploma--which still take 12 and 4 years respectively to produce, at an average cost for either of about \$60,000--could be produced in less than ten minutes for about five cents!

The point is not so much that we should expect instant education for a nickel tomorrow, but that at least we should expect the education industry to make some meaningful technological progress in the same direction--forward--as the rest of the economy. This comparison also emphasizes that the technological gap between the school environment and the "real world" is growing so wide, so fast that the educational experience is at risk of becoming not merely unproductive but utterly irrelevant to normal human existence.

#### The R&D gap

Compared to any other part of the modern economy, the minuscule share of the education industry's vast financial resources invested in research and development is shocking. While the federal government pays less than 9% of the national bill for formal education (school and college), it pays for most of the educational research. Depending on what one counts as "R&D," the federal Education Department spent between \$136 million and \$388 million on some kind of research in the 1989 fiscal year. Only about a million dollars of this was devoted to development of advanced instructional technology. Most of the research on high-tech teaching and learning is financed by the Defense Department, to the tune of about \$200 million annually. The National Science Foun-

dation also allocates about \$15 million a year to research on innovative instruction for science and mathematics.

These hundreds of millions of dollars may sound like a lot of money for research until one considers the scale of the nation's learning enterprise. The education and training sector is America's largest information industry and, depending on what is counted, may be simply the country's biggest business. Formal instruction provided by schools, colleges, and corporate and military training departments is about a \$400 billion a year industry; OTA estimates it employs around 10% of the U.S. workforce. When on-the-job training and other less visible but no less economically significant forms of teaching and learning are included, the learning enterprise is over a \$500 billion business, and may even equal the \$600 billion health care industry (generally viewed as the biggest).

By OTA's accounting, the education sector's investment in R&D comes to only 0.025% of its annual revenues. Even if demonstration projects, program evaluations, and other activities plausibly considered "research" are included, education's R&D spending still is less than 0.1% of revenues.

In contrast, R&D accounts for 2.5% of the entire U.S. gross national product. The average American business firm invests 2% of sales in R&D. But in high-tech, information-based businesses--the kind of business education ought to be but isn't--companies commonly plow 7% to 30% of their sales into R&D. For instance, in *Business Week's* latest "R&D Scoreboard" the five top-rated companies in the computer software and services sector (the fastest growing segment of today's computer industry) spent 26.9%, 17.2%, 17.9%, 16.1%, and 28.6% of their revenues on R&D.

But *Business Week's* recent research revealed that it is the amount of R&D investment **per employee** that is the most powerful predictor of business success. By that standard, the magnitude of the education sector's failure to invest in innovation is magnified because education, being so labor intensive, dilutes its already piddling R&D expenditures over a relatively larger workforce than other businesses.

For the formal education sector (kindergarten through university), R&D spending per employee is less than \$50 a year. Now consider what each of those leading companies in the computer software and services business spend annually on R&D per employee: \$42,622; \$36,207; \$33,535; \$30,389; and \$30,264.<sup>5</sup> The composite figure for all the companies in all the industries rated by *Business Week* is \$5,042 of annual R&D investment per employee.<sup>6</sup>

As dismal as \$50 a year for education's per-employee R&D investment appears, it's instructive again to recall that the student is the "worker" whose productivity most matters in the education business. So the education sector's annual R&D investment per worker realistically is something less than \$5--**a thousand times less** than the norm for other major industries, and **ten thousand times less** than the amount spent by the most competitive U.S. firms in high-tech, information businesses.

#### The innovation gap

Clearly, a bold initiative is urgently needed to close education's disastrous R&D gap. But before getting to specific proposals to solve that problem, it's essential to recognize that merely adding dollars to the educational research budget will not, by itself, lead to more innovation or greater productivity in the nation's schools and colleges.

The failure to effectively exploit the instructional power of the computer is just one notable illustration of educational institutions' capacity to resist change. A decade and a half into the "desktop computer" revolution, 40 million personal computers are in use in the United States. Computers called "computers" are in some 20 million American homes. But nearly 30 million U.S. homes have Nintendo "game" units--computer terminals masquerading as toys.

In contrast, another OTA report<sup>7</sup> found that U.S. schools have spent a total of about \$2 billion on instructional computers over a period of ten years--that's only a tenth of what the rest of America spends on personal computers every year. A recent survey by Henry Jay Becker of Johns Hopkins University determined that there are about two million instructional computers in K-12 schools, only about one for every 20 students on average.<sup>8</sup> Many of the computers counted as "present" in schools are old, obsolete, or simply locked away, unused. While experts have concluded that, ideally, all students should get to use instructional computers for about a third of their time in school, or 10 hours a week, the OTA report estimated that students typically get to use computers in U.S. schools only about one hour a week.

There is little mystery about the broad reasons for the failure of schools and colleges to adopt computers and other technological innovations or about what needs to be done, in general, to remedy these institutions' resistance to progress. The key reasons for the lack of adoption of productive technological innovations in U.S. pre-college education lie in the combination of incentives and disincentives common to government-owned, bureaucratically administered, monopolistic enterprises.

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In essence, the public school is America's collective farm. Innovation and productivity are lacking in American education for basically the same reasons they are scarce in Soviet agriculture: absence of competitive, market forces.

The public school normally provides, at best, no incentive--other than altruism or curiosity--for practitioners to adopt innovations. A teacher I interviewed for a recent study of the use of computers in public schools put it succinctly: "Why should I do anything different next year from what I did last year?" In fact, scarcely any schools, even those that aspire to be progressive, offer any substantive reward, or even opportunity, for professional staff to adopt productive tools.

At worst, and commonly, the typical school environment is pregnant with disincentives for innovation which, over a period of a half century or more, have proven highly effective in preventing or reversing technological change in education.

For instance, journalists and other education analysts commonly cite lack of teacher training as a barrier to adoption of instructional computers. Yet training, by itself, cannot overcome bureaucratic disincentives. As Bella Rosenberg of the American Federation of Teachers states bluntly, and correctly: "Teacher training is no substitute for restructuring education." Indeed, training may even prove counterproductive.

The Houston Independent School District, for example, used to provide an intensive, 300-hour teacher training course in the effective use of instructional technology.<sup>9</sup> Yet graduates of the program--the most innovative and technically proficient teachers in the district--who practiced what they had learned actually got

negative grades on a state-imposed teacher evaluation instrument that values "teaching" according to the ability to stand in front of a blackboard and talk, rather than the ability, or even willingness, to employ modern, student-centered tools. Staff in the district report that many of the best-trained teachers left the system for jobs where their skills are in demand and rewarded.

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**The education sector's annual R&D investment per worker realistically is something less than \$5--a thousand times less than the norm for other major industries, and ten thousand times less than the amount spent by the most competitive U.S. firms in high-tech, information businesses.**

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Despite apparent institutional differences, the barriers and disincentives for innovation in higher education are broadly similar to and equally effective as those that hobble K-12 schools. The list of such obstacles could be extended indefinitely. But the vast majority stem from the bureaucratic structure of the formal education system, not, as some "experts" claim, from inadequate technology or lack of government subsidies.

In contrast to the situation in schools and colleges, demand for computer-based instruction is strong in the unregulated and unsubsidized market for employer-provided education. It is estimated that some 30% of the more than \$50 billion employers invest annually in employee training is spent on computer-based instructional systems--that is over seven times more in one year than public schools have spent on instructional computers in the last ten years! Or, to look at the same data from another

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angle, employer-provided education invests a 300 times larger share of its total budget in computer-based instruction than public education does.

The failure to consider the total market for instructional computing and other advanced technology beyond schools commonly distorts published reports of educational technology's lack of progress.<sup>10</sup> Contrary to what many reports imply, the problem is not that instructional computers don't work well enough, or that they are not affordable, or that educators won't use them. The truth is that computer-based and other high-tech instructional tools are being produced, sold, and used successfully and extensively **outside of schools**.

The key difference is that competition makes corporate and military trainers accountable for costs and results. And the principal reason for the almost total lack of investment in productivity-enhancing technological innovation, and for the record of steadily declining productivity in formal education, is the inherent absence of competitive, market incentives in the bureaucratic structure of the U.S. educational system.

History argues that neither the abundance of current information technology nor further research and invention of even more exotic tools for teaching and learning will, by themselves, have much impact on the near-static pace of innovation in education. Pocket calculators have been ubiquitous for some two decades, yet their common use in pre-college education is still sedulously resisted. Television has been around for half a century yet its educational use remains largely trivial. The telephone is a century-old technology; yet hardly any school teachers in America have their own office telephones or even ready access to one.

An illuminating study by Douglas Ellson<sup>11</sup>

unveiled 125 instructional technologies and methods that, according to published research reports, have been proved capable of at least doubling the productivity of teaching. Yet Ellson observed that the use of these productive tools is virtually unknown in U.S. schools and colleges. Over 20 years of research shows that computer-assisted instruction, properly employed, can produce at least 30% more learning in 40% less time at 30% less cost than traditional classroom teaching. The cost to the U.S. economy of education's failure to adopt these kinds of proven, on-the-shelf teaching technology on a large scale may be as much as \$100 billion a year.

Continual attempts to inject technological innovation into American schools and colleges through subsidized experimental, pilot, and demonstration projects or top-down bureaucratic mandates have failed as thoroughly as similar initiatives in the Soviet state agricultural system. In contrast, American agriculture has become the most productive in the world because adoption of technological innovation has been motivated by the competitive forces experienced by independent, market-driven enterprises.

The lesson in this is that the massive increase in educational R&D the country desperately needs will not pay off in actual, productive innovation in American schools without a solid dose of *perestroika*. That is, public schools will remain technologically backward until they are forced to compete to attract customers (students) who control the revenues the schools earn. And colleges will continue to eschew efficient instructional technology until instruction is unshackled from the priority of faculty research, productivity takes precedence over selectivity, and institutions are made to compete to generate real learning, not just elite credentials.

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On the other hand, the agenda of educational restructuring that has recently evolved from growing disillusion with conventional "reforms" will bear little fruit unless a vastly expanded share of education's resources is committed to the research that is the wellspring of progress and productivity.

#### A solution to the R&D gap

To start closing the education industry's yawning R&D gap, I propose the following major initiative that we can call the "Hundred-By-One Plan." These are its main provisions:

1. Get every education and training institution, organization, and program in the United States to set aside at least 1% of its gross revenues for investment in research and development.

One percent of revenues for R&D is a painfully modest goal--only half the average R&D spending for U.S. businesses, and far less than is typical in high-tech industries--but it's still at least ten times more than what education now spends. With education and training budgets commonly growing by 5-10% a year, it's hard to imagine that any institution could plausibly argue that taking 1% of its budget away from current operations could cause serious damage. Even greater R&D investment would be welcome, of course, but this minimal amount would get the ball rolling.

2. The goal of this new investment in educational innovation should be to achieve a 100% increase (a doubling) in the productivity of U.S. education and training by a certain date, say, 1996 or 1998.

This is the meaning of a "Hundred (percent growth in productivity) By One (percent invest-

ment in R&D)." The specific goal is subject to discussion; as noted above, doubling teaching productivity is a rather modest goal that can be achieved with on-the-shelf technology, without any new invention. The important thing is to have a goal clearly defined in terms of the benefits of R&D, not just the amount spent on R&D. This will help remind institutions, policymakers, and taxpayers that dollars allocated to R&D are not a loss to the budget, but will be returned many times over in greater productivity.

3. These funds will be pooled in a common fund administered by a National Institute for Learning Technology. Contributors will be members of the Institute.

The main reasons for having a single Institute are administrative efficiency, and to achieve "critical mass" or economies of scale in research projects. But the Institute need not and most likely will not be localized in one building or campus. Rather, most of its research operations would be highly decentralized. The National Institute might well be formed most expeditiously as a network or consortium of individual state institutes. The specific form of organization and management will be determined by the Institute's members and directors.

An important reason for having the institutions put up the R&D money through the 1% setaside--rather than rely on subsidies or contributions from others--is that it will increase their motivation to actually adopt innovations. Institutions that have invested their own money in research are likely to be more interested in actually using what they've paid for. One reason that educational institutions have rarely adopted productive innovations demonstrated by research paid for by outsiders is that the institutions have nothing at stake.

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By the way, this proposal is not saying that all educational R&D would or should be controlled by the National Institute. If individual states, or school districts, or institutions choose to invest another 5% or 10% or 20% of their budgets in R&D locally or through other consortia, so much the better. The Institute is proposed to assure that--at the least--there is a solid core and critical mass of R&D to serve the nation's learning enterprise.

4. All "professional" staff of the contributing institutions will automatically become voting Associates of the Institute. Associates will elect the Directors, who will determine the priorities for investing the Institute's funds in research and innovation.

Equal in importance to the financial ownership of innovation is the psychological "ownership" that comes with participating actively in the processes of discovery and invention. Thus, the "Associate" membership of education/training professionals in the Institute is a crucial part of the Plan. As we know from both the theory and practice of "sociotechnical systems design" (STS) in factory and office automation, the most productive technological innovations are those developed through the active engagement of both customers and front-line production workers--the primary consumers and producers.

5. Contributing member institutions might be given some preference in the awarding of Institute grants and contracts, to enhance the benefit of membership.

Receiving research grants should not become an entitlement of membership, or the whole benefit of critical mass in pooling funds would be lost. But, on the other hand, there needs to be some unique advantage of Institute membership to cope with the "freeloader"

problem inherent in all R&D programs--that is, that those who do not pay for R&D can get most or all of the benefits of research paid for by others.

One way to deal with freeloaders is to limit communication of research results to members, rather than publishing them openly. But such inhibitions generally undermine the R&D process by reducing critical feedback and curtailing potential applications.

Another possible solution to the freeloader problem, of course, would be for government to compel eligible institutions, by statute or regulation, to set aside a share of their budgets to the R&D fund. But such an arrangement would risk aborting many of the benefits of voluntary association: flexibility, quick response, and freedom from political manipulation and bureaucratic red tape. Public and private educational institutions at least ought to have the opportunity to support a national R&D initiative voluntarily before mandates are considered. The experience of institutions such as the Electric Power Research Institute or the part of the old Bell Laboratories that now is known as Bellcore<sup>12</sup> shows that voluntary, collaborative R&D organizations can be viable and productive.

6. Since K-12 staff would tend to outnumber higher education and training professionals among Institute Associates,<sup>13</sup> some provision might be needed to assure a balance of investment among educational needs.

For instance, childhood education could be limited to no more than 50% of the total Institute budget. Some such limitation is desirable not only to attract non-school organizations and professionals but also because the nation's education budget and policies currently are unconscionably neglectful of adult, lifelong,

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and non-school learning needs. The 40 million or so American adults who need basic education generally get only about one dollar of investment for every thousand dollars spent on children's education.

What kinds of research and development would the Institute carry out? The specific agenda would be defined by the board and members, but many of the key topics are easy to discern now. Basic research on how brains and artificial systems think and learn, and the application of such research to the development of teaching and learning systems clearly are high priority subjects. Group learning processes and the interaction between human and nonhuman learning systems need more study.

Measurement is an unglamorous but absolutely essential field that needs far more R&D investment if the learning enterprise is to become as innovative and productive as other information industries. Indeed, at present we have only the vaguest idea what "productivity" in education and training means, much less what it is in particular settings. While the groundswell of public support for refocusing educational management on achieving concrete, practical outcomes is welcome, in truth we know painfully little about what specific learning outcomes are socially and economically useful, or how best to measure them. We even need better means to assess costs, as well as results, if "accountability" is going to be more than a hollow slogan.

We also need much better information about the scope and performance of the huge sector of our economy I call "the learning enterprise" to manage it effectively. Our current statistics about the formal education system of schools and colleges are remarkably shaky, simplistic, and misleading. And data about the even larger but less formal parts of the learning

enterprise--not only corporate and government training programs, but such diffuse yet prodigious media as on-the-job learning, conferences, advertising, reading, television, counseling, sports, religion, voluntary associations, and "simple" conversation--are either scant or nonexistent. Such research as we have indicates that at least 90% and probably more than 98% of human learning takes place outside classrooms and other formal "instructional" settings. A key reason the learning enterprise is such an inefficient market is that both producers and consumers are so badly informed about how it operates and what it offers.

Another critical category for the Institute's research would be on the problems of implementation and diffusion of advanced learning technologies. As noted above, the extreme technological backwardness of American education stems less from a lack of fruitful technology than from a stifling web of institutional barriers to the widespread adoption and use of the valuable technology that already exists. We urgently need a much more subtle and thorough understanding of these barriers and how to eliminate them. We also need to learn a great deal about the kinds of organizational arrangements and incentives that can best accelerate the flexible adoption of learning technology.

In particular, any R&D plan must recognize that commercialization is a legitimate and in fact essential goal of the innovation process. No new technologies will be available to educators or students unless the tools can be sold for more than what they cost to produce. Grants, gifts, subsidies, and deep discounts will not lead to a technological revolution in education but only to another in a long series of dead ends. The Institute's entire program must aim at getting products to be marketed both competitively and profitably.

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The proposed Institute would represent the concerns of the deliverers and practitioners of educational services. Broadly, the Institute would focus on supporting basic research (on one end of the innovation spectrum) and on removing institutional barriers to technological change (on the other end). This work should include commercialization of technology as one of its ultimate objectives.

However, even though some members of the Institute will and should be for-profit organizations, the R&D mission of the Institute explicitly should not include the development

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**Innovation and productivity  
are lacking in American education  
for basically the same reasons  
they are scarce in Soviet agriculture:  
absence of competitive, market forces.**

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of particular commercial products. The simple reason is that everything we know about the history of the innovation process indicates that private, entrepreneurial organizations are the most prolific engines of successful product creation and diffusion.

If independent entrepreneurs are deemed too slow to introduce advanced learning products, an initiative parallel to the Institute might be considered to mobilize the producers and vendors of commercial educational products and services. This could be an "Educational Sematech"--a consortium linking vendors in a joint R&D venture. The consortium, like Sematech (a new collaboration of major U.S. semiconductor manufacturers), would pool R&D funds and staff contributed by member companies; it also could have a cooperative operating relationship with the Institute that might prove useful to accelerate the commer-

cial application of the Institute's research. As a complement to the Institute's mission, the consortium would focus (in the center of the innovation process) on the development of marketable products.

#### From concept to action

While creating such a National Institute might at first seem to be a job for the federal government, I would argue that it is unlikely and probably even undesirable that this be a federal initiative.

First, closing the R&D gap between education and the rest of the economy means adding at least \$4-8 billion to the current pool of educational R&D funds. While the federal government should contribute more than it currently does, it is simply not going to be able to provide anywhere near this kind of money.

The fact is education and training is mostly a state and local government function in the United States. It makes sense for the institutions that are spending the most money in the education sector to provide the largest share of R&D investment. About 80% of the college enrollment and 90% of the K-12 enrollment are in public institutions, chiefly state and local. Not only do state and local governments provide over 90% of the public funding of education in America, they both traditionally and constitutionally exercise most of the responsibility for education policy. Since local governments are constitutionally only creatures of the state, for the purposes of this proposal, the states are where the action needs to be.

The states are also by and large more flexible, adaptive, and innovative than the federal government. In fact, several state government officials with whom I've discussed this proposal

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already have expressed considerable interest in taking action on it.

One or a few states setting aside at least 1% of their education budgets for a state R&D fund would form a sufficient base to start building a national program. As suggested earlier, a multi-state consortium would be a highly plausible way to organize the National Institute.

This is not to say that there is nothing the federal government can do to help close education's technology gap. Without getting into details here, the way the federal government now spends several hundred million dollars a year on educational research could be reorganized to achieve far more useful results. The President could use his "bully pulpit" to promote the action needed to bring the National Institute for Learning Technology to life. The federal government also could offer to add 10% to members' contributions to the Institute (a donation proportionate to the federal role in education).

Inevitably, the question will be asked: What is this initiative going to cost? The simplest and most accurate answer is: nothing.

The several billion dollar annual budget to be administered by the National Institute is not proposed as an **addition** to current education budgets but as a **reallocation** of existing funds to a more productive purpose. Because the explicit goal of the entire program is to greatly increase the productivity of the learning enterprise, the Institute's funding will be repaid many times over by the hundreds of billions of taxpayer and consumer dollars that will be saved as a result of this investment. The real cost associated with education's technology gap is the huge cost of continuing to do nothing to close it.

Another inevitable question is: Will the education community buy this proposal?

That remains to be seen. But professional educators should support it if they consider where the success of this initiative would lead for them: to a learning enterprise with a much greater capital/labor ratio, employing a smaller number of highly skilled, highly productive, highly compensated, and more autonomous professionals employing an array of extremely powerful technical tools to provide better services to more people at lower cost.

In reality, many educators will not and, in fact, should not support this R&D proposal unless it is linked to the rest of the essential agenda for restructuring American education.

The key elements of that agenda are being defined by such forward-looking leaders as David Kearns, chairman of Xerox Corp., Albert Shanker, president of the American Federation of Teachers, Joe Fernandez, Miami's school superintendent, and Minnesota Governor Rudi Perpich.

The emerging agenda for educational *perestroika* includes: Empower educators to control the resources and operations of their own schools--what's called "school based management." Give families and students the freedom to choose among public schools. Link funding to enrollment so that schools have to compete for revenues by attracting consumers.

For this kind of market-based system to work, we need realistic accounting for the results we want education to achieve, and meaningful incentives for their attainment. This means, first, replacing current tests with valid measures of the knowledge and skills students really need for either employment or higher education.

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The important incentives for students, as Shanker has argued, should be that acceptance in a job or a college would depend on the documented achievement of the competencies required for entry to either. For school staff, in addition to the incentives inherent in a market system, Shanker proposes to goad their commitment to restructuring by arranging to award a sizable bonus--perhaps \$15,000 to \$30,000 per person--every five years or so to the individual schools (in restructured districts) that achieve the greatest improvement in measured outcomes.

While the latter restructuring measures focus on public schools, the same basic agenda applies to higher education and training programs: entrepreneurial management, choice, competition, competency-based instruction and employment, and rewards for performance. Adding the kind of R&D initiative proposed here to close the technology gap makes this a complete prescription for replacing an archaic education system with a 21st-century learning enterprise.

<sup>1</sup>The importance of education and training to the modern economy is by now widely appreciated. For details see William Johnston and Arnold Packer, *Workforce 2000: Work and Workers for the 21st Century*

(Indianapolis: Hudson Institute, 1987) and Lewis J. Perelman, *The Learning Enterprise: Adult Learning, Human Capital, and Economic Development* (Washington, D.C.: Council of State Planning Agencies, 1984).

<sup>2</sup>For example, see David Kearns and Denis Doyle, *Winning the Brain Race: A Bold Plan to Make Our Schools Competitive* (San Francisco: ICS Press, 1988).

<sup>3</sup>Henry Kelly, *Technology and the American Economic Transition: Choices for the Future* (Washington, D.C.: Office of Technology Assessment, 1988).

<sup>4</sup>Ithiel de Sola Pool, "Tracking the Flow of Information," *Science*, 12 August 1983.

<sup>5</sup>At the bottom of this group of 33 companies was a firm that invested only \$790 per employee in R&D last year. The composite (a weighted average) R&D spending per worker of the surveyed companies in this business was \$18,428.

<sup>6</sup>The magazine surveyed companies reporting sales of at least \$35 million and R&D expenses at least equal to \$1 million or 1% of sales. So small firms or those making little investment in innovation are not included. But most academic enrollment is in school districts and public universities whose budgets would make them big businesses compared to companies on the magazine's list. And the point of this paper is that educational organizations should be among the leaders in innovation. So the "Scoreboard" is a relevant yardstick of education's R&D gap.

<sup>7</sup>Linda G. Roberts, *Power On! New Tools for Teaching and Learning* (Washington, D.C.: Office of Technology Assessment, 1988).

<sup>8</sup>The OTA Report (Roberts, 1988) estimated only one computer for every 30 students.

<sup>9</sup>The program was terminated this year by a new district superintendent.

<sup>10</sup>For example, see "Computers in School: A Loser? Or a Lost Opportunity?" *Business Week*, 17 July 1989, and "Computers Make Slow Progress in Class," *Science*, 26 May 1989.

<sup>11</sup>Douglas Ellson, "Improving Technology in Teaching," *Phi Delta Kappan*, October 1986.

<sup>12</sup>Since the breakup of the telephone monopoly, Bellcore (Bell Communications Research) has been jointly supported by the Regional Bell Operating Companies. Bell Labs is now exclusively the R&D center for the AT&T corporation.

<sup>13</sup>Roughly four times as many people are employed in elementary and secondary education as in higher education.

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## THE "ACANEMIA" DECEPTION

How the Myth that America "Lags" in Education Spending  
Threatens to Undermine National Competitiveness

by Lewis J. Perelman

[SUMMARY: America's academic bureaucracy, abetted by a recent report from the Economic Policy Institute, is spreading the myth that U.S. schools are financially undermanned compared to those of other nations. The truth is just the opposite: U.S. spending on education is "unsurpassed" (as President Bush has said). The "lag" in U.S. education is not in spending but in productivity: American schools actually are "shortchanging" the nation by wasting some \$100 billion a year through sprawling bureaucracy and outmoded technology. Increasing budgets for obsolete schools will waste resources and delay the educational restructuring needed to compete in the 21st century economy.]

Statistics, Mark Twain observed, can be more deceptive than lies, or even "damned lies." His judgment would not have been shaken by *Shortchanging Education*, a recent paper from the Economic Policy Institute which uses tortured statistics in an attempt to

discredit President Bush's contention that the focus of education reform "must no longer be on resources; it must be on results"--the central conclusion of the "Education Summit" meeting last September that formed the basis for the national education goals jointly endorsed by the president and the governors this winter. To thwart the president's initiative, America's academic bureaucracy has used the erroneous EPI report to bolster that lobby's habitual argument that spending, not achievement, is the essential measure of educational progress.

The Briefing Paper by EPI analysts Edith Rasell and Lawrence Mishel, published in January 1990 by the Washington-based think tank, claimed to show that the United States trailed 13 other "industrial" countries in spending on elementary and secondary (grades K-12) education, contradicting the Bush administration's assertion that U.S. education spending is "unsurpassed." In an

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explicit pitch to add at least \$20 billion per year to U.S. K-12 spending, Rasell and Mishel concluded that, "Given the [inferior] level of investment in our pre-primary, primary, and secondary schools, it is not surprising that we are slipping behind in comparative measures of performance as well."

The truth about the current problems and needs of the American education system is mostly the opposite of what EPI claims and the academic lobby wants the public to believe:

- U.S. spending on education, as a whole and on K-12, is virtually "unsurpassed"; no major nation spends more per pupil--the only meaningful measure for such comparisons.
- This is not good news. Even if other nations were outspending the United States on schooling, this is a contest we should endeavor to lose--since the "winners" are racing toward bankruptcy.
- Poor **productivity**, not inadequate spending, is the central failure of national education and training systems--not only in the United States but in the rest of the world as well. The productivity of the economy's education sector trails far behind that of any other major industry, and is declining.
- **Technology** exists that can at least double the productivity of teaching; adequate investment to develop better teaching and learning technology could achieve even greater efficiency. Yet American schools and colleges invest virtually nothing in using or developing such technology. As a result, some \$100 billion of U.S. educa-

tion spending is lost annually to wasteful bureaucracy and archaic technology.

- Looking only at K-12 while ignoring higher education and other segments of the national learning enterprise--as EPI does--is a too-common error that paints a distorted picture of both the strengths and deficiencies of the American system and subverts our human capital policies.
- Beyond academic goals, the nation needs a concrete strategy for restructuring its learning enterprise, aimed at enabling more people to achieve more learning at less cost.

A technological transformation of teaching and learning is now both possible and essential for any nation that aspires to leadership in the 21st century's "economy of mind." Such a technological revolution can occur only as part of a comprehensive restructuring of the organization, management, staff, and practices of national education and training systems.

More spending on "more of the same" education will only distract effort from the structural changes needed to achieve more learning at less cost--restructuring education does not require bigger budgets but different budget priorities. In the absence of such fundamental redirection, spending more on obsolete, inefficient schools and colleges will waste resources a debtor nation can ill afford to squander, weakening the U.S. economy and undermining the nation's global competitiveness.

Altogether, America probably has the best education and training system in the world. The central problem is not that one country's

schools are better than another's, but that traditional academic systems--in other nations as well as the United States--are woefully inadequate to meet the challenges of a knowledge-age economy.

America is not shortchanging education. Education is shortchanging America.

#### WHY EPI IS WRONG

Although the EPI paper was immediately shown to be erroneous and deceptive by other analysts,<sup>1</sup> its faulty findings nevertheless have been widely reported as "fact" by the press, and are being continually repeated by academic lobby PR. Because the EPI report has been used so effectively by the academic bureaucracy to perpetuate the myth that U.S. education is underfunded--and because this "spend-more" campaign threatens once again to stymie the fundamental changes needed in the nation's education systems--the EPI study's errors urgently need public exposure.

The explicit objective of the Rasell and Mishel paper is to discredit the contention of the Bush administration and many of the nation's governors and business leaders that America's comparative weakness in educational achievement cannot be attributed to a lack of investment, since the United States spends more on educating its students than just about any other country on earth. Yet the EPI analysis fails to disprove what is, in fact, the truth.

As Exhibit 1 shows, in the most accurate assessment of pre-K through secondary education expenditures per student among industrial (OECD) nations, the United States ranks near the top of the list, second only to Switzerland.<sup>2</sup> And Switzerland, a nation about

the size of New Jersey, is hardly a relevant model for the United States.<sup>3</sup> Adding more countries would still leave America near the top. By any practical standard, U.S. spending on its students is "unsurpassed."

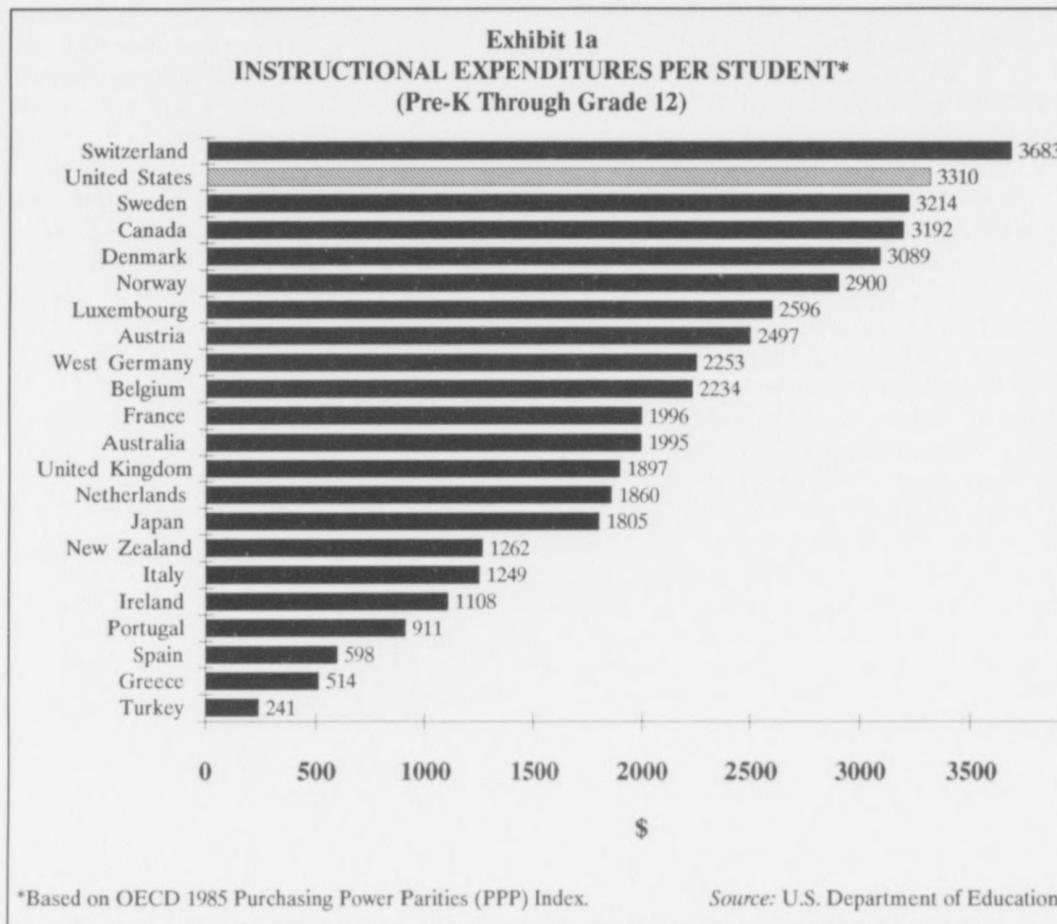
*Erroneous measures.* EPI's Rasell and Mishel have attempted to obscure this reality--with all too great success--by deflecting attention to the meaningless comparison of

**Exhibit 1**  
**INSTRUCTIONAL EXPENDITURES**  
**PER STUDENT\***  
(Pre-K through Grade 12)

Switzerland .....	\$3,683 .....	1985
<b>United States .....</b>	<b>3,310 .....</b>	<b>1985</b>
Sweden .....	3,214 .....	1985
Canada .....	3,192 .....	1985
Denmark .....	3,089 .....	1986
Norway .....	2,900 .....	1985
Luxembourg .....	2,596 .....	1983
Austria .....	2,497 .....	1985
West Germany ...	2,253 .....	1985
Belgium .....	2,234 .....	1985
France .....	1,996 .....	1984
Australia .....	1,995 .....	1985
United Kingdom ..	1,897 .....	1984
Netherlands .....	1,860 .....	1984
Japan .....	1,805 .....	1985
New Zealand .....	1,262 .....	1985
Italy .....	1,249 .....	1983
Ireland .....	1,108 .....	1984
Portugal .....	911 .....	1985
Spain .....	598 .....	1979
Greece .....	514 .....	1984
Turkey .....	241 .....	1985

\*Based on OECD 1985 Purchasing Power Parities (PPP) Index.

Source: U.S. Department of Education



national education expenditures as a share of gross domestic product (that is, national income), as shown in Exhibit 2.

Since even these data have the U.S. ranked near the top (second) when total national education spending is included, Rasell and Mishel insist on not counting the sizable U.S. investment in higher education, and then use further statistical "adjustments," in order to make America's apparent ranking fall close to the bottom of the 16 nations EPI chose to

study. This is the main statistical concoction that underpins EPI's proclamation that "U.S. Spending on Education Lags Behind that of Most Other Industrial Nations."<sup>4</sup>

But spending on education as a share of national GDP has no meaning as a measure of either the magnitude or the value of investments in education. As the Education Department points out, by this spurious standard Mississippi presumably has a greater commitment to educational invest-

**Exhibit 2**  
**EPI COMPARISON OF EDUCATION EXPENDITURES/GDP (1985)**  
**Share and Rank**

	(1)		(2)		(3)	
	K-12 and Higher Education		K-12 Only		Adjusted* K-12	
<b>United States</b>	<b>6.8%</b>	<b>2</b>	<b>4.1%</b>	<b>12</b>	<b>4.1%</b>	<b>14</b>
Australia	5.5	12	3.7	15	3.9	15
Austria	5.8	11	4.7	7	5.9	2
Belgium	6.1	7	4.9	5	4.9	5
Canada	6.8	2	4.7	7	4.7	8
Denmark	6.0	8	4.5	10	4.8	6
France (84)	5.9	10	5.1	3	4.6	9
F. R. Germany	4.6	16	3.5	16	4.6	9
Ireland (84)	6.0	8	5.0	4	3.8	16
Italy (83)	4.8	15	4.1	12	4.2	13
Japan	6.5	5	4.8	6	4.8	6
Netherlands (84)	6.8	2	4.7	7	4.5	11
Norway	6.3	6	5.4	2	5.3	4
Sweden	7.6	1	6.3	1	7.0	1
Switzerland	5.1	14	4.2	11	5.8	3
United Kingdom	5.2	13	3.9	14	4.5	11
<b>Non-U.S. Average</b>	<b>5.8</b>		<b>4.5</b>		<b>4.6</b>	

\*Adjusted for 1985 U.S. K-12 enrollment rate

Source: Economic Policy Institute

ment than does Minnesota: In 1986, Mississippi spent 3.9% of its gross state product on K-12 education, compared to a 3.7% share for Minnesota.

In contrast, the Education Department notes that Minnesota's investment in K-12 education is larger than Mississippi's when measured by the more valid statistical indicator of state investment, expenditure per pupil: In that year, Minnesota spent \$4,180 per pupil against Mississippi's \$2,350 per pupil.

But the higher cost of living in Minnesota inflates this apparent difference in expenditures to some extent. In any case, the difference in school spending has little to do with the substantial difference in academic performance between the two states (see Exhibit 5 and discussion on page 11).

*Meaningless effort.* The crux of the failure of EPI's argument lies in Rasell and Mishel's assertion that the share of national income allocated to education (or anything else) is "a

measure of national effort," along with their tacit implication that such "national effort" is identical to national virtue. Both assumptions are false.

First, the share of income a nation, or a community, or even a person devotes to education or any other purpose is not a measure of comparative "effort" but mainly is just an indicator of individual circumstances, notably wealth. If such a statistic has any meaning, it is opposite to what Rasell and Mishel infer.

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**Spending more on obsolete,  
inefficient schools and colleges  
will weaken the U.S. economy  
and undermine the nation's  
competitiveness.**

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Thus, wealthy nations or individuals are likely to spend a smaller share of their income on "necessities" such as education, or food, or shelter than poor ones do--not because the rich view any of these things as less important but simply because they have more income for other, "discretionary" spending. A doctor friend of mine who lives in a million-dollar house spends a smaller portion of his income on housing than I do, living in my rented apartment. The difference stems not from any variation in our "commitment" to shelter but from our disparate financial circumstances.

As the Education Department staff note, Americans spend only about a tenth of their income on food, while the people of India spend roughly half of their income on feeding themselves. This patently does not mean--as EPI's way of estimating would imply--that Americans are hungrier than Indians, or that Indians are more "committed" to either agri-

culture or nutrition than are Americans. If anything, the truth is just the opposite.

Similarly, the fact that the United States spends a larger share of both its national income and its government appropriations on defense than does Japan or the Federal Republic of Germany reflects particular historical and geopolitical circumstances. This difference does not mean that Americans value health, or education, or art less than these other peoples do. Nor does it mean that the American culture is inherently more bellicose than that of Japan or Germany. Again, if anything, the truth is just the opposite.

For EPI's equation of spending-as-a-share-of-income with "measure of effort" to be valid, everything else among the parties being compared would have to be equal. But among nations all other things never are equal, nor should we hope them to be.

*Measuring spending per pupil.* Rasell and Mishel attempt to justify using their own misleading measure of education investment--instead of the obvious and common measure, spending per pupil--by arguing that the latter is unreliable, because its relative value varies with fluctuating currency exchange rates. But these currency changes are easily accounted for by using the Purchasing Power Parity (PPP) index which allows expenditures in different countries to be compared consistently. The Education Department used the PPP to adjust the data in Exhibit 1 for currency variations.

Instead, Rasell and Mishel manufacture their own measure of education expenditures per pupil as a percent of per capita income. But this is just a convoluted and misleading way of restating expenditures as a share of

income. In fact, the data in Exhibit 3 incorporate the EPI data of Exhibit 2 and share the same flaws and distortions.

*Ignoring productivity.* An even more important flaw in EPI's purported "measure of effort" than its failure to account for differences in wealth and culture is that it ignores crucial differences in the **productivity** of expenditures made for the same purpose, which depends in turn on the technology and organization available to serve that purpose.

Thus, in the above agricultural example, India puts more "effort" into feeding itself

than does the United States in important part because India's agricultural production and distribution technology is far less efficient than America's technology--food in India is more expensive than food in the United States.

This last failure is the one that particularly makes the popular acceptance of EPI's erroneous education "spending lag" not merely distracting but--to the extent it influences education policy--downright subversive to the nation's hopes for economic development and competitive leadership.

The central truths obscured by EPI's statistical smokescreen are that (1) better academic results do not require spending more on education, and (2) spending more on education is at least as likely to cause economic decline as to reverse it.

Even among U.S. states, it is evident that gross spending on education does not predict academic achievement. South Dakota, for instance, ranks near the bottom (43rd) among states on spending per student, and dead last in average teacher salary. Yet the state's student test scores rank in the top five.<sup>5</sup>

It is true that, in international comparisons of standardized tests, U.S. students score lower than those in several of the "industrial" countries that Rasell and Mishel list that--by EPI's calculation--seem to spend more on K-12 education. But Rasell and Mishel actually selected countries for their list that supported their case for more education spending and left out countries that would disprove their argument.

Notably, EPI excluded from its table newly industrialized or industrializing countries such as Korea or Spain that spend less on educa-

**Exhibit 3**  
**EPI COMPARISON OF K-12**  
**EXPENDITURES PER STUDENT**  
**AS % OF PER CAPITA INCOME (1985)**

		rank
United States .....	20.8%	14
Australia .....	19.5	15
Austria .....	29.7	2
Belgium .....	25.0	5
Canada .....	24.0	8
Denmark .....	24.5	6
France (84) .....	23.2	10
F.R. Germany .....	23.5	9
Ireland (84) .....	19.4	16
Italy (83) .....	21.1	13
Japan .....	24.1	7
Netherlands (84) .....	23.0	11
Norway .....	27.1	4
Sweden .....	35.3	1
Switzerland .....	29.6	3
United Kingdom (84) .....	22.8	12
<b>Non-U.S. Average ....</b>	<b>23.5</b>	

Source: Economic Policy Institute

**Exhibit 4**  
**EDUCATIONAL SPENDING/GDP AND ACHIEVEMENT COMPARED TO U.S.**

	Total K-12* Spending (percent)	Adjusted K-12* Spending (percent)	Mathematics IAEP**	Science IAEP**
South Korea	4.0	3.1	+ 93.9	+ 71.4
Spain	2.7	2.6	+ 37.8	+ 25.4
United Kingdom	3.9	4.5	+ 36.0	+ 41.0
Ireland	5.0	3.8	+ 30.4	- 9.2
United States	4.1	4.1	(473.9)	(478.5)

\*Total and "Adjusted" K-12 spending is from EPI data for U.K., Ireland, U.S.; Total K-12 data for S. Korea and Spain are from same source EPI uses; "Adjusted" K-12 spending for S. Korea and Spain is computed using EPI's method. Spending data are for 1985.

\*\*International Assessment of Educational Progress (1988) measured mathematics and science proficiency of 13-year-old children in five countries and five Canadian provinces (not shown here). Scores range on a scale from 300 to 700. This table shows difference between scores for other nations and those for the United States (in parentheses).

Sources: UNESCO Statistical Yearbook 1988; A.E. Lapointe, N.A. Mead, and G.W. Phillips, *A World of Differences: An International Assessment of Mathematics and Science*, Report No. 19-CAEP-01 (Princeton, NJ: Educational Testing Service, 1989).

tion than either the United States or other "industrial" countries but whose students score higher on international tests, as shown in Exhibit 4.

Extravagant expenditures on education may be not only irrelevant to academic achievement but may be actually harmful to economic health. Rasell and Mishel urge the United States to add tens of billions of dollars to its already lavish education bill to catch up with the other "industrial" nations they claim lead us. But the "winner" in EPI's "school wars" spending race is Sweden, whose economic malaise recently precipitated the fall of its socialist government.

Undoubtedly, if U.S. taxpayers choose to increase the 36% of their income going to taxes to Sweden's more "advanced" 50% of

income going to taxes, this country can eliminate its "lag" in education spending, and catch up to Sweden on the road to economic decay. The same UNESCO data EPI used show that Bulgaria--another country EPI omitted from its analysis--spent the same generous share of its national income on education as Sweden...until Bulgaria's Communist regime collapsed.

*Ideological bias.* EPI's central "findings" result not from objective analysis but from ideological preconceptions. Some of the EPI paper's celebrated conclusions have no connection with the data the paper presented.

For instance, Rasell asserts that "Because the United States is a huge continental nation with a decentralized school system...we could expect education expenses to be higher than

in a smaller, more homogeneous nation."<sup>6</sup> If centralized, national systems were inherently more efficient than decentralized ones, as Rasell assumes, Eastern Europe should be an economic powerhouse instead of the basket case it is.

Rasell's faith in the efficiency of centralization runs counter to current management theory and vast practical experience, in education as well as in the economy as a whole. Peter Drucker has argued that the lack of a national education ministry, and the decentralized, open, and flexible structure of U.S. education are among America's greatest competitive advantages in the world economy.<sup>7</sup>

There is somewhat more to be said for Rasell's argument that because the United States has more immigrants and more children in poverty than some other nations, "we

*[Sweden's] ultra high taxes, slumping investment, lagging growth and eroding productivity have been undermining the Swedish economy for decades. . . . It was becoming clear nearly a year ago that the government was headed for disaster. Surging inflation and strikes caused panic in Stockholm, which earlier this month proposed a two-year ban on strikes, and a freeze on wages, prices, dividends, rents and local income taxes. Last Thursday the plan went up in flames and with it Ingvar Carlsson's minority government. . . . The reality of today's Sweden is the lingering myth of a cradle-to-grave Welfare Paradise. The myth is based on an enormous system of subsidies—from food consumption to having children and even reaching old age. Savings are nonexistent and investments are flowing abroad. That the gravy train is sputtering can be seen in the degradation of services, particularly medical care, and increasing poverty.*  
-- "Welfare Paradise Lost," *The Wall Street Journal*, February 22, 1990

have to invest more money in compensatory education...just to achieve the same level of performance."<sup>8</sup> The primary flaw in this argument--typical of the entire EPI paper--is that it confuses spending with results.

If some children in America need special educational services to compensate for disadvantages and to avail those children an equal opportunity for learning and growth, those services certainly should be provided. But Rasell presents no evidence, and there is no reason to casually assume, that compensatory educational services necessarily must be more costly than other educational services.

And to the extent that compensatory education may prove more expensive than average, services to the disadvantaged will be more effectively financed by reallocating resources from wasteful or less urgent educational uses than by simply increasing expenditures. In fact, no studies have shown any sustained benefit from the billions of dollars spent on the major national program for compensatory education, Chapter I of the federal Elementary and Secondary Education Act.<sup>9</sup> And research recently reported by Stanley Pogrow of the University of Arizona concluded that money spent on Chapter I programs actually has the effect of inhibiting at-risk children's ability to learn.<sup>10</sup>

There is no reason to assume--and substantial evidence to doubt--that spending more on education will help the disadvantaged. Actually, many of America's poorest, most disadvantaged, and least academically proficient students reside in school districts whose spending per pupil is well above average. The District of Columbia, for example, spent over \$5,700 on each public school student in 1987 --much more than the national average of

roughly \$4,000, and more even than its neighbors in Maryland (\$4,400) and Virginia (\$3,800). Nevertheless, DC's students lead in dropouts and trail in test scores and other measures of academic performance.<sup>11</sup>

Much of the extra spending on "education" in places like Washington and New York simply adds to bloated school bureaucracies<sup>12</sup>--or is siphoned off by outright corruption--rather than nurturing the minds and talents of needy children.

#### THE REAL PROBLEM: PRODUCTIVITY

The critical education problem facing the United States and other nations is that education costs too much and delivers too little of the kinds of learning needed by the modern economy. The attempt to solve education's productivity problem by buying even more of the same academic education is like trying to cure alcoholism by subsidizing the price of bourbon.

The central fact EPI obscures is that the cost of educating American students has been growing steadily and extravagantly. Since the 1950s U.S. real spending (constant dollars) for each K-12 pupil has quadrupled. (Even EPI's unorthodox calculations show real spending growth since 1949 of over 71%.<sup>13</sup>)

The United States today is spending over \$40 billion more each year on K-12 education than it was at the beginning of the 1980s. Over the last decade, K-12 spending grew nearly 30% after adjusting for inflation.

Public education's critics charge that the quality of education has deteriorated over the last generation or two. Even supporters who claim the schools are improved are hard-

pressed to argue that academic progress has been at all comparable to the vast growth in cost.

It's true, for instance, that American schools serve a broader population than they did a half-century ago: In 1940, only one out of five U.S. students graduated high school, while around three-fourths do today. But in the

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#### The central truths are

- (1) better academic results do not require spending more on education and (2) more spending is likely to cause economic decline --not reverse it.**
- 

urban ghettos where America's most disadvantaged students are concentrated, the high-school graduation rate is only about 50%.

And the value of public education, both academically and economically, is clearly less than it once was. For instance, about 25% of American high school graduates exhibit no more than an eighth-grade level of literacy--they have high school diplomas but lack high school knowledge.

Moreover, a key lesson from Hudson Institute's Workforce 2000 study<sup>14</sup> is that the majority of U.S. high school graduates today are less prepared for work (and maybe even for life) than most school dropouts in our parents' day--because the world has changed much faster than the schools have. In particular, Hudson Institute's research found that the majority of new U.S. jobs in the 1990s and beyond will demand knowledge and skills exceeding those of even a proficient high school graduate. Increasingly, most workers will need substantial--and continuing--

postsecondary education and training simply to be employable.

This is a radical change from two or even one generation ago when a large number of intellectually unskilled but well-paid craft jobs in manufacturing, mining, and agriculture gave many school dropouts a good opportunity to labor their way into the middle class. Now, the Hudson Institute study finds that the fastest-disappearing jobs are those that require the lowest entry skills and the least continuing education. Even if schools were performing as well as they used to, the economic value of their traditional performance would be declining because of the shifting demands of a knowledge-age economy.

*More spending means less productivity.* An exhaustive review of two decades of educational research by Eric Hanushek of the

University of Rochester yielded the "startlingly consistent" result that there is no systematic relationship between variations in school expenditures and variations in school performance. Moreover, as Exhibit 5 shows, Hanushek found little or no evidence of improved student learning resulting from the ways increased K-12 funding typically has been spent in pursuit of "excellence": smaller classes, higher teacher pay, more teacher training, bigger and better school buildings, and so forth.<sup>15</sup>

A study by Deborah Inman at New York University shows that while total state spending on K-12 education grew by about a third from 1983 to 1987, less than 2% of that sum was allocated to any kind of "reform."<sup>16</sup> Her study further indicated that the majority of these limited "reform" investments--which still totalled some \$6 billion--went to the

**Exhibit 5**  
**IMPACT OF EDUCATION INPUTS ON STUDENT PERFORMANCE**

	Number of Studies	% No Impact	% Positive Impact	% Negative Impact
Expenditures/pupil	65	75.4	20.0	4.6
Teacher/pupil ratio	152	82.2	9.2	8.6
Teacher education	113	88.5	7.0	4.5
Teacher experience	140	64.4	28.5	7.1
Teacher salary	69	78.3	15.9	5.8
Administrative inputs	61	86.9	11.5	1.6
Facilities	74	83.8	9.5	6.7

*Source:* Hanushek (1989); adapted from *The Washington Times*, 6 April 1989.

"more-of-the-same" kinds of measures Hanushek's research finds fruitless, rather than to any genuinely new, innovative, or more productive approach to meeting America's educational needs.

EPI's Rasell and Mishel call for increasing U.S. K-12 spending by at least \$20 billion a year. Yet the \$40 billion the United States added to its annual K-12 expenditures during the 1980s resulted in only minor academic improvement, as measured by the usual tests. And the Secretary of Education has lamented publicly that for the last three years or more educational progress has been almost nonexistent.

The spend-more policy EPI advocates--which mainly has been directed at the federal government--would not only fail to strengthen America's human capital but would make the country and its children poorer. The interest payment on the debt that will burden Amer-

ica's children for the remainder of their working lives is now a budget item nearly ten times the budget of the federal Education Department and is about equal to the total amount spent on K-12 education by federal, state, and local governments. For every dollar added to public spending for education "reform" in the 1980s, unrestrained government deficits swelled the U.S. public debt by roughly \$100. The growing debt burden is making the next American generation poorer faster than more education spending plausibly could make it richer.<sup>17</sup>

*The technology gap.* At the heart of education's lethal spiral of poor and declining productivity lies not a shortage of spending by government but a gross lack of investment in technology and innovation by educational institutions. The roots of morbid inefficiency are revealed by a handful of the education industry's vital statistics (summarized in Exhibits 6 and 6a):

Exhibit 6 U.S. EDUCATION'S PRODUCTIVITY/TECHNOLOGY GAP			
	EDUCATION	Average Business	High-Tech Business
<u>Labor Cost</u> Output	93%	54%	46%
<u>Capital Investment</u> Employee	\$1,000	\$50,000	\$300,000
<u>R&amp;D Investment</u> Revenue	< 0.1%	2%	7-20%
<u>R&amp;D Investment</u> Employee	< \$50	\$5,000	\$30,000-50,000

Sources: Office of Technology Assessment; *Business Week*. See L. Perelman, "Closing Education's Technology Gap," Briefing Paper No. 111 (Indianapolis: Hudson Institute, November 1989)

- Education is tied as America's most labor-intensive industry, with labor costs representing 93% of output, compared with 54% for the average business and only 42% in the high-tech telecommunications industry.
- Education has the lowest level of capital investment (i.e., buying technology) of any major economic sector, providing only about \$1,000 of capital for each worker, compared with an average of \$50,000 of capital invested per job in the U.S. economy and investments of several hundred thousand dollars per employee in some high-technology businesses.
- The investment in research and development that is the wellspring of growth and competitiveness in every other business is almost nonexistent in the education sector. The average U.S. business spends 2% of its revenues on R&D; in many high-tech businesses investments of 7% to 20% or more of revenues in R&D are common. Yet the education industry invests less than 0.1% of its revenues in research and innovation. R&D investment per employee--a key factor of competitive advantage--is less than \$50 a year in education, compared with \$5,000 in a typical business and \$20,000 to \$40,000 or more in a high-tech business such as computer software.

But it's the productivity of students, not paid staff, that is really essential in the education business. When "worker" is equated with student rather than employee, education's already meager investment in research and technology charted above is at least ten times less: not even five dollars a year for research and only about a hundred dollars of capital investment per worker.<sup>18</sup>

To gauge the extent to which education has shortchanged innovation, consider that the Gillette Company's new, high-tech razor blade cost some \$200 million in R&D investment over 13 years to create. Gillette, a company whose annual revenues of more than \$3.5 billion are less than the education budgets of three-fourths of the U.S. states, thus spent more to invent a better shave than all the states combined spent during the same period to develop a better technology for teaching and learning than the 1,000-year-old "Yak in the Box" (the lecturing classroom professor).

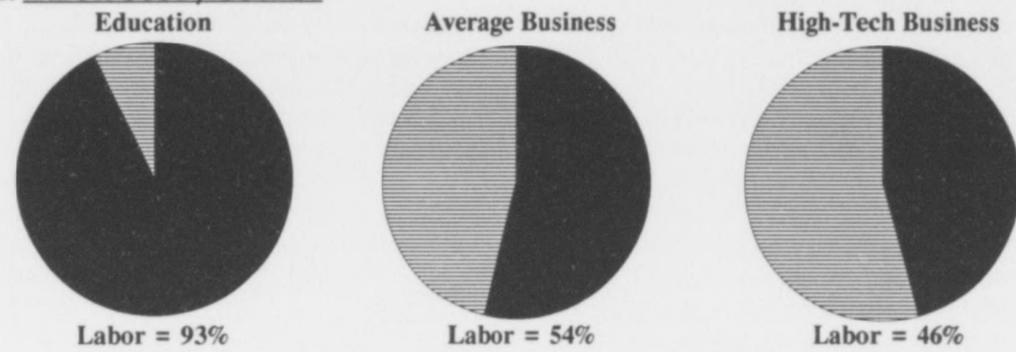
As a result of the prolonged, near-perfect resistance of academia to the research and innovation that fuel the advance of productivity, a yawning gap is growing between the technology of the school and the technology of the "real" world. Had educational technology advanced at the same pace as computer technology over the last half century, the high school diploma that still takes a dozen years at an average cost of \$60,000 to complete could be "produced" in less than five minutes for less than a nickel. While human factors still limit such instant learning, the fact remains that schools and colleges are almost totally isolated from the information revolution that is so explosively transforming every other venue of human affairs.

The fault for this festering obsolescence lies not in any shortage of tax and tuition revenue, but is rooted entirely in the priorities of an academic establishment that has habitually replaced innovation with supplication.

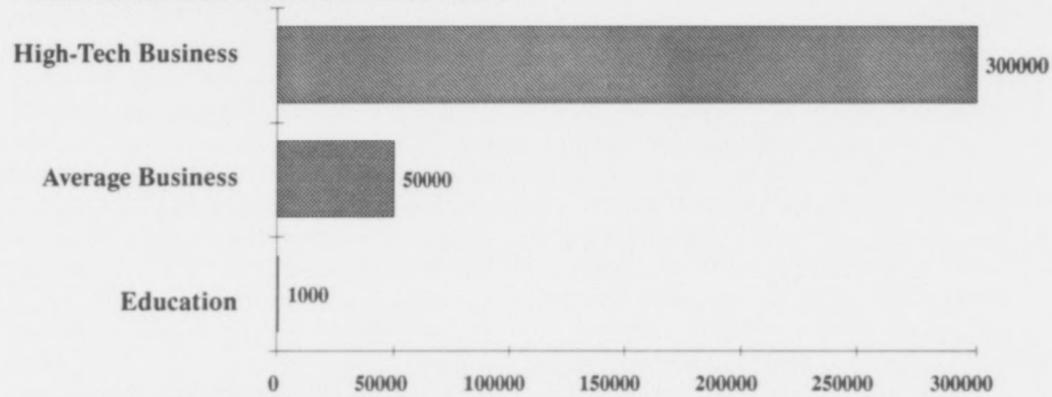
If there is good news in this dismal situation, it is that--quite to the contrary of EPT's message--the United States does not "lag" behind other nations in closing education's

Exhibit 6a  
U.S. EDUCATION'S PRODUCTIVITY/TECHNOLOGY GAP

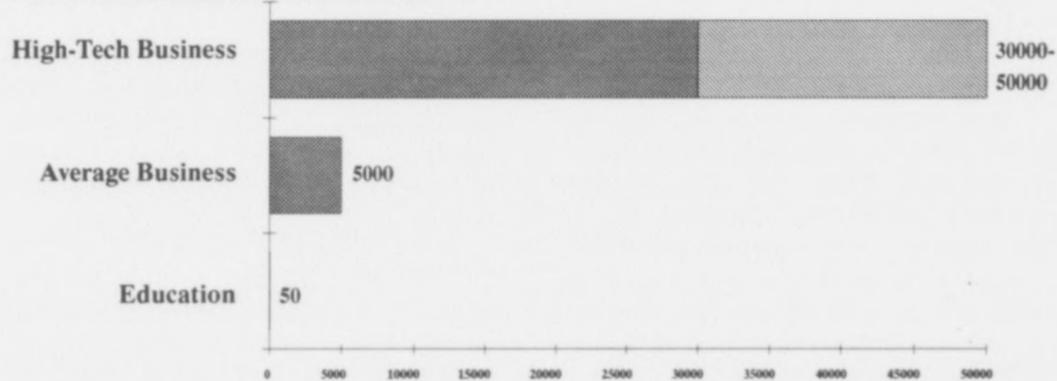
**1. LABOR COST / OUTPUT**



**2. CAPITAL INVESTMENT / EMPLOYEE (\$)**



**3. R&D INVESTMENT / EMPLOYEE (\$)**



disastrous technology gap. While specific data on national investments in educational R&D are scarce, the available information, shown in Exhibit 7, suggests that academia is as resistant to innovation and productivity in other nations as in the United States. So America is not yet losing the race to transform educational technology to match an information-age economy--but only because the other guys have not yet showed up.

#### THE SEGMENTATION FALLACY

Another critical flaw in EPI's analysis is its insistence on focusing exclusively on U.S. expenditures on the K-12 segment of education, to the exclusion of higher education and other "lifelong" learning investments. In fairness, EPI is not alone in this crucial error, which commonly subverts American thinking about education and training policy.

Because even Rasell and Mishel concede that total U.S. education spending is unexcelled, the whole presentation of EPI's analysis rests on their assertion that "the U.S. crisis is not in higher education but in K-12." But this claim is simply false.

The strengths and weaknesses of the American learning enterprise cannot meaningfully be isolated in any one segment of a diverse and highly integrated system that is unique in the world. Arbitrary segments such as pre-school, elementary, secondary, higher, vocational, adult, formal, and nonformal education or training bear only limited resemblance to the ecological reality of this complex enterprise. And such categories of the U.S. learning system are no more than partly comparable to their counterparts in other countries.

**Exhibit 7**  
**INVESTMENT IN EDUCATIONAL R&D**  
**AS SHARE OF TOTAL NATIONAL EDUCATION SPENDING**  
(1986 - Local Currency)

Country*	Educational R&D Spending (x 000)	Total Educational Spending (x 000 000)	R&D/Education (percent)
F. R. Germany	174,280	86,326	0.202
Greece	78,340	('85) 142,315	0.055
Ireland	1,968	1,143	0.172
Italy	9,890,000	35,442,000	0.028
Netherlands	24,870	('85) 28,298	0.088
Portugal	3,800	181,029	0.002
United Kingdom	34,399	19,042	0.181

\*These are the only EEC countries reporting "education" as a subset of R&D expenditures.

Sources: EUROSTAT, *Government Financing of Research and Development 1980-1987* (Luxembourg, 1989); OECD, *Education in OECD Countries 1986-87* (Paris, 1989); total educational spending for Italy from UNESCO, *Statistical Yearbook 1988*.

*"K-12" education outside schools.* To cite one example of how this kind of segmentation error contaminates EPI's analysis: By ignoring the role of postsecondary institutions in providing "basic" education, EPI understates U.S. total investment in "elementary and secondary" education for **people**, as opposed to just kids.

The fact is that American postsecondary institutions (especially community colleges) provide extensive "compensatory" education (equivalent to K-12 curricula): 25% of U.S.

**The fault for education's festering obsolescence lies not in any shortage of tax and tuition revenue, but is rooted entirely in the priorities of an academic establishment that has habitually replaced innovation with supplication.**

college freshmen take "remedial" (i.e., high school or less) math courses, 21% take remedial writing courses, and 16% take remedial reading courses.<sup>19</sup> With about half of all U.S. high school graduates going on to some kind of college, it's clear that a substantial amount of American "secondary" education is being delivered in "postsecondary" institutions.

A growing number of Americans are getting their basic (K-12) education neither in schools nor colleges, but in the workplace. A recent survey of 200 major U.S. corporations disclosed that 22% teach employees reading, 41% teach writing, and 31% teach computation. The American Society for Training and Development projects that 93% of the nation's biggest companies will be teaching their workers the "three R's" within the next three years.<sup>20</sup>

*Immigrants.* Rasell correctly notes that the much larger number of immigrants in the United States than in most other countries should have an important impact on the nation's education system. But EPI's narrow focus on K-12 spending misconstrues that impact.

U.S. immigrants are predominantly adults, not children: 61% of immigrants are age 16-44, compared to 48% of native Americans in that age range. More than two-thirds of all immigrants are older than the mandated "school age." At the same time, some 13% of adult immigrants older than 25 have less than a fifth-grade education, compared to only 3% of natives with that little schooling. And the vast majority of U.S. immigrants come from non-English-speaking countries.<sup>21</sup>

What all this means is that a large share of immigrants who need "basic" (K-12) education are adults, not children, who are most likely to be served in "postsecondary" or "adult" education programs.<sup>22</sup> Thus, again, a substantial portion of the U.S. investment in "elementary and secondary" education is not being credited in EPI's national "K-12" accounts.

*Crossed segments.* By excluding higher education expenditures from their calculations, the EPI analysts also omit one of the most costly forms of America's extravagant investment in K-12 education: namely, the large proportion of U.S. higher education resources allocated to generating the academic credentials the public school bureaucracy demands for the employment and promotion of teachers and administrators.

Such "Education" diplomas represent about 9% of all bachelor degrees, 25% of all

masters degrees, and 20% of all doctorate degrees awarded annually in the United States. If the cost of the "ed school" diploma mills were allocated to the nation's K-12 budget, EPI's putative K-12 spending "lag" would be wiped out.

On the other side of the ledger, the rapid growth of postsecondary options in American high schools means that more U.S. secondary education spending is actually going for higher education. Ten states now offer public school students the option of attending college or university classes. For instance, in Minnesota and Colorado, 11th and 12th grade students now are allowed to take courses in colleges, with public "K-12" monies being used to pay college tuition. In Maine, high school students taking postsecondary courses get credits that count toward both high school and college graduation.<sup>23</sup>

Similarly, thousands of American high school students now take advanced placement or "AP" examinations, administered by the College Board, which allow them to earn college credit for courses taken in high school. In 1987, eight states offered AP courses and examinations to 10% or more of their high school juniors and seniors. Nationwide, the number of high school students taking AP courses is growing rapidly: from 2.9% in 1981 to 6.5% in 1987.

*The real shortchanging.* If any segment of the U.S. learning enterprise is being "short-changed" it is neither K-12 nor higher education, but adult education and training. The United States has more adult functional illiterates than kids in high school. About as many American adults need further basic education as there are children in U.S. public schools. Yet, for every dollar spent on K-12

education for children in the United States, less than a penny is spent on basic education programs for adults.

Studies by Anthony Carnevale of the American Society for Training and Development (ASTD) show that the United States is underinvesting in the continuous training and retraining needed to have a competitive workforce.<sup>24</sup> Carnevale's research reveals that most employer-provided training goes to the employees who are already most educated, while public training funds aid no more than the most disadvantaged 8% of the workforce --leaving the mass of workers in the middle with little support for upgrading their human capital. To help close this gap, a recent ASTD report recommended that U.S. employers expand their investment in employee education and training to at least 2% and preferably 4% of payroll, an increase of between \$13 billion and \$56 billion a year.<sup>25</sup>

These facts only begin to suggest how distorted may be the conclusions derived from international comparisons of only limited segments of national learning enterprises. The EPI paper notes, for example, that international tests of educational achievement stop with 14-year-olds. Rather than recognizing the bias and limited utility of such tests--the human mind does not stop growing after puberty--Rasell and Mishel simply choose to ignore both the cost and the value of the generous U.S. investment in postsecondary education, guaranteeing that their paper will shortchange America.

The great strength of the American system is that it provides second and third and more chances for success to those who have failed in or been failed by school. It's true that the bottom third of the U.S. school popula-

tion or adult workforce shows less academic proficiency (often grossly less) than the least accomplished group in a number of other nations. But much of this apparent deficiency stems from the racial and ethnic diversity of a nation of immigrants, which is also one of America's key competitive advantages.

And the United States offers opportunities for remediation, redemption, and further learning beyond youth that are largely nonexistent in many other countries with which American schools are invidiously compared. At the same time, entrepreneurship--a mere back alley in most other "industrial" economies--in America is a broad avenue for both personal advancement and economic development where academic credentials are irrelevant.

The seemingly superior commitment and performance of the K-12 education systems of other countries compared to the United States arise in no small part from the most viciously elitist and exclusionary aspects of those nations' postsecondary systems. In the Japanese school system for example, obsessive study is driven by a social caste system

*[Japanese] students don't choose to spend their junior high and high school years studying eight hours a night; they have no choice. All the hiring for key jobs is based on which university a student attends. If someone gets into the Tokyo University, he's made it. If not, he hasn't made it and there's not much of a second chance. Getting into Tokyo University, in turn, depends on scoring well on national tests--which in turn depends on memorized knowledge. They have exams about English grammar that you and I would probably fail; they ask about arcane points of grammar having nothing to do with using the language. It's all memorization.*  
--James Fallows, "What I've Learned: Losing the Peace," *The Washingtonian*, March 1990.

that hinges on college entrance exams. For Americans to envy this kind of feudal rite of passage is foolish. To emulate it would be folly.

#### THE PERILS OF OVEREDUCATION

EPI embraces the common but costly liberal assumption that if some education is a good thing, then more must be better. But it is becoming increasingly evident that too much investment in traditional, academic education may be a bad thing for both personal and socioeconomic development.

**Miseducation.** A U.S. Labor Department report, *Workplace Basics*, finds that there are six other groups of "basic skills" besides the traditional "3 Rs" that now are considered by American business to be essential for any kind of employment in the 1990s and beyond: (1) knowing how to learn; (2) listening and oral communication; (3) creative thinking and problem solving; (4) personal management; (5) group effectiveness; and (6) organizational effectiveness and leadership.<sup>26</sup>

Traditional forms of schooling, whether for children or adults, are not only irrelevant to cultivating this broad range of competencies needed by the modern knowledge worker, but may even be harmful. A U.S. National Research Council report by Lauren Resnick of the University of Pittsburgh argues that the skills of thinking and working encouraged by conventional schooling are almost exactly opposite to those required for most of today's and tomorrow's jobs--for instance: individual thinking in school versus shared thinking in the real world; pure thinking in school versus manipulating tools outside; symbolism in school versus practical reasoning on the job; and general principles in academe versus

situation-specific competencies in the workplace.<sup>27</sup>

**Uncertain returns.** In the United States of a generation ago, virtually any investment in more education offered an attractive rate of return--the cost of education was more than paid back by the greater incomes commanded by college graduates and those with advanced degrees. But the return on investment in generic education has become increasingly dubious for all concerned.

In the 1970s, the difference in lifetime income between U.S. high school graduates and college graduates became so narrow that some economists estimated that the return on investment in formal higher education might even be negative.<sup>28</sup> In the late 1980s, the gap between the incomes and employment rates of college and high school graduates widened dramatically, making higher education now appear to be not only an attractive but perhaps essential investment.

These gross measures of the value of postsecondary education in the American economy may be misleading, however. The growing division between the economic status of college and high school graduates has occurred not because the demand for more-educated workers has increased but because the employment opportunities traditionally available to individuals with no more than a high school education--mainly in manufacturing or agriculture--are rapidly vanishing.<sup>29</sup>

**Overschooling.** The apparent demand for "more educated" workers actually is a kind of inflation phenomenon. While the basic skill requirements for entry-level work have been generally increased by technological and organizational change, the U.S. economy's

demand for highly-schooled "professional" workers is largely oversupplied. Because jobs requesting<sup>30</sup> no more than high school credentials are disappearing much faster than jobs asking for college degrees, it appears that the educational requirements of employment are increasing. But the numbers of jobs whose content genuinely requires college or postgraduate training are neither large enough nor growing rapidly enough to make up for the number of low-skilled jobs being structurally displaced.

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**An exhaustive review of two decades of educational research yielded the "startlingly consistent" result that there is no systematic relationship between variations in school expenditures and variations in school performance.**

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*Workforce 2000* and other studies find that the most acute human capital need in the modern economy is for skilled technicians. As the latest analysis of international competition by Michael Porter of the Harvard Business School concludes: "[America particularly needs] a new national effort to upgrade technical and vocational schools.... What is required for competitive advantage is specialized skills tailored to particular industries."<sup>31</sup>

On the other hand, America has a surplus of over-schooled "professionals." Few would question that the United States has too many lawyers. During the 1980s, half the country's physicians in private practice didn't have enough work to fill their calendars; meanwhile, a glut of empty beds has been driving many hospitals into bankruptcy. The surplus of dentists has led some notable universities

such as Georgetown to shut down their dental schools.

American business schools continue to graduate 70,000 new MBAs a year at the same time that the nation's biggest companies are shedding thousands of management jobs as they "downsize" to become more efficient competitors. Harvard business school professor Robert Hayes argued in a recent article that there is no evidence that the growing amount of money spent on business schools (now \$3 billion a year) has served America well during the last 25 years. As Lester Thurow, dean of MIT's Sloan School of Management, put it: "If our business schools are doing so well, why are our American companies doing so badly?"<sup>32</sup>

Excessive schooling not only wastes family and community resources, but actually may leave overschooled workers worse off in the job market: One recent study found that overeducated workers actually get paid less than undereducated workers to do the same job.<sup>33</sup>

As the U.S. economy faces, through the 1990s, a growing shortage of entry-level workers, and simultaneously a relative surplus of more-educated and more-experienced workers in many fields, the apparent economic benefit of further schooling beyond high school is likely once again to diminish.

At the heart of these dilemmas is the crucial--but often overlooked--difference between learning and schooling. The same technology of the knowledge-based economy that has made learning an ever more essential feature of working and living has made the process and culture of traditional schooling obsolescent. With the "specialized skills"

*The causes of high unemployment in Europe . . . indicate that much of the increase is caused by inappropriate or outdated education. At the same time, Europe lacks skilled labour in many professions and industries. Clearly supply does not match demand in European education. Europe allows and even encourages its young individuals to take the liberty of pursuing "interesting," not directly job-related, studies which in many cases have little prospect of practical application. . . . European education is founded on national premises and on widely diverging basic ideologies. Faced with European economic integration and the free movement of labour, national thinking needs to be replaced by a unified European concept.*

--European Round Table of Industrialists,  
*Education and European Competence*  
(Brussels, February 1989)

Porter mentions becoming obsolete every few years, the prerequisite skill for a growing majority of occupations is "learning-to-learn." This trend is fast blurring the conventional distinction between vocational training and liberal education.

While the espoused goals of the so-called "liberal arts tradition"--critical judgment, creativity, clarity, independence, responsibility, and sheer erudition--may be even more broadly desirable than ever, it is far from clear whether the structures and practices of academic institutions are the most effective means to achieve those goals. Certainly they are not the most efficient.

It's also important to recognize, as McLuhan observed, that the medium also is the message. That is, the scholastic environment convey many lessons, beyond the explicit curriculum, that are often counter-productive to both personal and community development. The social costs of academic credentialism have been too much ignored.

Whatever it has done for test scores, academic education following the European, "liberal arts" tradition also has served to reinforce feudal class structures and ethnic/national division in Europe and the Orient. In America, the same academic conceit has bred what the late Herman Kahn labelled a "New Class" of credentialed experts infected with "educated incapacity." The cultural bias of "liberal" academia against manual labor, commerce, and even capitalism has contributed to Europe's festering unemployment and to America's flagging industrial competitiveness.

And if academia has been a mixed blessing to human development in Europe and America, in the third world the disdain for work and productivity bred into the European-style schools inherited from colonial masters has been an economic and social catastrophe. In countries such as Zimbabwe and Sri Lanka, the overdose of academic education has bred a socially disruptive class of overeducated unemployed. Charting the same phenomenon in Indonesia, Nathan Keyfitz concluded: "To sell education to the public as a means to upward mobility ultimately risks disillusionment."<sup>34</sup>

The disillusionment in liberal academia as an engine of development now has come

home to Europe. While some Americans view Europe's schools as objects of envy, European industrialists and government leaders increasingly view their traditional education systems as a barrier to the successful integration of what they call the European Economic "Space"--comprised of the Continent's suddenly expanding universe of democratic, market economies. Europe's leaders

*Then the island blew up. . . . A numbing cycle of violent reprisals, carried out mainly by educated, unemployed and well-armed youths, began to escalate. . . . "With liberalization, you gave these Sinhalese and Tamil students the impression that they could gain not only an education, but could achieve upward mobility. This turned out not to be true," said . . . a Harvard-trained attorney and Tamil activist. . . . The economy changed during the 1980s but the school system didn't. Sri Lanka's highly regarded British-style schools were designed to churn out qualified civil servants. . . . Classrooms emphasized literacy and the liberal arts, not science or vocational training, meaning that few graduates were prepared for the kinds of jobs available in a dynamic economy. . . . Said [the assistant director of] Sri Lanka's leading private think tank: "The problem is people coming out of the universities, saying, 'I'm ready,' and the country says, 'For what?'"*  
--"Sri Lanka's 'Model' Economy in Ruins,"  
*The Washington Post*, October 10, 1989

*Ironically, the crisis of unemployment is an offshoot of one of Zimbabwe's sterling achievements in its first decade. . . . Since [the Mugabe government came to power in 1980], the number of primary and secondary schools has blossomed tenfold. The national literacy rate has climbed from 45 percent to nearly 80 percent. . . . Between 1957 and 1977 only 39,000 blacks were permitted three or more years of secondary education. Since independence, more than 1 million have completed secondary schools--but only a tenth of them have jobs. "We placed a high premium on education because for 90 years the black population was deprived. . . ." said . . . Zimbabwe's minister of primary and secondary education. "Now we have created a situation that is potentially dangerous--so many bright young people and so few jobs." . . . "In fact, it's something of a time bomb," said one U.S. official based here. "Education is fostering so many hopes, and I think a lot of young people are angry."*  
--"In Zimbabwe, Education Yields Few Rewards," *The Washington Post*, January 28, 1990.

are laying the groundwork to replace provincial, academic institutions with a new Continental system, blending basic, higher, professional, and vocational education, internationally integrated by a "telematic" network<sup>35</sup> linking the entire "space."

More spending on conventional schools, and more old-fashioned schooling per se will serve to weaken, not strengthen, the competitiveness of America or any other nation in the dynamic world of the 21st century. What every nation now needs is a new kind of learning enterprise--innovative in both form and content--to replace the outworn academic establishment.

#### TOWARD A COMPETITIVE LEARNING ENTERPRISE

EPI is scarcely alone in the belief that education is a key factor of global competitiveness. But analysts of competitive strategy from David Ricardo to Michael Porter and from Sun Tzu to Douglas MacArthur have known that the least promising path to competitive advantage is that of catch-up or copycat.

As James Fallows has argued persuasively, America can renew its tarnished leadership not by envy and emulation but only by building on its unique strengths.<sup>36</sup> In regard to education, this means not wasting further time and treasure trying to close mythical "lags" behind the academic budgets and test scores of other nations. Rather, competitive leadership means leapfrogging ahead of others, and being first to replace medieval academic structures with the high-tech learning industry an information-age economy demands.

The precedent for thus reinventing education can be found in America's own history. Despite the fact that the Industrial Revolution began in Great Britain, in the course of the 19th century the United States leapfrogged ahead of the British to seize the leadership of the industrial economy. Historians note that the key to America's competitive success in the industrial age was this country's unique education system which consciously did not attempt to emulate or catch up with the academic establishment of Britain, America's "mother country" and the world's then-leading industrial power. Instead, the pioneering Americans of the last century, through eclectic borrowing and novel designs, developed a completely new kind of education system focused on the practical, vocational needs of an industrial economy and a democratic society.

*The perestroika gap.* After World War I, the conventional wisdom of the world's navies was so convinced of the strategic preeminence of battleships that in the 1920s arms control negotiators desperately sought to avert a battleship-building "race." Once the resulting treaties failed, the world's naval powers each launched an equally urgent effort to avoid a national battleship "lag." Lost in all this rigmarole were the voices of the few visionaries like Mitchell in the United States and Yamamoto in Japan who could plainly see that airpower, not gunpower, had become the key to naval victory, and that the aircraft carrier had rendered the battleship obsolete.

Similarly, the "battleship" mentality that drives the more-spending-for-more-schooling lobby is leading America toward an intellectual and economic "Pearl Harbor." For the true threat to American competitiveness

today is not a schooling lag but a *perestroika* gap that is widening with breathtaking speed.

While "restructuring" in America remains little more than a hollow platitude, in Europe *perestroika* has unleashed winds of change that now blow, both east and west, with gale force. In the Orient, and Latin America, and even now in Africa, the passion for democracy is bursting the bondage of Marxist and authoritarian regimes. China's doddering Communist warlords struggle vainly against time and tide to suppress the flood of liberty that sprang forth in Tiananmen Square one year ago. Japan's worn-out political establishment remains untoppled, but continues to teeter as that fast-aging society reassesses all its basic assumptions and plots its next great leap. India's establishment has fallen, unleashing new upheaval in the world's greatest democracy.

From Czechoslovakia to Chile, from South Africa to Nicaragua, from Mongolia to Ethiopia, the status quo is on the rout, the unthinkable has become the commonplace, and the fabric of whole societies is being rewoven. As every major social structure in these lands is reappraised and redesigned or replaced, the most conservative social glue--education--inevitably will be reinvented as well.

The irony of America's predicament is dire: To keep pace with the breakneck dynamism of the rest of the world, the United States urgently needs to reconstruct its entire national learning enterprise. Yet the relative moderation of structural upheaval in other American institutions breeds a complacency that makes it only more difficult to truly "restructure" an academic establishment that stands as a daunting barrier to national prog-

ress and global competitiveness. The acute threat to America now is that it may not experience the goad of another "Pearl Harbor" crisis, but only the steady, incremental degeneration of social senility. Whatever may be the solution to this dilemma, further feeding the academic lobby's insatiable fiscal appetite would only be a giant leap backward.

*Within Europe the leadership eventually passed to Britain, which emerged in the middle of the 18th century as a new kind of state, whose wealth and power were based on manufacturing industry. . . . To many it must have seemed by [1830] that Britain's commanding position was unassailable. . . . Despite [the] brilliant success [shown at London's Great Exposition in 1851], the reality was that Britain was already in decline. . . . The consensus of opinion was that the English educational system was totally unsuited for the needs of the day. . . . The old prestigious universities of Oxford and Cambridge virtually ignored science, as did the public schools from which most of their students came. . . . The plain fact was that the ruling classes saw no need for technically trained men. . . . The leading countries of Europe set up technical education systems. . . . In the United States, where labour shortage encouraged mechanization and a flood of European immigrants brought new ideas about education with them, land grant colleges were endowed from 1862. . . . Britain reacted too slowly and inadequately: the lead which had seemed unassailable at mid-century had been irretrievably lost by its end. . . . At the turn of the century, . . . Britain was in decline, Germany was in the ascendant, and . . . America was gathering the strength that was to make her the greatest power of all after the Second World War.*  
--Trevor I. Williams, *The History of Invention* (London: Macdonald & Co., 1987)

*The need for leadership.* EPI's call for more spending on education is a kind of educational *Campeauism*--a strategy for wealth through insolvency. But the wide acceptance and repetition of EPI's faulty analysis is a symptom of a gap in national leadership for which EPI cannot be blamed.

By leaving out reduced cost and greater productivity from the list of national education goals the president and the governors recently espoused, the Bush administration and the state executives left themselves wide open to the kind of counterattack the EPI paper has fueled. While the administration has correctly tried to refocus the education reform debate on "results, not resources," its lack of a compelling strategy to achieve more learning at less cost--which America actually has the technology to attain--has left the academic lobby's siren call for more spending unchallenged and unscathed.

What would such a strategy look like? Certainly a comprehensive plan for restructuring a \$500 billion industry will be sophisticated and complex. But there are some important **strategic** goals the president and governors--as well as business leaders and other policymakers--should consider adding to complement the academic goals they already have agreed to:

- **The United States should double the productivity of its investments in education and training by 2001.**

Obviously, there will be some illuminating debate about what "doubling productivity" means--appropriate measures of outcomes will be needed as well as more accurate accounting for costs. But commitment to this goal will focus attention where it belongs--on

increasing results while freezing or reducing costs--and will provide a firm counter to the academic lobby's endless demands for more money.

- **American education and training institutions should commit a minimum of 1% of their gross budgets to investment in research, development, and technological innovation.**

This would be an increase of 10 to 40 times over the current level of educational R&D investment, and would still leave the education industry spending only half as much on R&D as the average U.S. business. But 1% would not break any educational institution's budget and would offer some hope to taxpayers and tuition-payers that academia's soaring cost spiral might be reversed.<sup>37</sup>

- **Guarantee that, before 2001, all American learners will have at least two choices for the education or training services they need.**

More broadly, we need to maximize the degree of choice and flexibility available not only to students but equally to teachers, administrators, and vendors of educational products and services. Increased choice and competition are essential to give educational enterprises incentive to become more innovative and productive. The top-priority objective in pursuing this goal is to assure that every one of the nation's more than 15,000 school districts offer all students and families choices, at least among public schools, while simultaneously giving teachers and principals the freedom to manage their own schools.

- **Reconstruct the nation's testing enterprise, by 2001, to provide and apply accu-**

**rate assessments of individual abilities, including workforce-relevant knowledge and skill, not just academic achievement.**

An initial step in this direction, suggested by Al Shanker, president of the American Federation of Teachers, is to abolish existing standardized tests. Beyond that, Shanker rightly urges development of a new, more sophisticated testing technology that will provide meaningful accounting, and hence incentive, for actual student learning, not just class attendance. A new U.S. Labor Secretary's Commission on Achieving Necessary Skills (SCANS) is about to spend the next year working to develop detailed guidelines that should provide a useful platform for pursuing this goal. Clearly, more precise and efficient testing processes will be essential to creating a more productive national learning enterprise.

- **Assure every student in America access to a "distance learning" network by 2001.**

We have a set of communication technologies in place--telephone, CATV, satellites, fax, etc.--that can provide some kind of learning-at-a-distance to nearly everyone now. The strategic version of this modest-sounding goal really is to develop a national, integrated, "telematic" learning environment that can allow anyone to learn anything, anywhere, anytime. Fully realizing the potential of distance learning will require a broadband network, ultimately digital, which will give everyone in America multi-media access to any form of instruction or knowledge available to anyone else. One telephone company scientist has labelled this ultimate technology "telesophy." Its full achievement will require completion of the national, digital, fiber-optic communications network that, besides being

the true "school of the future," will be the essential "spinal cord" of the information-age economy.<sup>38</sup>

Clearly this kind of high-technology, market-oriented strategy for restructuring the American learning enterprise will require major investments. But these will be true **investments**--ultimately paying off in more, better, faster, and cheaper learning--rather than simply bigger **expenditures** on more of the same old unproductive schooling. And financing these investments does not require increased total spending on education or training. Rather, restructuring can and should be paid for by reallocating some of the vast resources now spent in the education industry from inefficient activities to more productive applications, while taking full advantage of the investments in new technologies that are transforming every other sector of the nation's economy.

*Conclusion.* While conceding that spending more money on K-12 schooling is "not the only answer" to America's education problems, EPI's Rasell and Mishel still conclude that "to begin a process of education reform by denying the need to increase spending ...places a severely limiting constraint on any plans for education." The real strategic situation is precisely the opposite:

**Past** education reform processes in the United States continually began by assuming a need to increase spending and have failed to produce any consistent result other than greater cost and lower productivity. A long history of futile reform movements<sup>39</sup> proves that perpetuating this error is what would impose a lethal constraint on any plan or hope for education improvement in the United States.

There is no need for the United States to increase spending on education--there is an urgent need for academic institutions to restructure their vast resources to become both more effective and more efficient.

The United States does not lag behind other nations in spending on education--but America would be better off if it did spend less on education as a result of creating a far more productive learning enterprise.

#### NOTES

- 1 A technical assessment by U.S. Education Department staff, entitled *Shortchanging Education: A Case Study in Flawed Economics*, was published on the same day as the EPI paper, and effectively reveals several of the most glaring errors of the EPI analysis. A Policy Analysis (No. 126) by John Hood, *Education: Is America Spending Too Much?*, published by the Cato Institute in Washington a day later (18 January 1990), provides an effective counter to the EPI argument for more U.S. education spending. Although Hood's Cato report does not explicitly critique the EPI paper, Hood does expressly contradict Rasell and Mishel in a brief column in *The Wall Street Journal*, "Education: Money Isn't Everything" (9 February 1990). In this briefing paper, I both summarize and expand on the analysis provided by these earlier publications.
- 2 U.S. Education Dept., "Technical Assessment."
- 3 This is a flaw that is common to most international comparative studies. If the United States of America were compared to the (to-be) United States of Europe, the education systems of many American states would equal or exceed those of many European "states," in terms of both spending and achievement. Reporting that a continental country with the geographic and social diversity of the U.S.A. "lags" behind a micronation like Switzerland or Sweden makes as little sense as saying that Texas trails Beverly Hills.
- 4 EPI news release, 16 January 1990.
- 5 Patricia Summerside, "The Things Money Can't Buy," *Policy Review*, Winter 1990.
- 6 Attributed to Rasell by EPI News Release.
- 7 See Drucker, *The New Realities* (New York: Harper & Row, 1989).
- 8 Also attributed to Rasell by EPI's News Release.
- 9 See Denis Doyle and Bruce Cooper, *Federal Aid to the Disadvantaged: What Future for Chapter 1?* (London: Falmer Press, 1988).
- 10 Stanley Pogrow, "Challenging At-Risk Students: Findings from the HOTS Program," *Phi Delta Kappan*, January 1990.
- 11 From Hood (1990).
- 12 "Districts with higher revenue per pupil provide a somewhat costlier instructional program, but they devote much larger shares of their budget to non-instructional purposes." S.J. Carroll, "Search for Equity," in W.W. McMahon and T.G. Geske, eds., *Financing Education: Overcoming Inefficiency and Inequity* (Urbana, IL: University of Illinois Press, 1982); cited by Hood (1990).
- 13 See Table 7 of the EPI Briefing Paper.
- 14 See William Johnston and Arnold Packer, *Workforce 2000: Work and Workers for the 21st Century* (Indianapolis: Hudson Institute, 1987).
- 15 Eric A. Hanushek, "The Impact of Differential Expenditures on School Performance," *Educational Researcher*, May 1989.
- 16 Deborah Inman, *The Fiscal Impact of Educational Reform* (New York: Center for Educational Finance, New York University, May 1987).
- 17 State and local governments--which provide most public funding for education--are not immune to the deficit crisis. Local constitutional proscriptions have not prevented some state governments from sliding into debt or even insolvency. Federal, state, and local taxes all are taken from the same taxpayers' wallet; when taxes are increased at one level, they tend to reduce the tax sources available to the others. If federal borrowing forces up interest rates, debt costs increase for other borrowers, public or private, as well.

- 18 The sources of these data and further discussion of the "technology gap" can be found in an earlier Hudson Institute Briefing Paper (No. 111, 8 November 1989), "Closing Education's Technology Gap." Also see Lewis J. Perelman, "Schools: America's \$500-billion Flop," *The Washington Post*, 3 December 1989.
- 19 U.S. Bureau of the Census, *Statistical Abstract of the United States: 1988* (Washington: 1987); p. 142.
- 20 "C Stands for Company, Turned Into Classroom," *The Wall Street Journal*, 1 March 1990.
- 21 From Julian L. Simon, *The Economic Consequences of Immigration* (New York: Basil Blackwell, 1989).
- 22 Even when adults needing basic education are served by public schools, they are often charged tuition and/or their costs are charged against programs or categories different from the normal K-12 budget.
- 23 Note that this is just one of many no-cost or low-cost ways of increasing the productivity of education expenditures.
- 24 Anthony P. Carnevale and Harold Goldstein, *Employee Training: Its Changing Role and An Analysis of New Data* (Washington: ASTD Press, 1983).
- 25 Anthony P. Carnevale and Janet W. Johnston, *Training America: Strategies for the Nation* (Alexandria, VA: American Society for Training and Development, 1989).
- 26 Anthony P. Carnevale, Leila J. Gainer, and Ann S. Meltzer, *Workplace Basics: The Skills Employers Want* (Washington: U.S. Dept. of Labor, 1989).
- 27 Lauren Resnick, *Education and Learning to Think* (Washington: National Academy Press, 1987). Also see Sue E. Berryman, "Breaking Out of the Circle: Rethinking Our Assumptions about Education and the Economy," Occasional Paper No. 2. (New York: National Center for Education and Employment, Columbia University, July 1987).
- 28 For instance, see Richard B. Freeman, *The Market for College-Trained Manpower: A Study in the Economics of Career Choice* (Cambridge, MA: Harvard University Press, 1971).
- 29 Cf. Johnston and Packer (1987).
- 30 Unfortunately, reports and studies of job "requirements" often do not distinguish between the educational qualifications employers ask for in their job requisitions or ads and the specific knowledge and skills needed to perform the work. In practice, employers commonly ask for more academic credentials than are needed, in an attempt to reduce the number of under-qualified applicants. But the workforce shortages of the 1990s and beyond--combined with the hollowing out of diplomas--are making this practice ever less feasible. A graphic example of the problem: The U.S. Navy's training director was quoted in a recent news report as saying, "I have college graduates in [nuclear submarine] school who can't read."
- 31 Michael Porter, "Why Nations Triumph," *Fortune*, 12 March 1990.
- 32 "Where the Schools Aren't Doing Their Homework," *Business Week*, 28 November 1988.
- 33 Richard R. Verdugo and Naomi Turner Verdugo, "The Impact of Surplus Schooling on Earnings," *The Journal of Human Resources*, Fall 1989.
- 34 Nathan Keyfitz, "Putting Trained Labour Power to Work: The Dilemma of Education and Employment," *Bulletin of Indonesian Economic Studies*, December 1989.
- 35 The French term "telematique" usefully represents the fusion of the technologies of telecommunication and computing.
- 36 James Fallows, *More Like Us: An American Plan for American Recovery* (New York: Houghton-Mifflin, 1989).
- 37 A detailed plan for how to implement this proposal is contained in Hudson Institute's Briefing Paper No. 111, "Closing Education's Technology Gap."
- 38 See G.A. Keyworth II and Bruce Abell, *Competitiveness & Telecommunications* (Indianapolis: Hudson Institute, 1990).
- 39 See, for instance, Carl F. Kaestle, "The Public Schools and the Public Mood," *American Heritage*, February 1990. For a more extensive review of post-War education reform, see Diane Ravitch, *The Troubled Crusade: American Education 1945-1980* (New York: Basic Books, 1983).

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# HUDSON OPINION

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## EDUCATION

### Schools: America's \$500-Billion Flop

By Lewis J. Perelman

**E** DUCATION costs too much and delivers too little at a time when our emerging "information" society needs it more than ever. In fact, viewed as an economic sector, education has the worst productivity record of any major American industry.

Of course, many proposed structural changes—opening public schools to choice and competition, cutting centralized bureaucracy, holding institutions accountable for actual knowledge and skill gained by students, and revising employment practices to reward competence and flexibility—promise to create an environment where instructional efficiency matters.

But the technological and organizational innovations that have enabled productivity to soar in other industries will not occur even in a restructured education system without an investment in research and development comparable to other economic sectors. At present, that investment is almost nonexistent. Closing the R&D gap must be made a top priority in educational reform.

#### The High Cost of Mediocrity

**A** four-year study by the Office of Technology Assessment concluded that the key obstacle thwarting America's shift to an

information-age economy is the egregiously poor productivity of the education sector. OTA found that education is tied (with social work) as the most labor-intensive businesses in the economy, with labor costs equal to 93 percent of output value—compared with 54 percent for all private business.

Since 1950, the real dollar (inflation-adjusted) cost of elementary/secondary (K-12) education in the United States has quadrupled. College is no better bargain: The nominal price tag for higher education doubled in the past 10 years, rising far faster than inflation. With enrollments flat or declining and educational quality of schools and colleges either the same (according to their fans) or deteriorating (according to their critics), the ratio of effectiveness to cost has been going sharply downhill.

Why? The May 1988 OTA study revealed that education has by far the lowest level of capital investment (another name for "buying technology") of any major industry: only about \$1,000 per employee. The average for the U.S. economy as a whole is about \$50,000 of capital investment per job; in some high-tech industries, it's \$300,000 or more. Even other, relatively labor-intensive, "service" businesses provide at least \$7,000 to \$20,000 worth of equipment and facilities for each employee.

The education industry, however, has a unique characteristic that sets it apart from all other businesses: It is the only enterprise where the con-

sumer does the essential work. To the extent that learning is education's essential (though not only) business, it's clear that the productivity of the student or learner—not teachers or administrators—is what ultimately counts.

If we count the student, rather than the paid staff, as the "worker" to be compared to workers in other sectors, education's productivity/technology gap looms even larger. Thus, the public schools' niggling capital investment of \$1,000 per employee becomes a pathetic \$100 per worker if "worker" means "student." As a matter of fact, while the average U.S. public-school budget now comes to about \$5,000 per student annually, the typical school district expends only about \$100 to \$200 of that sum on materials and tools for each student to use directly for learning. No wonder, then, that the instructional technology available to most students, most of the time, in most American schools and colleges, today ranges from 100 to 1,000 years old.

Had the power of educational technology grown at the same pace over the last four decades as the power of computer technology, a high school or college education—which still take 12 and four years respectively to produce, at an average cost for either of about \$60,000—could be produced in less than 10 minutes for about five cents!

No one expects improvements of that magnitude. But taxpayers and tuition-payers can justly expect education to make some meaningful

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technological progress in the same direction as the rest of the economy. Instead, the technological gap between the school environment and the "real world" is growing so wide so fast that the educational experience is at risk of becoming not merely unproductive but utterly irrelevant.

#### The R&D Gap

The federal government pays less than 9 percent of the national bill for formal education (school and college); yet it pays for most of the educational research. Depending on what one regards as "R&D," the federal Education Department spent between \$136 million and \$388 million on some kind of research in the 1989 fiscal year. Only about a million dollars of this was devoted to development of advanced instructional technology. Most of the research on high-tech teaching and learning is financed by the Defense Department, to the tune of about \$200 million annually. The National Science Foundation also allocates about \$15 million a year to research on instruction for science and mathematics.

These hundreds of millions of dollars may sound like a lot of money for research until one considers the scale of the nation's learning enterprise. The education and training sector is America's largest information industry and, depending on what is counted, may be simply the country's biggest business. Formal instruction provided by schools, colleges and corporate and military training departments is a \$400-billion-a-year industry; OTA estimates that it employs around 10 percent of the U.S. workforce. When on-the-job training and other less visible forms of teaching are included, the learning enterprise amounts to more than \$500 billion a year. By contrast, the health-care industry—

generally viewed as the largest—runs around \$600 billion.

By OTA's accounting, the education sector's investment in R&D comes to only 0.025 percent of its annual revenues. Even if demonstration projects, program evaluations and other activities plausibly considered "research" are included, the figure is still less than 0.1 percent.

In contrast, R&D accounts for 2.5 percent of the entire U.S. gross national product. The average American business firm invests 2 percent of sales in R&D. But high-tech, information-based businesses commonly plow 7 to 20 percent of their sales into R&D. In Business Week's latest "R&D Scoreboard" the five top-rated companies in the computer software and services sector (the fastest-growing segment of today's computer industry) spent from 16.1 to 28.6 percent of their revenues on R&D.

The same study found that the amount of R&D investment per employee is the most powerful predictor of business success. For the formal education sector (kindergarten through university), R&D spending per employee is less than \$50 a year. (Or actually \$5 a year, if students are considered as "workers.") In contrast, Business Week's top five spent between \$30,264 and \$42,622; and the average for all industries rated was \$5,042.

#### Barriers to Productivity

Clearly, a bold initiative is needed. But merely adding dollars to the educational research budget is not enough.

The failure to exploit effectively the instructional power of the computer is just one notable illustration of educational institutions' capacity to resist change. A decade and a half into the "desktop computer" revolution, over 40 million personal computers are in use in the United

States. Computers called "computers" are in some 20 million American homes. But nearly 30 million U.S. homes have Nintendo-type "game" units—computer terminals masquerading as toys.

In contrast, another 1988 OTA report found that U.S. schools have spent a total of about \$2 billion on instructional computers over a period of 10 years—that's only a tenth of what the rest of America spends on personal computers every year. A recent survey by Henry Jay Becker of Johns Hopkins University determined that there are about two million instructional computers in K-12 schools, about one for every 20 students. Many of those are old, obsolete or simply locked away unused. While experts have concluded that, ideally, all students should get to use instructional computers for about a third of their time in school, or 10 hours a week, the OTA report estimated that students typically get to use computers in U.S. schools only about one hour a week.

The key reasons for this condition in K-12 education lie in the combination of incentives and disincentives common to government-owned, bureaucratically administered, monopolistic enterprises. In essence, the public school is America's collective farm. Innovation and productivity are lacking in American education for basically the same reasons they are scarce in Soviet agriculture: absence of competitive, market forces.

The public school normally provides, at best, no incentive—other than altruism or curiosity—for practitioners to adopt innovations. One teacher interviewed recently about computer use put it succinctly: "Why should I do anything different next year from what I did last year?" Worse, the typical school environment is rife with disincentives for innovation which, over a period of a half century or more, have proven highly effective in preventing or re-

## OUTPOSTS

Every week in "Outposts," Outlook examines ideas that are changing our lives. This week Lewis J. Perelman analyzes the performance of the American education industry in comparison to other sectors of the economy. Perelman is a senior research fellow at the Hudson Institute. The following is adapted from an institute briefing paper released in November.

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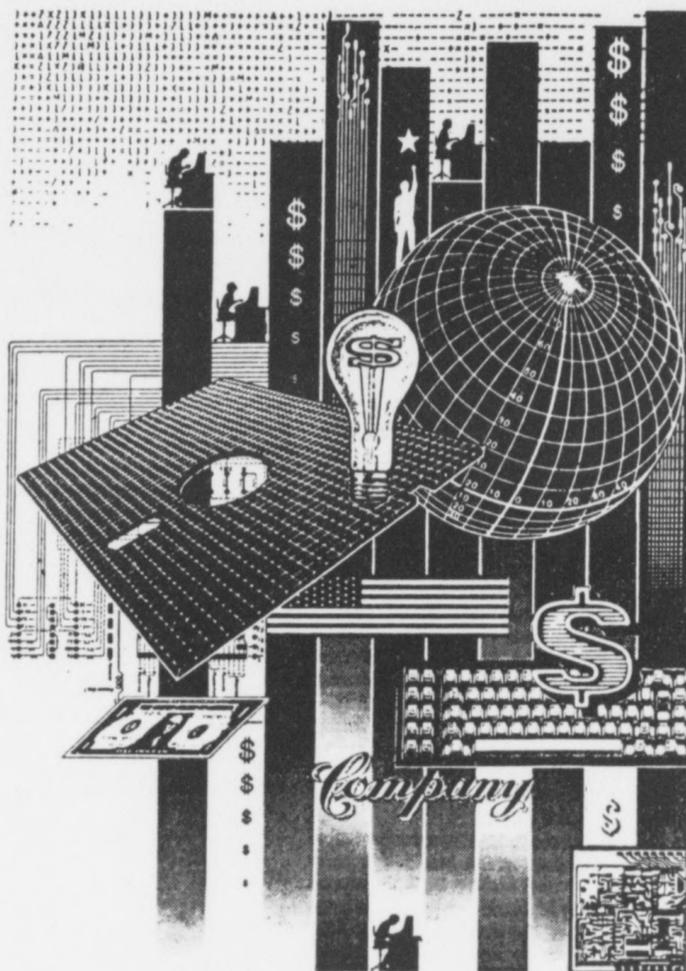
versing technological change. For instance, education analysts commonly cite lack of teacher training as a barrier to adoption of instructional computers. Yet training, by itself, cannot overcome bureaucratic disincentives. Indeed, training may even prove counterproductive.

The Houston Independent School District, for example, used to provide an intensive, 300-hour teacher training course in the effective use of instructional technology—the program was just abolished after seven years. Graduates of the program—many of them the most innovative and technically proficient teachers in the district—who practiced what they had learned actually got negative grades on a state-imposed teacher evaluation instrument that values “teaching” according to the ability to stand in front of a blackboard and talk, rather than the ability, or even willingness, to employ modern, student-centered tools. Staff in the district report that many of the best-trained teachers left the system for jobs where their skills are in demand and rewarded. Despite apparent institutional differences,



the barriers and disincentives for innovation are broadly similar in higher education.

In contrast to the situation in schools and colleges, demand for computer-based instruction is strong in the unregulated and unsubsidized market for employer-provided education. SK&A Research, a California consulting firm, estimates that some 30 percent of the more than \$50 billion that employers invest annually in employee training is spent on computer-based instructional systems—over seven times more in one year than public schools have spent on instructional computers in the last 10 years! That is, employer-provided education invests a 300 times larger share of its total budget in computer-based instruc-



JOHN PACK FOR THE WASHINGTON POST

tion than public education does.

The failure to consider the total market for instructional computing and other advanced technology beyond schools commonly distorts published reports of educational technology's lack of progress. Contrary to what many reports imply, the problem is not that instructional computers don't work well enough, or that they are not affordable or that educators won't use them. The truth is that computer-based and other high-tech instructional tools are being produced, sold and used successfully and extensively outside of schools.

The key difference is that competition makes corporate trainers accountable for costs and results. The principal reason for schools' almost

total lack of investment in productivity-enhancing technological innovation, and their resulting record of steadily declining productivity, is the inherent absence of competitive, market incentives in the bureaucratic structure of the U.S. educational system.

History argues that neither the abundance of current information technology nor further research and invention of even more exotic tools for teaching and learning will, by themselves, have much impact on the near-static pace of innovation in education. Pocket calculators have been ubiquitous for some two decades, yet their common use in pre-college education is still sedulously resisted. Television has been around for half a century yet its educational

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use remains largely trivial. The telephone is a century-old technology; yet hardly any school teachers in America have their own office telephones—or even ready access to one.

The lesson in this is that the massive increase in educational R&D the country desperately needs will not pay off in actual, productive innovation in American schools without a solid dose of *perestroika*. That is, public schools will remain technologically backward until they are forced to compete to attract customers (students) who control the revenues the schools earn. And colleges will continue to eschew efficient instructional technology until instruction is unshackled from the priority of faculty research, productivity takes precedence over selectivity, and institutions are made to compete to generate real learning, not just elite credentials.

On the other hand, the proposed educational restructuring that has recently evolved from growing disillusion with conventional "reforms" will bear little fruit unless a vastly expanded share of education's resources is committed to research.

## Closing the Gap

**A** Hudson Institute report released in November spells out a detailed proposal to close U.S. education's technology gap. Among the recommendations:

- Get every education and training institution, organization and program in the United States to set aside at least 1 percent of its gross revenues for investment in research and development. This is only half the average spending rate for private business and not enough to seriously damage existing program funding.
- Set a goal of achieving a 100-percent increase in the productivity of U.S. education and training by a specific target date, such as 1996. The technology to do this is already on the shelf—we just need to implement it.
- Create a National Institute for Learning Technology to administer the set-aside R&D funds and obtain economies of scale in research projects. Contributing organizations would become members of the institute. Because some of their own money would be at stake, they would have a greater incentive to adopt innovations.
- Specify priority targets for NILT research, including: devising better measures of actual learning; advancing the state of cognitive science; and finding ways to overcome barriers to innovation.

—Lewis J. Perelman

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# EXHIBIT

**H63 - STATE DEPARTMENT OF EDUCATION**  
Charlie G. Williams, State Superintendent of Education

SEP 6 1990

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STATE BUDGET & CONTROL BOARD

**MISSION:** The purpose of the South Carolina School Code is to provide for a system of public education and for the establishment, organization, operation, and support of such State system.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	882,009,630	876,588,395	708,030	4,713,204
1985-86	900,095,502	896,887,863	760,853	2,446,786
1986-87	916,669,674	915,833,357	836,317	0
1987-88	953,109,696	949,661,485	534,397	2,913,814
1988-89	1,056,829,507	1,037,083,666	4,388,196	15,357,644
1989-90	1,107,004,699	1,098,544,240	7,062,953	1,397,506
1990-91	1,145,352,004	Not Available	Not Available	Not Available

	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	113,906,613	9.95%	19,410,388	133,317,001

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina Department of Education AGENCY CODE H63

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> Agency-Wide Operating Expenses		
To provide agency-wide increase for telephone, software leases, printing, postage, travel, and grade reallocations implemented by DHRM.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$198,142	TOTAL FUNDS \$198,142

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> Direct Aid		
To provide school district funding for the Education Finance Act (\$50,980,561), Employer Contributions (\$12,409,205), School Building Aid (\$115,586), and Other Programs (\$198,957)			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$63,704,309	TOTAL FUNDS \$63,704,309

<b>PRIORITY #</b> 3	<b>PROGRAM NAME:</b> Direct Support - Bus Driver's Salary		
To provide adjustments for school bus drivers' salaries and fringes.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$3,535,436	TOTAL FUNDS \$3,535,436

<b>PRIORITY #</b> 4	<b>PROGRAM NAME:</b> Direct Support - Textbooks		
To purchase Textbooks adopted by the State Board of Education for FY 91-92, and textbook adoptions delayed due to lack of funding in FY 90-91.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$15,937,368	TOTAL FUNDS \$15,937,368

<b>PRIORITY #</b> 5	<b>PROGRAM NAME:</b> Direct Support-Bus System Maintenance		
To support the operation and maintenance of the school bus transportation system to include fuel, parts, commercial drivers license, and other costs.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$4,060,089	TOTAL FUNDS \$4,060,089

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina Department of Education AGENCY CODE H63

PRIORITY # 6	PROGRAM NAME: Planning, Res., Eval., Info-Testing Maintenance		
To provide funds for the administration of the norm-referenced test due to increases in enrollment and the per pupil cost.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$80,000	TOTAL FUNDS \$80,000

PRIORITY # 7	PROGRAM NAME: Direct Support-Busses		
To purchase 500 school busses in order to maintain a 12-year replacement cycle and to purchase service equipment.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$15,848,019	TOTAL FUNDS \$15,848,019

PRIORITY # 8	PROGRAM NAME: Education Initiatives-Parenting		
To restore FY 89-90 carryover funds used in FY 90-91.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$334,148	TOTAL FUNDS \$334,148

PRIORITY # 9	PROGRAM NAME: Direct Aid - Handicapped		
To provide an appropriate public education to all handicapped children, aged three to five years.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$13,214,643	TOTAL FUNDS \$13,214,643

PRIORITY # 10	PROGRAM NAME: Direct Support - Busses		
To purchase 250 busses to assist in maintaining the 12-year replacement cycle due to underfunding in FY 89-90.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$7,750,000	TOTAL FUNDS \$7,750,000

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina Department of Education AGENCY CODE H63

<b>PRIORITY #</b> 11	<b>PROGRAM NAME:</b> Education Initiatives-Target 2000		
To provide funding to continue implementation of the Target 2000 Programs (Dropout, Parenting, Art in Education, and School Innovation).			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$3,850,941	TOTAL FUNDS \$3,850,941

<b>PRIORITY #</b> 12	<b>PROGRAM NAME:</b> Instructional Support-GED		
To expand the testing schedule for the GED examinations.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$69,600	TOTAL FUNDS \$69,600

<b>PRIORITY #</b> 13	<b>PROGRAM NAME:</b> Direct Aid-Therapy Center		
To provide funding for a pilot Educational Therapy Center for severely emotionally handicapped students.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$325,000	TOTAL FUNDS \$325,000

<b>PRIORITY #</b> 14	<b>PROGRAM NAME:</b> Direct Aid - Library Books		
To provide funding to update school library book collections.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$4,088,924	TOTAL FUNDS \$4,088,924

<b>PRIORITY #</b> 15	<b>PROGRAM NAME:</b> Direct Aid		
To provide an increase in funding for the Workforce Initiative Program.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$100,000	TOTAL FUNDS \$100,000

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina Department of Education AGENCY CODE H63

<b>PRIORITY #</b> NA	<b>PROGRAM NAME:</b> Education Improvement Act - Allocation		
To provide inflationary adjustments, maintain the Southeastern average teacher salary, provide for School Building Aid, provide formula funding for Teacher and Principal Incentives. Expand four-year old programs by 350 slots, reprint South Carolina History Guide.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS \$19,709,386

Note: The Governor's School for Science and Mathematics is under the management and control of a Board of Trustees (S.C. Code of Laws, Section 59-48-20)

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> Governor's School for Science and Mathematics		
Fulfills obligation to increase facilities payment (Dormitory/Office/Counseling) by inflation index - provides office space for required staff.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$52,052	TOTAL FUNDS \$52,052

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> GSSM		
Fund positions already approved by legislature, Board of Trustees & HRM. Develop and provide accountability/planning in financial and personnel areas.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$60,170	TOTAL FUNDS \$60,170

<b>PRIORITY #</b> 3	<b>PROGRAM NAME:</b> GSSM		
Complete base staffing requirements identified through Board. Provide day-to-day management and program development through Assistant Director, advanced computer instruction/information management through Computer Science Instructor.			
STATE FUNDED POSITIONS 2.00	TOTAL POSITIONS 2.00	STATE FUNDS \$90,684	TOTAL FUNDS \$90,684

<b>PRIORITY #</b> 4	<b>PROGRAM NAME:</b> GSSM		
Provide 180 eighth graders advanced science training during the summer. Involve other high schools and teachers in program, also colleges and universities. Promote outreach to younger students and middle-school teachers for science.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$17,476	TOTAL FUNDS \$88,035

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**AGENCY TOTALS:**

STATE FUNDED POSITIONS 2.00	TOTAL POSITIONS 2.00	STATE FUNDS \$133,317,001	TOTAL FUNDS \$153,096,946
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FORM 92-R2 Total

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Budget Presentation for school year 1991-92  
State Superintendent of Education Charlie G. Williams  
Thursday, September 6, 1990  
2 p.m. - 5:10 p.m. Presentation time 3 p.m.-3:30 p.m.  
Room 105 Gressette Building

#### **I. Introduction**

Governor Campbell, members of the Board and other guests:

The message that I share with you today regarding funding for public education in South Carolina is a serious one. There is no doubt that we have made more educational progress in the last decade than at any similar period in our history. That progress has been made in the face of the reality that a large number of our citizens live their lives in poverty. The same quality of life conditions that result from poverty contribute to the high rate of infant mortality in our state and also complicate the educational process for too many of our children -- estimated to be at least 25 percent of our youth.

South Carolina's reform initiatives in the Education Improvement Act and Target 2000 Act stand in sharp contrast to the nation at large because South Carolina has made education its top priority. In truth, the reason that we have seen accelerated improvements in South Carolina is that the legislative, business and educational leadership made education the top priority in programs and funding.

Progress seldom comes easily - and usually requires sacrifice. If we continue to keep the education of our children first, then we must be prepared to make critical choices. We must fully fund our basic school programs in this state -- the EFA, textbooks and transportation. We must make further investments in the EIA and Target 2000 initiatives that hold such great promise. If we put our children first, we must provide educational programs that will increase learning opportunities for children at risk and provide higher academic challenges for all students.

Consistent with the new format for presenting budget requests, the agenda of initiatives that I will cover with you today is designed to keep the momentum of educational reform vibrant in South Carolina.

#### **II. Educational Goals for the 1990s in South Carolina**

Embrace and support activities to pursue the achievement of the national education goals, which are:

- A. By the Year 2000, all children in America will start school ready to learn.

Strategies: Fully implement parenting programs statewide under the Target 2000 initiative; serve 100 percent of at-risk children in the EIA program for four-year-olds; provide a full-day kindergarten for five-year-olds; and continue promoting collaborative efforts between schools and other human resource agencies.

- B. By the Year 2000, the high school graduation rate will increase to at least 90 percent.

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Strategies: Develop new programs to ensure academic and vocational competencies through an applied or occupationally related approach; strengthen and expand EIA initiatives that have yielded the greatest returns in academic and occupational achievement; fully fund and implement the dropout prevention package in Target 2000; greatly reduce the numbers of students who are chronically absent from school.

- C. By the Year 2000, every high school graduate will have mastered critical concepts and skills in a challenging academic curriculum. All schools will ensure that students learn to employ higher order thinking so that they may be prepared for responsible citizenship, postsecondary learning, and productive employment in our modern economy.

Strategies: Expand current programs in Advanced Placement, Gifted and Talented, and Teacher Training in Mathematics, Science, Reading (Critical Teaching Needs Program) and Higher Order Thinking. Promote additional development of exemplary programs in mathematics, science, and humanities courses and increase enrollments in honors courses in all subjects.

- D. By the Year 2000, United States students will be first in the world in mathematics and science achievement.

Strategies: Set higher student achievement goals, evaluate student progress and publicize results; continue successful EIA basic skills remediation programs; increase number of students taking AP and upper level science and math courses. Provide full college scholarships to S.C. colleges and universities for S.C. graduates who excel in math and science.

- E. By the Year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Strategies: Expand workplace programs in business and industry; increase tutoring and referral services available in workplace; increase adult enrollment in basic, high school, and GED programs; coordinate effectively the recruitment, workplace training, literacy efforts statewide; and expand the DSS jobs program which requires welfare recipients ages 16-21 to re-enroll in school if they have not graduated..

- F. By the Year 2000, every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

Strategies: Seek solutions in a partnership effort of parents, community organizations, churches, and schools. In collaboration with the South Carolina Commission on Alcohol and Drug Abuse, we have appointed a broad-based task force to analyze the findings of our recent study of 223,663 youth and to make recommendations for major statewide action. Mayor Joseph Riley of Charleston will chair this effort. Place more emphasis on instructional and guidance programs for children in the intermediate and middle school age groups; continue to help districts make maximum use of federal Drug Free Schools funding; use the special task force to implement the recommendations of the Safe Schools Committee and the new "Safe Schools Act of 1990"; create community-based programs that acknowledge the relationship between community crime and juvenile delinquency and school violence; and expand

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Project DARE in which uniformed police officers teach a 17-week course to fifth- or sixth-grade students on how to say no to drugs and drug dealers..

In addition to these national goals, we offer the following goals for South Carolina:

- G. Provide the earliest identification of students who have learning deficiencies and provide them appropriate instructional programs to meet the challenges of the exit exam.

Strategies: Increase statewide efforts for parent support and education; strengthen programs for four- and five-year olds; improve the quality of 1-12 compensatory/remedial education. Programs will focus on student's strengths and increase coordination with the regular classroom activities, thus improving the general status of compensatory/remedial programs within the school environment.

- H. Accelerate restructuring of the schooling process to better prepare our children for the 1990s and beyond.

Strategies: Encourage more and better school-level decision-making; rethink the design and delivery of curriculum and instruction with the goal of eliminating educational practices which underestimate the abilities of children; foster flexibility and innovation in schools while elevating the teaching profession.

- I. Re-engage families and communities in the nurturing of children and the schooling process.

Strategies: Recognize that the development of our youth is a 24-hour-per-day, seven-day-a-week process that is the mutual responsibility of schools, families, and communities; help parents become the child's first teacher who shapes a curriculum of the family and who supports quality schooling; help parents who are in a "cycle of under-education and poverty"; provide children an "even start" through early assessment of their physical, social, emotional, and learning needs; coordinate community resources to alleviate family conditions that limit the potential of children.

- J. Support efforts to provide adequate school facilities.

Strategies: Create realistic school facilities standards for an effective educational environment. (*A committee appointed by the State Board of Education to study school facility needs is scheduled to make its report to the board next Wednesday, September 12.*) Develop a funding package to permanently address school building programs, and establish a phase-in approach on a priority basis.

- K. Expand in-school programs designed to prepare an effective work force.

Strategies: Ensure a balanced curriculum that includes career orientation, thinking and problem solving skills, computer literacy, academic and vocational competencies, employability skills, good health and wellness habits, and responsible citizenship.

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- L. Expand the pool of academically able students entering the teaching profession.

Strategies: Expand the activities of the South Carolina Teacher Recruitment Center and enroll more students, especially minority students, in the Teacher Cadet Program. Increase efforts of high school guidance programs to make academically talented students aware of the positive benefits of a career in the teaching profession. Expand efforts of the Critical Needs Alternative Certification Program to encourage more individuals with degrees in areas of critical teacher shortage to consider teaching as a second career.

- M. Expand the use of appropriate technology in our classrooms.

Strategies: Expand the technological capabilities of our schools and districts through provision of additional hardware, courseware, and technical assistance; identify new courseware related to higher order thinking skills; collaborate with colleges and universities to maximize the use of regional and local technology resources by public schools.

- N. Improve learning opportunities for students in rural schools in South Carolina.

Strategies: Study and address rural school district funding problems. Continue South Carolina Teacher Loan Forgiveness Programs to draw new teachers to rural areas. Provide advanced courses for rural students through instructional television.

- O. Continue to re-examine the South Carolina Student Assessment Program

Strategies: The initial purpose of the South Carolina student assessment program was targeted at monitoring instructional progress as reflected in student achievement. Since the late 1970's, a number of other uses and purposes have been imposed on the assessment data. Additionally, over the past decade, there have been major changes in curricular trends and assessment technology. Therefore, continued re-examination of the assessment programs and related practices is necessary.

### III. Highlights of the FY 1991-92 Budget Request

Recognizing the projected austere budget year ahead for South Carolina, let me share with you the highlights of the Department of Education Budget Request for the year 1991-92.

#### A. General Fund

1. Full funding for the EFA: \$51 million.

This is based on an inflation factor of 5.1% and estimated weighted pupils of 745,000. This represents an increase of 4,000 students. Staff of the Division of Research and Statistics reported to the State Board of Education recently that student enrollment will grow by as much as 69,000 weighted pupil units during the decade of the 1990's. The division's staff further adds that growth alone could cost from \$60 to \$95 million additional state dollars per year.

2. Funding of the fringe benefits package: \$12.4 million.

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This should produce a state/local funding ratio of 71 percent state and 29 percent local.

3. Funding the educational system infrastructure programs:  
The three B's -- Books, Buildings and Buses.
  - a. Textbooks - Textbooks newly adopted for the 1990-91 school year were not purchased in five subject areas (oral and written composition, Algebra I & II, Geometry, Psychology and General Science) due to a lack of state-appropriated funds. The projected cost to replace textbooks in these five areas is \$9 million.  
  
Sixteen subject areas that are under six-year contracts due to expire at the end of the 1990-91 school year have been opened for new adoptions and will cost an additional \$7 million. This represents a total increase of \$16 million for new textbooks.
  - b. School Buildings - Many school districts are facing a real crisis in terms of providing adequate and appropriate school facilities. As mentioned earlier, a copy of the State Board of Education's school facilities study will be forwarded to you along with funding recommendations.
  - c. School Buses - The school bus fleet is aging rapidly, with 701 buses over 12 years old and 1,684 buses having in excess of 100,000 miles. We are requesting \$23.6 million to purchase 750 new school buses and 7.6 million to maintain the school bus program (Driver's salaries, parts, gas.) This includes a 3 percent increase for school bus drivers. It is heartening to note that, since the transition to the all adult bus driver force, total accidents have declined by 31 percent and accidents where the school bus driver was at fault have decreased by 45 percent.
4. Target 2000 - \$4.2 million is requested to continue the investment in the Target 2000 programs of Parenting, Dropout, Innovation, and Art in Education.
5. Under Public Law 99-457, states are mandated to provide a free appropriate public education to all children with handicaps aged three to five years, beginning July 1, 1991, or lose all federal funding for the education of 3, 4 and 5 year old handicapped children. (Currently, we estimate that to be approximately \$13 million.) A total of \$13.2 million is needed to provide programs and transportation for the handicapped students covered under the new legislative mandate..

Total Requested Increase - General Fund Dollars - \$133,096,619.

- B. Education Improvement Act - We based our EIA budget request on an estimated revenue increase of 6.5% or \$19.7 million. From among several critical choices, we are proposing the following EIA allocations:
  1. The projected southeastern average teacher salary as determined by the Division of Research and Statistical Services is \$29,762. An increase of \$8

**002141**

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million is needed for the EIA contribution for teachers' salaries and related fringe benefits.

2. Five million (\$5 million) is requested for the second phase-in of the school building bond program.
3. Approximately half a million dollars (\$500,000) is requested to expand the four-year-old program by 350 students.
4. The remaining \$6.2 million in projected revenue growth will be needed to maintain all other EIA strategies at their current operating levels, including the inflation factor attached to teacher salaries in subject areas like gifted and talented and remedial and compensatory education.

#### IV. Conclusion

If South Carolina is to maintain its economic growth, insure an effective workforce for competition in the 1990's and beyond, and resolve its historical social problems of poverty, short life expectancy and infant mortality, I would submit to you today in all seriousness that the clock is ticking on us as a state. The necessity of establishing appropriate priorities for the limited funds available has never been more critical.

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Educational Television  
Commission

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# EXHIBIT

H67 - EDUCATIONAL TELEVISION COMMISSION SEP 6 1990 1  
Henry J. Cauthen, President and General Manager

STATE BUDGET & CONTROL BOARD

**MISSION:** ETV is to provide instructional television lessons for use in all the schools of the state, whether elementary, secondary, institutions of higher learning, or technical training facilities.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	14,569,808	14,496,468	23,340	50,000
1985-86	15,439,538	15,392,999	46,539	0
1986-87	15,459,736	15,426,025	33,711	0
1987-88	16,102,750	15,884,815	70,735	147,200
1988-89	18,056,048	17,076,343	70,679	909,026
1989-90	18,962,878	17,954,237	99,616	909,026
1990-91	19,049,740	Not Available	Not Available	Not Available

	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	1,619,967	8.50%	13,965,400	15,585,367

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina ETV Commission AGENCY CODE H-67

<b>PRIORITY # 1</b>	<b>PROGRAM NAME:</b> 79000001		
Restoration of 1989-90 Base Reduction. This would restore the agency's ability to provide basic maintenance and support of the educational video delivery system.			
STATE FUNDED POSITIONS	0	TOTAL POSITIONS	0
		STATE FUNDS	368,691
		TOTAL FUNDS	368,691

<b>PRIORITY # 2</b>	<b>PROGRAM NAME:</b> Transmission and Reception		
To provide systematic replacement of head-end electronics for 958 schools and maintenance of 400 ITFS receive/transmit towers.			
STATE FUNDED POSITIONS	0	TOTAL POSITIONS	0
		STATE FUNDS	135,625
		TOTAL FUNDS	135,625

<b>PRIORITY # 3</b>	<b>PROGRAM NAME:</b> Internal Administration		
Personnel to support statewide technical operations/direction, purchasing, custodial service, computer operations and administrative support.			
STATE FUNDED POSITIONS	8	TOTAL POSITIONS	8
		STATE FUNDS	261,364
		TOTAL FUNDS	261,364

<b>PRIORITY # 4</b>	<b>PROGRAM NAME:</b> TV, Radio and Other Production		
To provide funds to support the expansion of the production effort from the child care center and the development and delivery of early childhood telecourses through the State Technical College system.			
STATE FUNDED POSITIONS	0	TOTAL POSITIONS	0
		STATE FUNDS	150,000
		TOTAL FUNDS	150,000

<b>PRIORITY # 5</b>	<b>PROGRAM NAME:</b> TV, Radio and Other Production		
To provide funds for printing supplies caused by paper cost increases over several years along with the requirement for additional course material. Added instructional courses throughout the state requires constant increased video tape requirements.			
STATE FUNDED POSITIONS	0	TOTAL POSITIONS	0
		STATE FUNDS	200,000
		TOTAL FUNDS	200,000

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**002145**

0274

## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina ETV Commission AGENCY CODE H-67

<b>PRIORITY # 6</b>	<b>PROGRAM NAME:</b> Internal Administration		
To provide funds in telephone, freight, postage, and office supplies to cope with ever increasing costs over several years of inflation, along with increased demands on services.			
STATE FUNDED POSITIONS 0	TOTAL POSITIONS 0	STATE FUNDS 106,000	TOTAL FUNDS 106,000

<b>PRIORITY # 7</b>	<b>PROGRAM NAME:</b> Transmission and Reception		
To provide funds to replace transmitter power amplifiers. These power amplifiers are the heart of a TV transmitter. Also, funds required due to increased costs of technical supplies, replacement boards and other electronic repair materials.			
STATE FUNDED POSITIONS 0	TOTAL POSITIONS 0	STATE FUNDS 185,600	TOTAL FUNDS 185,600

<b>PRIORITY # 8</b>	<b>PROGRAM NAME:</b> TV, Radio and Other Production		
To provide telecommunication services and staff to meet open and closed circuit tutor training requirements of South Carolina's half-million adult illiterates.			
STATE FUNDED POSITIONS 3	TOTAL POSITIONS 3	STATE FUNDS 212,687	TOTAL FUNDS 212,687

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>AGENCY TOTALS:</b>	<b>002146</b>		
STATE FUNDED POSITIONS 11	TOTAL POSITIONS 11	STATE FUNDS 1,619,967	TOTAL FUNDS 1,619,967

FORM 92-R2 Total

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**1991-92 BUDGET REQUEST SUMMARY  
(NON-RECURRING)**

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina ETV Commission AGENCY CODE H-67

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> Transmission and Reception		
To provide 12 video channels to 150 sites for higher education, state agencies, and other state needs.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	7,950,000
		TOTAL FUNDS	7,950,000

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> Transmission and Reception		
Continuation of the ITFS system. This will provide service to Berkeley, Horry, Dorchester, Chesterfield, Lancaster and Richland District 2 schools.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	4,000,000
		TOTAL FUNDS	4,000,000

<b>PRIORITY #</b> 3	<b>PROGRAM NAME:</b> Transmission & Reception		
Matching funds for replacement and/or addition of television receivers and VCR's for local public schools.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	1,000,000
		TOTAL FUNDS	1,000,000

<b>PRIORITY #</b> 4	<b>PROGRAM NAME:</b> Transmission and Reception		
To provide systems to distribute television signals to classrooms within school buildings each year completing service to all elementary schools within three years.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	725,000
		TOTAL FUNDS	725,000

<b>PRIORITY #</b> 5	<b>PROGRAM NAME:</b> Transmission and Reception		
To provide funds on a one-time basis to pay for the DIRM Fiber Optic System which must be in place prior to scheduled move into new facility. Future costs will be absorbed by rent savings.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	159,400
		TOTAL FUNDS	159,400

**002147**

**AGENCY TOTALS:**

STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A	STATE FUNDS		TOTAL FUNDS	
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**1991-92 BUDGET REQUEST SUMMARY  
(NON-RECURRING)**

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina ETV Commission AGENCY CODE H-67

<b>PRIORITY #</b> 6	<b>PROGRAM NAME:</b> Transmission and Reception		
To replace roofs at four transmitter sites. The buildings are up to 23 years old and house equipment.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	43,000
		TOTAL FUNDS	43,000

<b>PRIORITY #</b> 7	<b>PROGRAM NAME:</b> Transmission and Reception		
Equipment replacement in the ITFS duplicating center that is six years old. This center will be required to duplicate approximately 9,790 lessons per year.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	88,000
		TOTAL FUNDS	88,000

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

**002148**

**AGENCY TOTALS:**

STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A	STATE FUNDS	13,965,400	TOTAL FUNDS	13,965,400
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State Library

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# EXHIBIT

SEP 6 1990 1  
STATE BUDGET & CONTROL BOARD

## H87 - STATE LIBRARY

James B. Johnson, Jr., Director

**MISSION:** The State Library is to service the educational, informational, cultural, and recreational needs of the people of South Carolina. It strives to improve library services throughout the State and to ensure that all citizens have access to library and information resources adequate to meet their individual needs.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	4,866,534	4,624,484	0	242,050
1985-86	5,238,757	5,072,403	2,854	163,500
1986-87	5,060,771	5,030,186	510	30,075
1987-88	5,315,679	5,055,593	86	260,000
1988-89	5,663,299	5,599,741	0	63,558
1989-90	5,990,336	5,990,335	1	0
1990-91	6,003,326	Not Available	Not Available	Not Available

	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	2,117,410	35.27%	116,625	2,234,035

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

002150

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina State Library AGENCY CODE H87

<b>PRIORITY # 1</b>	<b>PROGRAM NAME:</b> Library Services		
To maintain current service levels while meeting the increasing demand for service information.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS
2	2	\$101,556	\$101,556

<b>PRIORITY # 2</b>	<b>PROGRAM NAME:</b> Library Development		
To provide funding to support the efforts of the State Library's Children's Consultant to develop programs creating an appreciation of reading in the Children of South Carolina. This can be described as an Illiteracy Prevention Program.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS
		\$50,000	\$50,000

<b>PRIORITY # 3</b>	<b>PROGRAM NAME:</b> Administration		
To provide funds for basic operating expenses - those items necessary to maintain services at an acceptable level - which have been reduced due to budget reductions.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS
		\$46,000	\$46,000

<b>PRIORITY # 4</b>	<b>PROGRAM NAME:</b> Administration		
To initiate a program to recruit minorities into the library profession and address the serious lack of minority professional librarians employed by South Carolina libraries.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS
		\$ 5,000	\$ 5,000

<b>PRIORITY # 5</b>	<b>PROGRAM NAME:</b> Library Development		
To increase State Aid to county libraries to \$1.50 per capita with a minimum grant of \$15,000 per county.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS
		\$1,414,854	\$1,414,854

**002151**

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina State Library AGENCY CODE H87

<b>PRIORITY #</b> 6	<b>PROGRAM NAME:</b> Library Development		
To develop a state funded public library construction program.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$500,000	TOTAL FUNDS \$500,000

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

**AGENCY TOTALS:**

**002152**

STATE FUNDED POSITIONS	2	TOTAL POSITIONS	2	STATE FUNDS	\$2,117,410	TOTAL FUNDS	\$2,117,410
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**1991-92 BUDGET REQUEST SUMMARY  
(NON-RECURRING)**

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina State Library AGENCY CODE H87

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> Library Services		
To provide adequate software for the South Carolina Network and hardware to replace aging equipment. This request will enable the State Library to add functionality to the SCLN, making it more responsive to user needs.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$66,625
		TOTAL FUNDS	\$66,625

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> Library Services		
To purchase appropriate materials to serve high school libraries through the South Carolina Library Network.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$50,000
		TOTAL FUNDS	\$50,000

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

<b>AGENCY TOTALS:</b>			<b>002153</b>
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$116,625
		TOTAL FUNDS	\$116,625

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0282

Arts Commission

002154

0283

# EXHIBIT

SEP 6 1990 1

## H91 - ARTS COMMISSION

Scott Sanders, Executive Director

STATE BUDGET & CONTROL BOARD

**MISSION:** The Commission is to join with private patrons, institutions, and professional organizations concerned with the arts to advance as an integral part of the of the lifelong learning process in South Carolina schools, colleges, and other educational settings; to support and stimulate the development of quality arts throughout the State; to encourage, nurture, and support South Carolina artists; and preserve the cultural heritage of the State.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	2,287,651	1,971,450	9,130	307,071
1985-86	2,582,958	2,582,938	20	0
1986-87	2,795,179	2,795,151	28	0
1987-88	2,859,243	2,818,263	980	40,000
1988-89	3,231,159	3,194,798	0	36,361
1989-90	3,540,177	3,540,177	0	0
1990-91	3,777,202	Not Available	Not Available	Not Available

FISCAL YEAR	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	1,185,000	31.37%	0	1,185,000

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

002155

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina Arts Commission AGENCY CODE H-91

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> Administration - Computer		
Provide funds to repay a loan for replacement of the Arts Commission's eleven-year old computer system and to purchase necessary software.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS 60,000	TOTAL FUNDS 60,000

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> Statewide Arts Services - Education		
Provide funding: to support arts curriculum research and evaluation; for grants to schools/school districts to create pilot Arts in Basic Curriculum programs; and for artist residencies and performances; and to coordinate professional development for artists, arts organizations, and educational institutions.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS 150,000	TOTAL FUNDS 150,000

<b>PRIORITY #</b> 3	<b>PROGRAM NAME:</b> Statewide Arts Services - Grants Programs		
South Carolina's Arts Development Grant Investment Fund will: increase the matching grant funds being allocated in South Carolina by 23 cents per person; will generate \$2 million in new matching local investments from businesses, individuals, foundations; and ensure the continued advances in the quality of life and economic development of our communities.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS 800,000	TOTAL FUNDS 800,000

<b>PRIORITY #</b> 4	<b>PROGRAM NAME:</b> Statewide Arts Services - Design Arts		
Provide funds for grants and services to help 15-20 South Carolina communities become more livable and economically competitive through better design of their physical environment.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS 75,000	TOTAL FUNDS 75,000

<b>PRIORITY #</b> 5	<b>PROGRAM NAME:</b> Statewide Arts Services - Special Item Spoleto Festival		
Support expanded marketing of the Spoleto Festival, USA worldwide.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS 100,000	TOTAL FUNDS 100,000

**AGENCY TOTALS:**

**002156**

STATE FUNDED POSITIONS	TOTAL POSITIONS 0	STATE FUNDS 1,185,000	TOTAL FUNDS 1,185,000
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Department of  
Archives & History

002157

0286

# EXHIBIT

SEP 6 1990 1

## H79 - DEPARTMENT OF ARCHIVES & HISTORY

George L. Vogt, Director

STATE BUDGET & CONTROL BOARD

**MISSION:** The Department is to preserve and promote the documentary and cultural heritage of the State.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	3,275,337	3,160,805	1,532	113,000
1985-86	3,681,999	3,417,814	24,185	240,000
1986-87	3,762,157	3,761,488	669	0
1987-88	3,714,149	3,662,356	29,654	22,139
1988-89	3,951,405	3,873,008	32,036	46,361
1989-90	4,216,407	4,120,247	49,799	46,361
1990-91	4,309,715	Not Available	Not Available	Not Available

	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	366,598	8.51%	356,025	722,623

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME S.C. Department of Archives & History AGENCY CODE H79

<b>PRIORITY # 1</b>	<b>PROGRAM NAME:</b> Administration and Planning		
Funds to establish new classification system for archivists, records analysts, and historic resource coordinators.			
STATE FUNDED POSITIONS	0	TOTAL POSITIONS	0
STATE FUNDS	\$108,280	TOTAL FUNDS	\$108,280

<b>PRIORITY # 2</b>	<b>PROGRAM NAME:</b> Public Programs		
Funds to continue the Department's publications programs and to cosponsor the publication of the <u>S.C. Historical Magazine</u> .			
STATE FUNDED POSITIONS	0	TOTAL POSITIONS	0
STATE FUNDS	\$ 45,000	TOTAL FUNDS	\$ 45,000

<b>PRIORITY # 3</b>	<b>PROGRAM NAME:</b> Archives and Records Management		
To provide staff and computer capability to enhance management of state agency electronic information systems.			
STATE FUNDED POSITIONS	1	TOTAL POSITIONS	1
STATE FUNDS	\$ 36,637	TOTAL FUNDS	\$ 36,637

<b>PRIORITY # 4</b>	<b>PROGRAM NAME:</b> Administration and Planning		
To hire a Quality Improvement Coordinator.			
STATE FUNDED POSITIONS	1	TOTAL POSITIONS	1
STATE FUNDS	\$ 34,274	TOTAL FUNDS	\$ 34,274

<b>PRIORITY # 5</b>	<b>PROGRAM NAME:</b> Archives and Records Management		
Provide for expansion into newly available records storage area for servicing of state agencies. <b>002159</b>			
STATE FUNDED POSITIONS	0	TOTAL POSITIONS	0
STATE FUNDS	\$222,670	TOTAL FUNDS	\$222,670

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME S.C. Department of Archives & History AGENCY CODE H79

<b>PRIORITY # 6</b>	<b>PROGRAM NAME:</b> Archives and Records Management		
Begin Archives' participation in a national information network which will make holdings more widely accessible.			
STATE FUNDED POSITIONS 0	TOTAL POSITIONS 0	STATE FUNDS \$ 16,534	TOTAL FUNDS \$ 16,534

<b>PRIORITY # 7</b>	<b>PROGRAM NAME:</b> Administration/Public Programs		
Support staff for Deputy Director for Administration and Planning and for the Public Programs Division.			
STATE FUNDED POSITIONS 2	TOTAL POSITIONS 2	STATE FUNDS \$ 39,177	TOTAL FUNDS \$ 39,177

<b>PRIORITY # 8</b>	<b>PROGRAM NAME:</b> Archives and Records Management		
To provide additional microfilming and conservation supplies for preservation of endangered holdings			
STATE FUNDED POSITIONS 0	TOTAL POSITIONS 0	STATE FUNDS \$ 26,780	TOTAL FUNDS \$ 26,780

<b>PRIORITY # 9</b>	<b>PROGRAM NAME:</b> Public Programs		
Funds to erect new regional and individual historical markers and to repair existing markers.			
STATE FUNDED POSITIONS 0	TOTAL POSITIONS 0	STATE FUNDS \$ 25,000	TOTAL FUNDS \$ 25,000

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

**002160**

AGENCY TOTALS:

STATE FUNDED POSITIONS 4	TOTAL POSITIONS 4	STATE FUNDS \$554,352	TOTAL FUNDS \$554,352
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**1991-92 BUDGET REQUEST SUMMARY  
(NON-RECURRING)**

(The following information has been supplied by the agency.)

AGENCY NAME S.C. Department of Archives & History AGENCY CODE H79

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> Archives and Records Management		
Specialized consulting to evaluate automation needs.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 18,000
		TOTAL FUNDS	\$ 18,000

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> Archives and Records Management		
Provide for purchase of personal computers and software to automate key Archives functions.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 37,096
		TOTAL FUNDS	\$ 36,096

<b>PRIORITY #</b> 3	<b>PROGRAM NAME:</b> Archives and Records Management		
Replace and acquire microfilm and conservation equipment.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$103,065
		TOTAL FUNDS	\$103,065

<b>PRIORITY #</b> 4	<b>PROGRAM NAME:</b> Administration and Planning		
Replace aging vehicle with new car.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 10,110
		TOTAL FUNDS	\$ 10,110

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

**002161**

**AGENCY TOTALS:**

STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$168,271
		TOTAL FUNDS	\$168,271

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The South Carolina Department of Archives and History

# STRATEGIC PLAN 1990-1992



Approved by the  
South Carolina Department of  
Archives and History Commission  
June 1990

002162

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## Contents

Introduction .....	2
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## Introduction

The strategic plan sets forth limited goals to be accomplished within a period of time that allows accurate forecasts of resources and needs. The list is not comprehensive; it represents the most important achievements to fulfill the mission, given known environmental circumstances. The plan assumes some reallocation of staff and resources, continuation of regular programs and functions, and augmentation of resources through grants and appropriations.

Through performance evaluations, regular meetings of division heads, planning retreats, surveys of staff and constituencies, and Commission review, the planning group monitors implementation of the plan and changing environmental conditions. The plan is revised annually and extended forward in time.

The formal planning process began in September 1987 with training in strategic planning and the appointment of a planning team composed of the director, division directors, the chairman of the Commission, and selected staff members. The director also appointed staff committees to gather background information on the department and its constituents' needs and to conduct a thorough opinion survey of the entire staff. The department employed four consultants, one each to review publications/outreach and coordination of archives and records management programs, and a two-person team to evaluate technical needs, particularly computer systems.

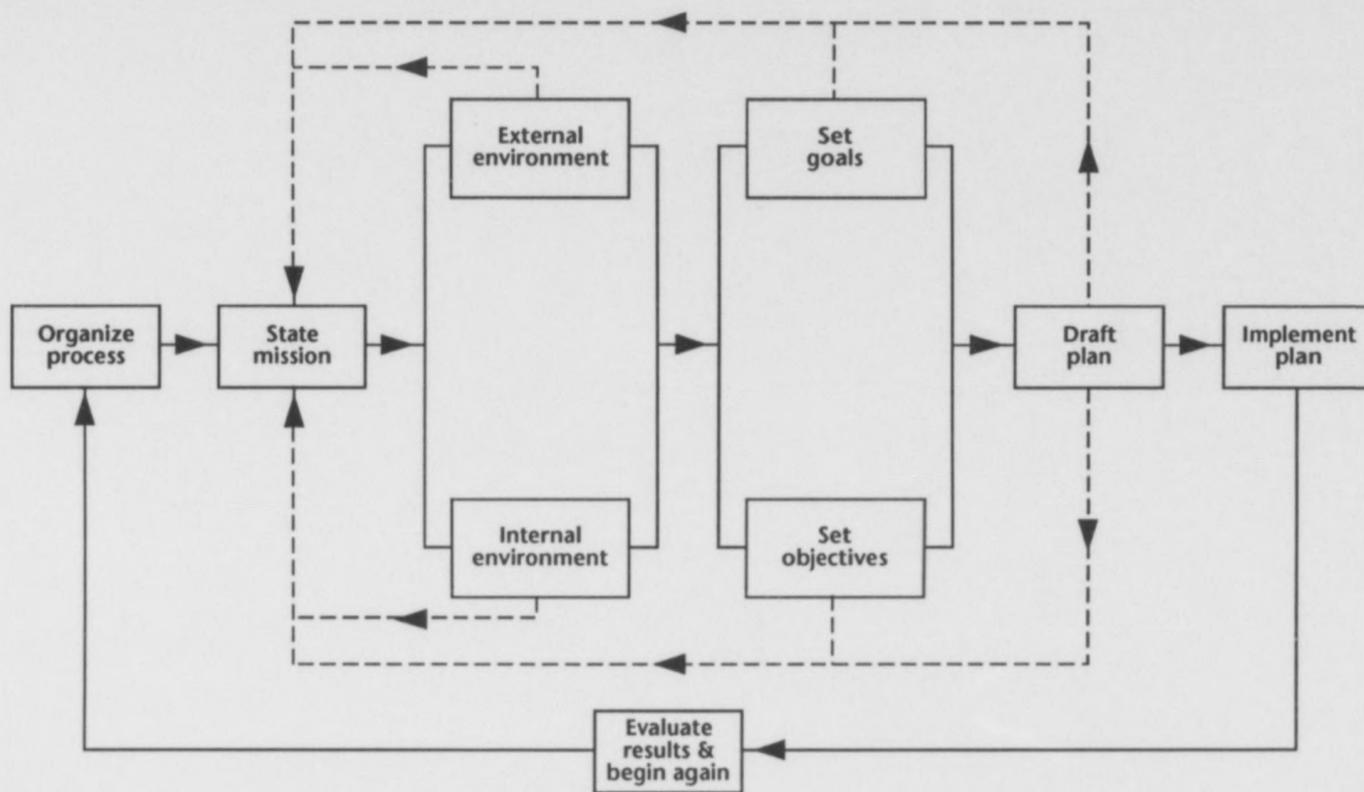
In February 1988, the planning team met with the Commission and a meeting facilitator to develop a mission statement and formulate strategic goals. Using these, the planning team worked through March and April to produce a more detailed strategic plan. The entire staff was given various opportunities to comment upon the process and developing plan. The team presented the plan to the Commission in July 1988 for adoption. After making minor changes, the Commission adopted the plan.

The plan as adopted and revised in the spring of 1989 contained detailed work plans for each of the objectives. Both the staff and Commission found this format difficult to use and revise; accordingly, the 1990 revision makes several key changes: the presentation of goals and objectives is more graphic than textual; time lines are shortened from three to two years; all implementation strategies are banished to the divisions' annual work plans, which are not part of the strategic plan; and several goals and numerous objectives have been altered, inserted, or deleted to reflect accomplishments of the past two years and changing needs. In particular, the addition of Goal 6 (Quality Improvement) reflects the importance of the QI process to the success of participative management in the agency. One of the original goals, pertaining to the Commission's roles and duties, was accomplished and dropped from this revision.

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Planning process diagram



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## Mission statement

*To preserve and promote the documentary and cultural heritage of the state*

The agency accomplishes this through professional records, historic preservation, and public awareness programs.

These programs are authorized by the South Carolina Archives Act of 1954, the South Carolina Public Records Act of 1973, the National Historic Preservation Act of 1966, the Rehabilitation Tax Credit provision of the Federal Tax Reform Act of 1986, and the South Carolina Historic Preservation Tax Incentive Act of 1990, and their amendments.

*South Carolina Archives and History Commission  
Adopted July 29, 1988 (Amended June 15, 1990)*

002166

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**GOAL 1: Address staff morale, pay, training problems (E)**

**PRIORITY CODES:**  
 M = Mandatory (law or appropriation) E = Essential VHD = Very Highly Desirable D = Desirable

**KEY TO PROJECTS**

Begin   
 Ongoing   
 Complete

**OBJECTIVES**

	1990	1991	1991	1992
	Ju/Au/Se/Oc/No/De	Ja/Fe/Mar/Ap/Ma/Ju	Ju/Au/Se/Oc/No/De	Ja/Fe/Mar/Ap/Ma/Ju
<b>A. Implement general training program</b>				
Revise training plan	■		■	
Implement training plan	□			→
Computer-user training	□			→
<b>B. Establish career track system</b>				
Seek additional funding	■		■	
Review of draft PDs	□ — ■			
Obtain DHRM approval	□ — ■			
Establish action priorities		■		
Implement (as funds permit)		□		→
<b>C. Continue whole-agency review of classifications/grades</b>				
Establish sequence, implement		□		→
<b>D. Conduct staff and constituent survey</b>				
	□	■		
<b>E. Improve departmental communications</b>				
				→

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**GOAL 2: Strengthen agency legislation and internal policies (VHD)**

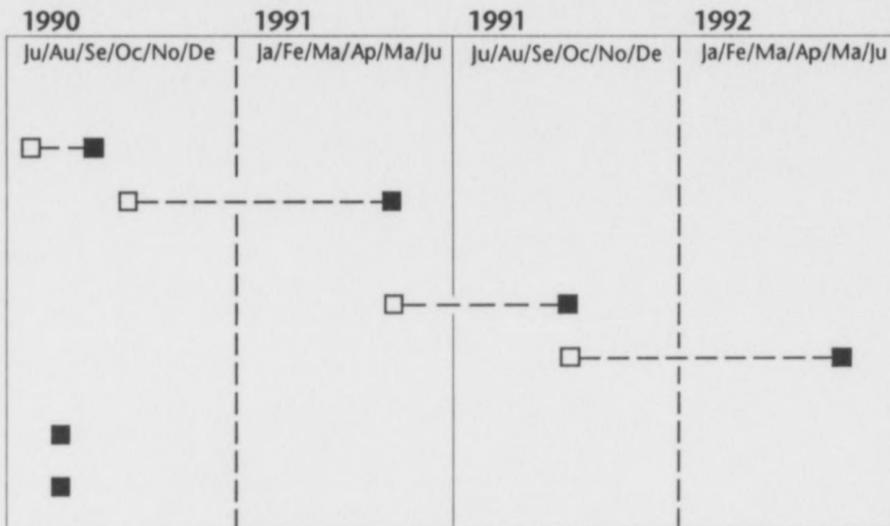
**PRIORITY CODES:**  
 M = Mandatory (law or appropriation) E = Essential VHD = Very Highly Desirable D = Desirable

**KEY TO PROJECTS**

Begin   
 Ongoing   
 Complete

**OBJECTIVES**

- A. Obtain legislation protecting state-owned historic properties**
  - Draft legislation
  - Introduce/lobby passage
- B. Develop mechanism to support a local records regrant program**
  - Draft legislation
  - Introduce/lobby passage
- C. Issue internal procedures documents**
  - Procurement manual
  - Requisition information



002168

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**GOAL 3: Strengthen archival and records management programs (E)**

**PRIORITY CODES:**  
 M = Mandatory (law or appropriation) E = Essential VHD = Very Highly Desirable D = Desirable

**KEY TO PROJECTS**

Begin   
 Ongoing   
 Complete

**OBJECTIVES**

**A. Respond better to constituent and client needs**

Study and report systematic way of assessing constituent needs

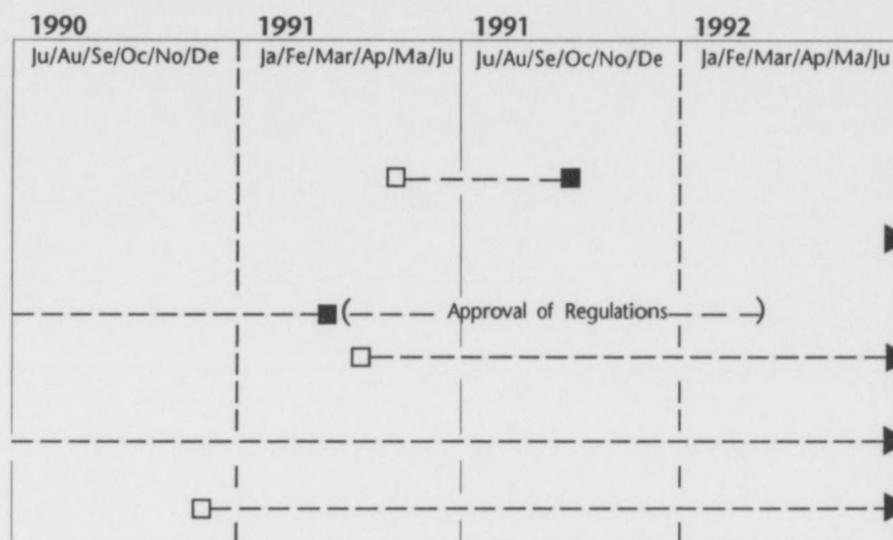
Adjust programs and services

Develop, publish general records schedules

**B. Develop electronic records program**

**C. Assess holdings for retention/conservation needs**

**D. Improve conservation/preservation capabilities**



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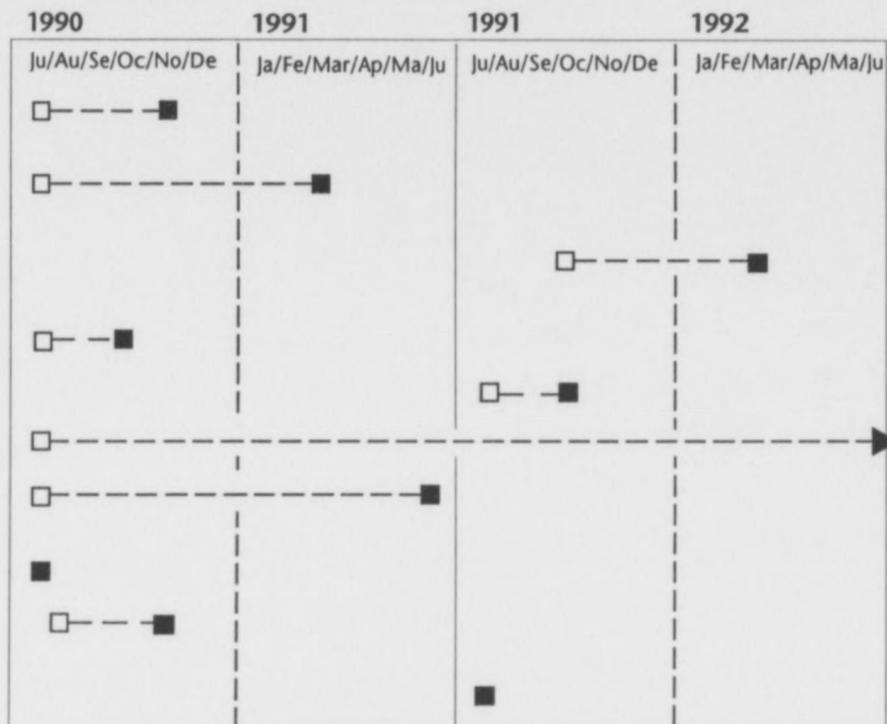
**GOAL 4: Improve outreach efforts (VHD)**

**PRIORITY CODES:**  
 M = Mandatory (law or appropriation) E = Essential VHD = Very Highly Desirable D = Desirable

**KEY TO PROJECTS**  
 Begin □  
 Ongoing ▴  
 Complete ■

**OBJECTIVES**

- A. Develop a public relations plan
- B. Develop plan for courting new constituencies
- C. Strengthen publications program
  - Evaluate/improve newsletters
  - Develop preliminary marketing strategy
  - Review, refine marketing strategy
  - Build publications backlist
- D. Revise mailing list systems
- E. Revise historical markers program
  - Prepare budget request
  - Revise, reprint guidelines
  - Begin state funding for Category A markers



002170

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**GOAL 5: Address physical plant needs**

**PRIORITY CODES:**

M = Mandatory (law or appropriation) E = Essential VHD = Very Highly Desirable D = Desirable

**KEY TO PROJECTS**

Begin   
 Ongoing   
 Complete

**OBJECTIVES**

**A. Refit new Records Center space**  
 (Priority E)

Develop implementation plan

Renovations, move in

**B. Relocate Grants & Local Assistance and staff to new quarters**  
 (Priority VHD)

Develop implementation plan

Procure space, move in

**C. Construction of new headquarters building (Priority E)**

Site review/tentative selection

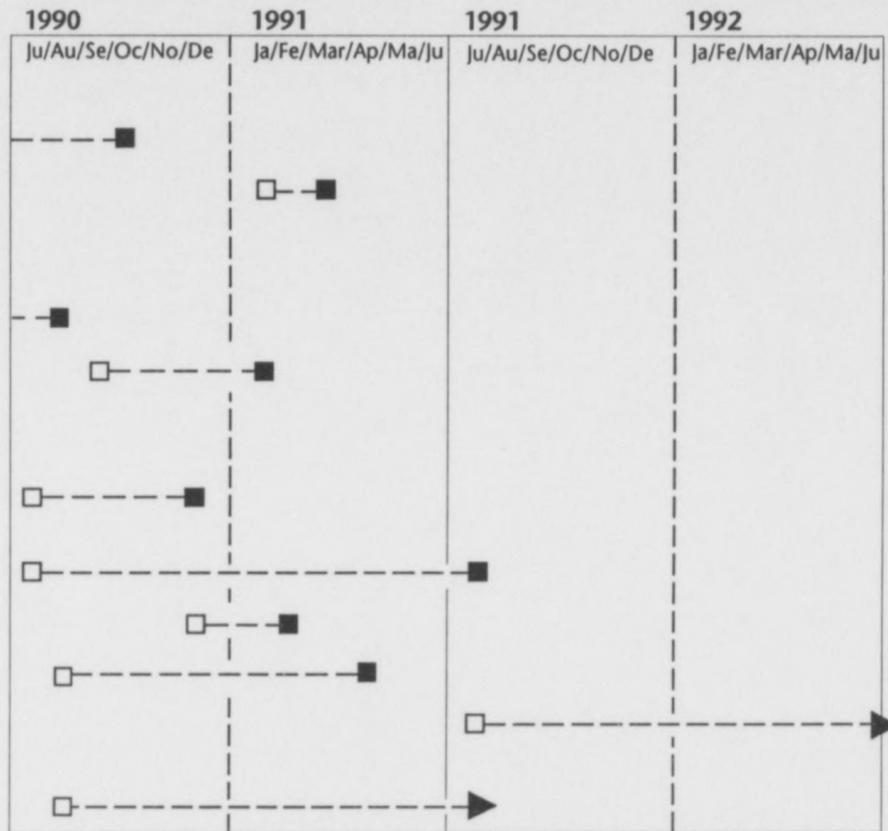
Program planning (assuming funds available)

Create non-profit foundation

Request, lobby for bond money

Architect selection, design

**D. Restoration of Senate St. exterior**  
 (Priority D)



002171

**GOAL 6: Strengthen the Quality Improvement process (VHD)**

**PRIORITY CODES:**  
 M = Mandatory (law or appropriation) E = Essential VHD = Very Highly Desirable D = Desirable

**KEY TO PROJECTS**  
 Begin □  
 Ongoing ▶  
 Complete ■

**OBJECTIVES**

**A. Recruit QI coordinator**  
 (assuming funds available)

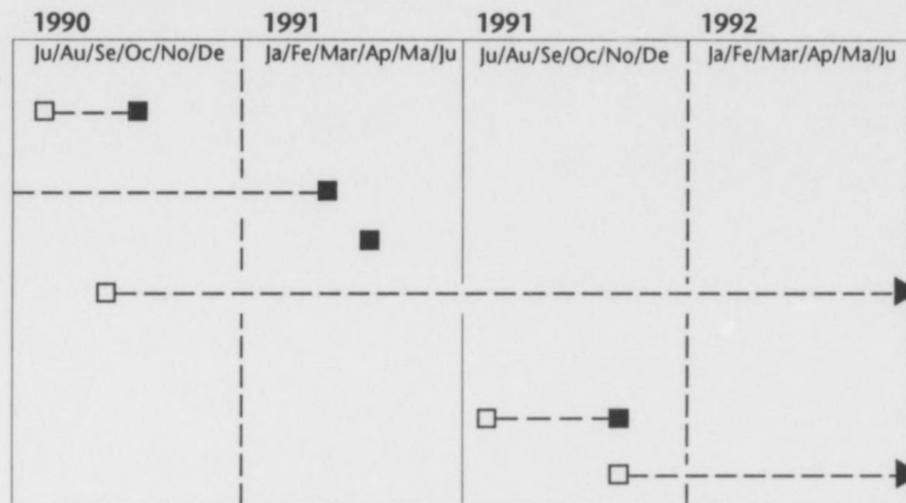
**B. Improve Information, training**  
 Revise, reprint QI materials

Train managers in QI techniques

Improve QI information systems

**C. Develop standards and measurements of program effectiveness**  
 Train staff in techniques

Implement



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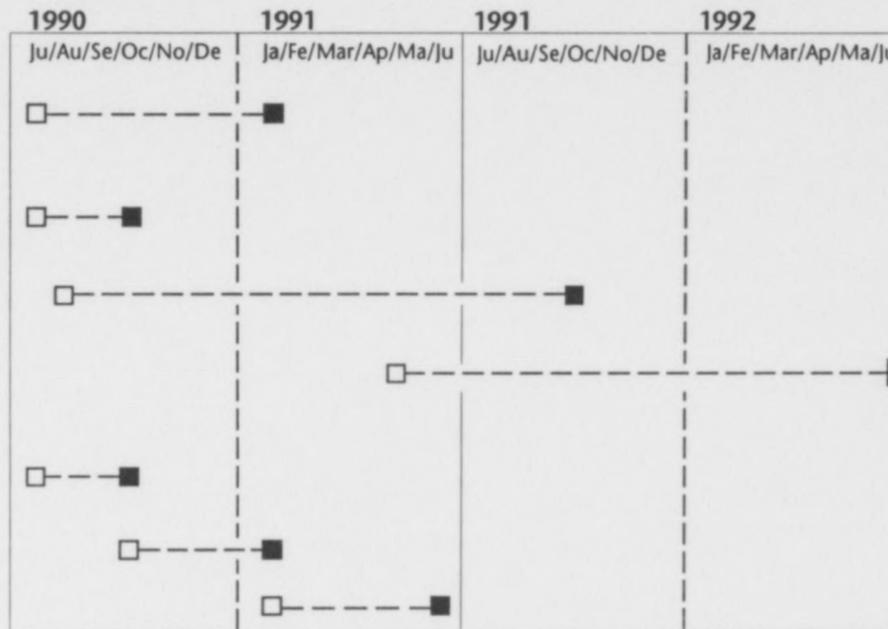
**GOAL 7: Address department's technological needs**

**PRIORITY CODES:**  
 M = Mandatory (law or appropriation) E = Essential VHD = Very Highly Desirable D = Desirable

**KEY TO PROJECTS**  
 Begin   
 Ongoing   
 Complete

**OBJECTIVES**

- A. IBM System 36 (Priority E)**  
Assess SASS and alternatives
- B. Microcomputers (Priority VHD)**  
Develop guidelines/standards for SCDAH PCs and software  
  
Train DCS, DR staff for micro-computers and networks  
  
Computerize Historic Preservation mapping data
- C. Conduct department-wide computer needs assessment**  
DIRM functional needs analysis  
  
Specialized consulting (assuming funds available)  
  
Develop capital funding request



002173

0302

School for the  
Deaf & the Blind

002174

0303

# EXHIBIT

## H75 - SCHOOL FOR THE DEAF & THE BLIND

Joseph P. Finnegan, Jr., President

SEP 6 1990

1

STATE BUDGET & CONTROL BOARD

**MISSION:** The School for the Deaf & the Blind is to provide quality comprehensive educational, vocational, and developmental services to deaf, blind, and multi-handicapped individuals, in order that they may achieve their greatest potential of independence; and to serve as a resource center providing leadership, information, and technical assistance to organizations and individuals concerned with services to handicapped people.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	8,227,654	8,080,698	11,956	135,000
1985-86	8,968,949	8,878,949	0	90,000
1986-87	9,305,654	9,244,152	31,502	30,000
1987-88	9,506,325	9,448,325	0	58,000
1988-89	10,161,840	10,052,986	0	108,854
1989-90	10,615,060	10,615,060	0	0
1990-91	10,622,829	Not Available	Not Available	Not Available

	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	2,073,603	19.52%	828,176	2,901,779

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

0304

## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina School f/t Deaf & Blind AGENCY CODE H75

PRIORITY #	1	PROGRAM NAME: Administration & Physical Support	
Restore base budget to sufficient level to continue existing programs.			
STATE FUNDED POSITIONS	18	TOTAL POSITIONS	18
		STATE FUNDS	\$554,172
		TOTAL FUNDS	\$ 554,172

PRIORITY #	2	PROGRAM NAME: Support Services & Outreach	
Provide funds for comprehensive educational services to the 3 and 4 year sensory impaired population. \$153,000 is a non recurring expense for equipment.			
STATE FUNDED POSITIONS	34	TOTAL POSITIONS	43
		STATE FUNDS	\$1,638,431
		TOTAL FUNDS	\$2,884,073

PRIORITY #	3	PROGRAM NAME: Administration & Physical Support	
Increase in operating expense for S. C. Association for the Deaf.			
STATE FUNDED POSITIONS		TOTAL POSITIONS	
		STATE FUNDS	\$34,000
		TOTAL FUNDS	\$34,000

PRIORITY #	PROGRAM NAME:		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

PRIORITY #	PROGRAM NAME:		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

**AGENCY TOTALS:**

**002175**

STATE FUNDED POSITIONS	52	TOTAL POSITIONS	61	STATE FUNDS	\$2,226,603	TOTAL FUNDS	\$3,472,245
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FORM 92-R2 Total

PAGE NO. 1

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**1991-92 BUDGET REQUEST SUMMARY  
(NON-RECURRING)**

(The following information has been supplied by the agency.)

AGENCY NAME South Carolina School f/t Deaf & Blind AGENCY CODE H75

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> Administration & Physical Support		
Provide funds for replacement of vehicles.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 266,500
		TOTAL FUNDS	\$ 266,500

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> Administration & Physical Support		
Provide funds for replacement of equipment.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 186,679
		TOTAL FUNDS	\$ 186,679

<b>PRIORITY #</b> 3	<b>PROGRAM NAME:</b> Administration & Physical Support		
Provide funds for replacement of data processing equipment.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 209,997
		TOTAL FUNDS	\$ 209,997

<b>PRIORITY #</b> 4	<b>PROGRAM NAME:</b> Administration & Physical Support		
Vehicle for S. C. Association for the Deaf.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 12,000
		TOTAL FUNDS	\$ 12,000

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

**002176**

**AGENCY TOTALS:**

STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A	STATE FUNDS	\$675,176	TOTAL FUNDS	\$675,176
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Wil Lou Gray  
Opportunity School

002177

0307

# EXHIBIT

## H71 - WIL LOU GRAY OPPORTUNITY SCHOOL

Mary Catherine Norwood, Ph.D., Superintendent

SEP 6 1990 1

STATE BUDGET & CONTROL BOARD

**MISSION:** The Wil Lou Gray Opportunity School is to serve those citizens of South Carolina at least 15 years of age who are most at risk of: dropping out and not completing their education; not making the transition from public schools to the workforce, and whose home-school-community environment impedes rather than enhances the chance that they will stay in school and become prepared for employment; being retained in their grade school; and/or being truant from school.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	2,224,709	2,093,290	1,420	130,000
1985-86	2,474,884	2,352,539	16,345	106,000
1986-87	2,431,486	2,412,674	18,812	0
1987-88	2,569,060	2,485,931	8,129	75,000
1988-89	2,885,501	2,717,353	5,432	162,716
1989-90	2,914,513	2,907,750	6,763	0
1990-91	2,802,378	Not Available	Not Available	Not Available

	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	44,946	1.60%	496,375	541,321

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

002178

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME WIL LOU GRAY OPPORTUNITY SCHOOL AGENCY CODE H71

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> AGENCY WIDE		
To restore all reductions enacted against the Wil Lou Gray Opportunity School's Fiscal Year 1990-91 budget. The granting of the "total" request will restore our base budget to its pre-FY1991 level and allow us to maintain our service level.			
STATE FUNDED POSITIONS	-0-	TOTAL POSITIONS	-0-
		STATE FUNDS	44,946
		TOTAL FUNDS	44,946

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

**AGENCY TOTALS:**

**002179**

STATE FUNDED POSITIONS	-0-	TOTAL POSITIONS	-0-	STATE FUNDS	44,946	TOTAL FUNDS	44,946
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## 1991-92 BUDGET REQUEST SUMMARY (NON-RECURRING)

(The following information has been supplied by the agency.)

AGENCY NAME WIL LOU GRAY OPPORTUNITY SCHOOL AGENCY CODE H71

<b>PRIORITY #</b> 1	<b>PROGRAM NAME:</b> RECONDITION CENTRAL COOLING SYSTEM		
To provide funding which will allow for the completion of the project to recondition our central cooling system which will improve efficiency (a cost savings) and reduce constant repairs.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	196,375
		TOTAL FUNDS	196,375

<b>PRIORITY #</b> 2	<b>PROGRAM NAME:</b> SHOWER VENT SYSTEM AND SHOWER STALLS		
To provide for installation of a ventilation system in the boys' dorms and to replace deteriorating shower stalls in the girls' dorms. These replacements will enhance sanitation and help preserve structural components.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	225,000
		TOTAL FUNDS	225,000

<b>PRIORITY #</b> 3	<b>PROGRAM NAME:</b> DORMITORY FURNITURE		
To allow us to replace furnishings in our remaining two dorms. We were able to replace furnishings in three dorms during Fiscal Year 1988-89.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	75,000
		TOTAL FUNDS	75,000

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	
		TOTAL FUNDS	

**002180**

**AGENCY TOTALS:**

STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A	STATE FUNDS	496,375	TOTAL FUNDS	496,375
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State Development  
Board

002181

0311

# EXHIBIT

## P32 - STATE DEVELOPMENT BOARD

Wayne L. Sterling, Director

SEP 6 1990

1

STATE BUDGET & CONTROL BOARD

**MISSION:** The Development Board is to provide leadership in creating and sustaining a climate which serves private sector development and expansion in South Carolina for the purpose of improving the economic well-being of the citizens of the state.

FISCAL YEAR	GENERAL FUND			
	ADJUSTED APPROPRIATION	EXPENDITURE	LAPSE	CARRY-FORWARD
1984-85	4,759,717	4,689,586	20,131	50,000
1985-86	5,171,637	4,850,456	6,456	314,724
1986-87	5,615,156	5,606,262	8,895	0
1987-88	6,705,898	5,787,147	74,251	844,500
1988-89	8,756,574	8,148,804	103,261	504,509
1989-90	9,255,604	9,250,163	5,440	0
1990-91	8,841,157	Not Available	Not Available	Not Available

FISCAL YEAR	INCREASE REQUESTS			
	RECURRING	% INCREASE	NON-RECURRING	TOTAL
1991-92	3,828,556	43.30%	681,775	4,510,331

**NOTE:** The adjusted appropriation is equal to the original appropriation plus appropriations brought forward, special acts, supplemental appropriations, Civil Contingency transfers, and compensation increases. The FY 1990-91 displayed adjusted appropriation is equal to the original appropriation.

**SOURCE:** Office of the Comptroller General Agency Appropriation Activity Reports

002182

0312

## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME STATE DEVELOPMENT BOARD AGENCY CODE P32

<b>PRIORITY # 1</b>	<b>PROGRAM NAME:</b> <u>MARKETING - Targeted Vertical Industries</u>		
To provide for additional targeted advertising, print collateral, direct mail campaign, participation in trade shows, and to create special and promotional events for business decision makers.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$1,077,400	TOTAL FUNDS \$1,077,400

<b>PRIORITY # 2</b>	<b>PROGRAM NAME:</b> <u>MARKETING - Top Management/Horizontal</u>		
To provide for special advertising sections in Forbes, Fortune, etc., fund agency participation in Heritage, MCI Classic, marketing trips and direct mail support, and to capitalize on the likelihood of executives viewing the state for a business investment.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 336,000	TOTAL FUNDS \$ 336,000

<b>PRIORITY # 3</b>	<b>PROGRAM NAME:</b> <u>MARKETING - International Marketing</u>		
To provide for targeted mission support, translation services, and targeted country brochures. Also, attendance and participation in international trade shows and the hiring of a European public relations firm along with travel and associated prospect expenses.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 440,900	TOTAL FUNDS \$ 440,900

<b>PRIORITY # 4</b>	<b>PROGRAM NAME:</b> <u>FINANCE &amp; ADMIN - Agency Support</u>		
To provide for nonappropriated and increased costs in lease space, increased costs in telephones, supplies (including postage and general office supplies), and increased costs of eight additional leased vehicles from DMVM.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 351,576	TOTAL FUNDS \$ 351,576

<b>PRIORITY # 5</b>	<b>PROGRAM NAME:</b> <u>RESEARCH - Information Systems</u>		
To provide for additional maintenance and costs of computer hardware, contractual services for database development, and to overcome a current deficit in personnel funds.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 115,281	TOTAL FUNDS \$ 115,281

**002183**

**AGENCY TOTALS:**

STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS
------------------------	-----------------	-------------	-------------

0 3 1 3

## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME STATE DEVELOPMENT BOARD AGENCY CODE P32

<b>PRIORITY #</b> 6	<b>PROGRAM NAME:</b> RESEARCH - Prospect Proposal		
To provide for an increase in staff personnel needed in this area in order to offset a tremendous increase in the workload as well as provide for funding for temporary personnel and travel.			
STATE FUNDED POSITIONS 1	TOTAL POSITIONS 1	STATE FUNDS \$ 57,949	TOTAL FUNDS \$ 57,949

<b>PRIORITY #</b> 7	<b>PROGRAM NAME:</b> RESEARCH - Site Location and Analysis		
To provide for a new staff position with GIS expertise, nonrecurring equipment, and photography needs, totalling \$105,400.			
STATE FUNDED POSITIONS 1	TOTAL POSITIONS 1	STATE FUNDS \$ 144,886	TOTAL FUNDS \$ 144,886

<b>PRIORITY #</b> 8	<b>PROGRAM NAME:</b> MARKETING - Film Industry		
To provide for production and placement of advertisements, production of direct mail campaign, and the updated reprint of the SC Film Office <u>Production Manual</u> .			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 109,000	TOTAL FUNDS \$ 109,000

<b>PRIORITY #</b> 9	<b>PROGRAM NAME:</b> FILM OFFICE - Operations		
To meet the increased demand for location information and fulfill increased travel needs.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 30,000	TOTAL FUNDS \$ 30,000

<b>PRIORITY #</b> 10	<b>PROGRAM NAME:</b> INTERNATIONAL - International Investment		
To provide for additional international travel and prospect expenses. <b>002184</b>			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 62,500	TOTAL FUNDS \$ 62,500

0 3 1 4

## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME STATE DEVELOPMENT BOARD AGENCY CODE P32

<b>PRIORITY # 11</b>	<b>PROGRAM NAME:</b> INTERNATIONAL - International Trade		
To provide for international trade representation along with increased travel and prospect expenses.			
STATE FUNDED POSITIONS	1	TOTAL POSITIONS	1
		STATE FUNDS	\$ 75,389
		TOTAL FUNDS	\$ 75,389

<b>PRIORITY # 12</b>	<b>PROGRAM NAME:</b> NATIONAL - National Project Management		
To provide for increased travel and prospect expenses along with the hiring of an experienced economic development consultant to be located in the northeastern or midwestern portion of the United States.			
STATE FUNDED POSITIONS		TOTAL POSITIONS	
		STATE FUNDS	\$ 150,000
		TOTAL FUNDS	\$ 150,000

<b>PRIORITY # 13</b>	<b>PROGRAM NAME:</b> SPECIAL PROGRAMS - Industrial Development		
To provide for seven personnel positions in industrial buildings and sites, labor resources, existing business, and environmental concerns as well as provide support for contractual services to support trade shows, travel, and consulting services.			
STATE FUNDED POSITIONS	7	TOTAL POSITIONS	7
		STATE FUNDS	\$ 327,992
		TOTAL FUNDS	\$ 327,992

<b>PRIORITY # 14</b>	<b>PROGRAM NAME:</b> SPECIAL PROGRAMS - Rural/Community Dev		
To provide an additional position needed to support increased activity, expenses in traveling, regional meetings, workshops, and leadership development sessions.			
STATE FUNDED POSITIONS	1	TOTAL POSITIONS	1
		STATE FUNDS	\$ 43,767
		TOTAL FUNDS	\$ 43,767

<b>PRIORITY # 15</b>	<b>PROGRAM NAME:</b> SPECIAL PROGRAMS - Enterprise Development		
To fulfill the funding of Legislative Proviso 67.2 which assists in the economic transformation of South Carolina into a recognized leader in the formation and development of high growth business ventures by virtue of a contractual arrangement			
STATE FUNDED POSITIONS		TOTAL POSITIONS	
		STATE FUNDS	\$ 192,485
		TOTAL FUNDS	\$ 192,485

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME STATE DEVELOPMENT BOARD AGENCY CODE P32

<b>PRIORITY #</b> 16	<b>PROGRAM NAME:</b> RESEARCH - Targeted Industry Analysis		
To provide for contractual services, materials, and travel in addressing identified targeted industries suitable for locating in South Carolina.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 30,147	TOTAL FUNDS \$ 30,147

<b>PRIORITY #</b> 17	<b>PROGRAM NAME:</b> MARKETING - Existing Business Program		
To provide for reprinting brochures, directories, travel, and receptions to honor new industries.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 25,500	TOTAL FUNDS \$ 25,500

<b>PRIORITY #</b> 18	<b>PROGRAM NAME:</b> MARKETING - Site Selection		
To fund an advertisement program in site selection/trade magazines, produce direct mail campaigns as well as buildings and sites fliers, host a show case event, and produce a targeted site selection newsletter.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 101,000	TOTAL FUNDS \$ 101,000

<b>PRIORITY #</b> 19	<b>PROGRAM NAME:</b> FINANCE & ADMIN - Personnel		
To provide for a personnel assistant to eliminate understaffing. Provide temporary funding for temporary staff members who are needed.			
STATE FUNDED POSITIONS 1	TOTAL POSITIONS 1	STATE FUNDS \$ 33,295	TOTAL FUNDS \$ 33,295

**002186**

<b>PRIORITY #</b> 20	<b>PROGRAM NAME:</b> INTERNATIONAL - Foreign Offices		
To provide for travel and prospect expenses and increasing foreign consultant contracts.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 42,000	TOTAL FUNDS \$ 42,000

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## 1991-92 BUDGET REQUEST SUMMARY

(The following information has been supplied by the agency.)

AGENCY NAME STATE DEVELOPMENT BOARD AGENCY CODE P32

<b>PRIORITY #</b> 21	<b>PROGRAM NAME:</b> <u>MARKETING - Economic Development Allies</u>		
Funding provides for upgrading agency newsletter, updating version of slide show, and the printing of additional brochures.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 20,500	TOTAL FUNDS \$ 20,500

<b>PRIORITY #</b> 22	<b>PROGRAM NAME:</b> <u>RESEARCH - Information Resource Center</u>		
To fund additional position needs, increased operating costs for publication developments in library, and on-line database resource acquisitions.			
STATE FUNDED POSITIONS 1	TOTAL POSITIONS 1	STATE FUNDS \$ 68,389	TOTAL FUNDS \$ 68,389

<b>PRIORITY #</b> 23	<b>PROGRAM NAME:</b> <u>MARKETING - Rural Co-op Promotion</u>		
To fund on a 50/50 grade basis economic development organizations in less developed counties in the state.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 150,000	TOTAL FUNDS \$ 150,000

<b>PRIORITY #</b> 24	<b>PROGRAM NAME:</b> <u>EXECUTIVE &amp; BOARD - Executive</u>		
To provide for part-time temporary personnel assistance, and prospect and travel expenses.			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS \$ 30,000	TOTAL FUNDS \$ 30,000

<b>PRIORITY #</b>	<b>PROGRAM NAME:</b>		
<b>002187</b>			
STATE FUNDED POSITIONS	TOTAL POSITIONS	STATE FUNDS	TOTAL FUNDS

**AGENCY TOTALS:**

STATE FUNDED POSITIONS 13	TOTAL POSITIONS 13	STATE FUNDS \$4,015,956	TOTAL FUNDS \$4,015,956
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**1991-92 BUDGET REQUEST SUMMARY  
(NON-RECURRING)**

(The following information has been supplied by the agency.)

AGENCY NAME State Development Board AGENCY CODE P32

<b>PRIORITY # 1</b>	<b>PROGRAM NAME:</b> FINANCE & ADMIN - Aircraft Operations		
To provide for cockpit voice recorder in agency aircraft (mandated by FAA).			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 25,000
		TOTAL FUNDS	\$ 25,000

<b>PRIORITY # 2</b>	<b>PROGRAM NAME:</b> MARKETING - Ryder Cup		
A golf classic to bring national and international CEOs and senior management to South Carolina.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$100,000
		TOTAL FUNDS	\$100,000

<b>PRIORITY # 3</b>	<b>PROGRAM NAME:</b> FILM OFFICE - Location Library		
To provide equipment needed to create computerized storage and retrieval system for the location library.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 50,000
		TOTAL FUNDS	\$ 50,000

<b>PRIORITY # 4</b>	<b>PROGRAM NAME:</b> MARKETING - International Export Series		
To provide five separate directories arranged by major SIC codes of all South Carolina exporting companies.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$ 30,000
		TOTAL FUNDS	\$ 30,000

<b>PRIORITY # 5</b>	<b>PROGRAM NAME:</b> RESEARCH - Local Technology Development		
To provide assistance to local development organizations to computerize their operation and participate with this agency in a state-wide electronic network for economic development. This program would be administered on a matching cost share basis on a sliding scale.			
STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$289,375
		TOTAL FUNDS	\$289,375

AGENCY TOTALS:

**002188**

STATE FUNDED POSITIONS	N/A	TOTAL POSITIONS	N/A
		STATE FUNDS	\$494,375
		TOTAL FUNDS	\$494,375

FORM 92-R2 NR

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**State Development Board**

**Fiscal Year 91-92**

**Budget Request**

**South**  
**CAROLINA**  
*PROFIT FROM OUR ABILITY*

002189

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## **EXECUTIVE SUMMARY**

### **SOUTH CAROLINA STATE DEVELOPMENT BOARD**

The State Development Board is requesting an increase of \$4,510,331 for Fiscal Year 1991-92. This increase is critical, if the Development Board is to continue to fulfill its mandate of attracting new capital investment and jobs to South Carolina.

Changing economic conditions dictate a change in our economic development strategies. Competition is keener and the pool of industries with which to work is diminished. As a result, our recruitment must be much more highly targeted. In order to ensure a competitive position for us on the development playing field we must undertake a very comprehensive, proactive and aggressive marketing strategy.

The facts show that an investment in the Development Board by the state generates an impressive return -- dollar for dollar -- back into the General Fund. And, investment returns reach into the local tax base, as well, serving to improve the quality of life for South Carolinians and better enabling government on all levels to meet basic needs.

Continued investment in the State Development Board will continue to generate return funds necessary to help meet the other pressing needs throughout our state.

The facts speak for themselves. The following pages provide an example of one year's investment and its results. And, they provide an outline of the most aggressive marketing program ever undertaken in this state to help diversify our economy, provide protection for our workers during economic downturns, and ensure future economic prosperity.

**002190**

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**CAPITAL INVESTMENTS AND EMPLOYMENT  
1989**

- Announced investments: \$2.9 billion  
(Second best year in history)
- Announced new jobs: 18,017
- All counties participate in investments
- First in southern region in per capita capital investments

Over the last three years, South Carolina has experienced levels of growth in announced capital investments and jobs. In 1989, there were \$2.9 billion in announced investments with the creation of 18,017 new jobs. This record was the second best year in South Carolina's history. On a comparative basis, we were also the first in the southern region in terms of per capita capital investment.

All counties in the state participated in these investments. Rural counties attracted more than two-fifths of the new jobs created, moving us one step closer to our goal of balanced growth for the entire state.

**002191**

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#### WHAT DO THESE FIGURES MEAN TO THE ECONOMY?

- 16,000 additional jobs created indirectly in service economy.
- A payroll of an additional \$611 million a year will be created as a result of this direct and indirect job creation.
- Retail sales boosted by \$451 million a year through payroll impact.
- A boost of \$444 million in capital investments - land acquisitions, construction, equipment purchases.

The impact on our economy of these 1989 statistics is significant, particularly in terms of the multiplier or ripple effects of new investments and jobs. In addition the 18,017 direct new jobs created, 16,000 new jobs will also be generated in industrial, business and consumer services. These direct and indirect jobs will result in a payroll of \$611 million a year, and retail sales should be boosted by \$451 million annually. We also expect an overall increase of \$444 million in additional investments through construction and equipment purchases within the state.

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**WHAT DO THESE FIGURES MEAN  
FOR GOVERNMENT REVENUES?**

- Over \$43 million a year will be contributed to General Fund through new jobs and payroll.
- Over \$32 million a year will be contributed in local school taxes.
- After the abatement period, an additional \$13 million will be created through local property taxes.

What follows from capital investments and new jobs is a beneficial impact on state and local governments' revenues. At the state level, the increased payroll will mean a contribution of over \$43 million a year to the general fund through income and sales taxes. At the local level, the increased tax base will result in over \$32 million a year to schools. And finally, after the five year abatement period, local governments can expect to receive an additional \$13 million a year through property taxes.

Therefore, in the long run, the new jobs and capital investments of 1989 will benefit the state by an overall contribution of \$88 million a year.

**002193**

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## A CHANGING ECONOMIC ENVIRONMENT?

- Slowdown of economy expected, particularly in manufacturing.
- Increased competition nationally.
- Result: Greater corporate uncertainty, longer lead times, extended project management.

We are entering uncertain economic times. Some economists are arguing that we are in a recession, others that we will be entering one soon. The evidence of mixed signals is there: plant closings and job layoffs are increasing. The South Carolina economy, while significantly better than the national economy, is nonetheless experiencing slower growth particularly in the manufacturing sector. The implications of the national economic slowdown can be measured in practical terms: the duration of successful projects tends to be longer, and the competition gets keener.

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## THE BOTTOM LINE

### INVESTMENT

FY 1989-90            TOTAL BUDGET - \$9,253,520

### RETURN ON INVESTMENT

- Contribution on General Fund =            \$43 million/year
- Contribution to Schools =                 \$32 million/year
- Additional contributions to local tax base = \$13 million/year

In FY 1989-90, the State Development Board's total appropriated recurring and non-recurring budget was \$9,253,520. The return on this investment by the state will be \$88 million through contributions to the general fund, schools and local governments. This return on the state's investments from the State Development Board is most impressive: a revenue of \$9 for every \$1 spent.

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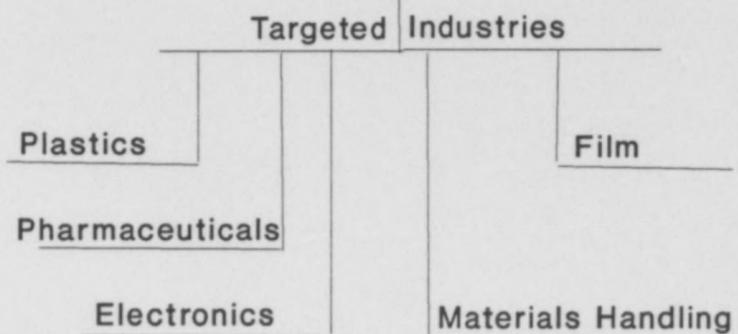
**THE NEED FOR A  
PROACTIVE AND TARGETED  
MARKETING STRATEGY**

In this changing economic environment, a proactive and targeted marketing strategy is imperative. Marketing is more effective when based on a firm understanding of business and industry needs and South Carolina's competitive advantages. A targeted marketing strategy can therefore help to offset the effects of a weakening economy and provide us with a continued advantage.

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A PROACTIVE  
ECONOMIC DEVELOPMENT  
PROCESS FOR PROSPECTS  
AND EXISTING INDUSTRY



Target Industries are evaluated annually on the basis of three key criteria: growth potential, quality of jobs and diversification of the state's economy. For each target industry, an in-depth analysis is made with the development of a customized marketing strategy. This year, the State Development Board's targeted industries include high performance plastics, pharmaceuticals, electronics, materials handling (conveyers, forklifts) and the film industry.

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**MOST AGGRESSIVE AND CONSISTENT  
MARKETING CAMPAIGN EVER**

For Each  
Target industry segment

Ads

Collateral

Trade  
Shows

Special  
CEO Events

Editorial  
Coverage

002198

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**MOST AGRESSIVE AND CONSISTENT  
MARKETING CAMPAIGN EVER**

Once a target industry is identified as a viable opportunity for the State, a multi-faceted marketing campaign is designed. This campaign must be comprehensive in order to be effective. It includes ads in industry specific publications, tailored brochures, response driven direct mail, marketing trips, participation at trade shows, and special events to highlight the State. Each component of this marketing mix is critical in generating leads, increasing the number of prospects and maintaining the State's momentum for economic growth.

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**T H E   E N D**

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