

Technology & Learning - challenge Backgnd
- Tech Corps, TEC, Honor Society

**PHOTOCOPY
PRESERVATION**

The Technology Learning Challenge Executive Summary

The Challenge: Coping With a Changing World

The American economy is experiencing a renaissance. Battered by world competition in the 1980s, we've taken back the lead in many of the technologies that are the key to future growth.

Success in a tough world market means being agile, flexible, and efficient. It means being prepared to drop failed business ideas and take risks with new ones. This kind of flexibility is the American genius. But there is some difficult fine print. The people most likely to benefit will be those prepared to change and grow throughout their lifetimes. A decade from now, relatively few people will have the same jobs they have today. Many will change jobs several times -- even in middle age. Few individuals will escape uncertainty. The changes we're going through are every bit as big as the ones Americans faced when they moved from farms to towns and factories several generations ago.

With the support of their families, Americans are prepared to take on this new challenge. Most of us have little choice. There's no turning back, and no place to hide.

One thing that we can do is to be certain that all Americans have the opportunity to get the education and the training they need to cope with this challenge. Few Americans scraping through high-school can look forward to a middle class income. American workers are going head to head with nations around the world that have invested heavily in education and offer local businesses high-school graduates with first-rate educations. Even graduating from college is not enough. The job changes most Americans face require new skills and a commitment to lifelong learning.

New Tools: Time-Honored Approaches

The good news is that in the hands of good teachers information system technology can help a lot of people learn faster and better than they ever could using conventional methods in conventional classrooms. Computer based training has revolutionized the way the Department of Defense (DoD) trains everyone from raw recruits to top gun pilots. The new training systems are being adopted because they work. . They are more adaptable to users' training needs and produce troops that are better prepared to go to battle. Desert Storm was the test of fire for the new training methods and they passed with flying colors. Asked why his tank squadron performed so well in a firefight that typically chews up soldiers new to actual combat, one young commander answered "But I have been in a situation like that one before." And he had been. He'd been there many times in a computer-based simulation.

As a result, the military, and some of the nation's largest companies, are going beyond traditional training methods to exploit the opportunities offered by information system technology: virtual reality, simulating realistic job experiences; the information superhighway, enabling learners to connect to consultants and data around the world ; multi-media presentations, including video, animations, and sound recording; and intelligent tutors, offering students personalized coaching using techniques derived from artificial intelligence. Each of these information systems can tailor teaching to reflect the learning needs of each student. This is particularly important for people who've done poorly in traditional classrooms where they are stuffed in chairs like eggs in an egg-crate.

In fact, the teaching doesn't have to come in standard classrooms. The Army is experimenting with distance learning, teaching reservists at home using home computers hooked to cable television. Computers and communications systems mean that high quality infrastructure can be made available any place, any time. For example, even if just one student in a rural Kansas high school or just one employee in a small business in South Dakota wants to learn Japanese, they can get instruction as good as that offered in the finest educational establishment in the nation. This flexibility means that people trying to raise children or care for an elderly parent while holding down a job can learn at home. It means that first-rate instruction can be available after hours at work, in libraries and community centers. It's also likely that most equipment used on the job will have built in training available to provide continuing education opportunities, to ensure that workers' skills are kept current, and to support just-in-time education and training to respond to immediate, critical needs.

Most significantly, the new systems enable the kind of learning experiences most people find most useful and memorable -- learning by doing. Instead of just reading about how to do something or watching someone explain it, the new systems let people explore, experiment, and test their skills in practical situations. The situations could involve solving a scientific mystery in a simulated swamp, operating a complex array of medical instruments in a simulated laboratory, or doing the planning needed to make a difficult business decision when data is ambiguous. The experiences not only teach complex skills but they allow complex skills to be tested. If the plane crashes in a flight simulator, the student pilot won't need anyone to grade the test but it is very likely that the student will be eager for some more coaching and encouragement from the instructor.

While the technology may be revolutionary, the approach to teaching is time-honored. People learn a lot more if their instructors have time to treat them as individuals. They learn by gaining experience and then testing their skills. Sometimes they learn best teaming with others, and sometimes they learn best alone. With the help of well-crafted information systems, teachers can act like tutors and coaches instead of just standing in front of an "egg-crate classroom".

The Army instructors teaching tank tactics to their troops using new teaching tools aren't computer experts, they're experts in tanks and tank operations. The new tools help them teach troops the way they always wanted to but couldn't because no one could afford the time or the money needed for repeated combat training using real vehicles in different battle situations. Now they can. And they're excited.

What's the Problem?

Sooner or later the kinds of training now offered by the military can and will be available in offices, homes, libraries, and community centers throughout America. The problem is that later could be a long time in coming for a lot of Americans. Schools make a poor market for innovative information systems companies trying to develop and sell products. Schools are typically strapped for resources and the fragmentation of the market makes it difficult for manufacturers to understand customer needs and to market the finished product. Training is often shortchanged as businesses struggle to restructure to stay afloat in tough world markets. Few schools or training facilities have technical staffs capable of knowing exactly what education and training tools to ask for. The military's experience shows that it takes a lot of work to shift to computer-based training. It takes a lot of work for the information system specialists to understand the needs of the students and teachers and to grasp the subject matter. It also takes work for teachers to understand how to use new equipment and methods. These processes can be challenging and time-consuming.

It is difficult for any firm to make a long-term investment in research or development in these kinds of markets. However, many firms are eager to try. Home education products were the fastest growing software product last year and sales show no sign of slowing. The potential profits may be enormous since over \$400 billion is spent in the US each year on K-12 education alone. But current sales are small compared with markets for commercial software. As a result, training techniques available to the military and a few elite companies continues to be out of reach for most Americans.

Americans will only get the learning tools they need when learning markets begin operating efficiently. Schools, colleges, training companies, and the training departments of large and small businesses must know what they should expect in the way of advanced learning tools. Companies providing communications, computers, software, multi-media products, and other information services must be able to compete to meet these needs. The core of our plan is to "jump start" such a market .

The market is operating with spectacular success in the business arena, where firms compete to provide better design tools to the aerospace and auto industries or more personalized claims processing for credit card customers. Fierce competition in the home entertainment industry has pitted SEGA, NINTENDO, CDI, and 3DO against each other. The result is that teen-agers

capable of scraping together a few hundred dollars can play sophisticated computer games using computer equipment that even the most advanced flight simulators couldn't afford a decade ago. Our goal must be to get these kinds of creative entertainment and high-technology businesses to compete in providing lifelong learning.

What's The Plan?

The federal government has a limited role in making this dream come alive. But it is a crucial role. Its first responsibility is to be certain that regulations and the tax system encourage businesses to invest in new ideas. With this in place, a small, disciplined federal program can release explosive energy in the US education, training, computer, and media enterprises. We propose to stimulate the process as follows:

- 1. Provide a catalyst that causes communities, product developers, teachers, companies, civilian and defense training organizations, and others to form new partnerships and markets for advanced learning tools.**

Among the greatest barriers to progress in learning technologies are the inability of potential consumers to act as informed buyers and the inability of providers to calculate the rewards that would justify the risk of developing a new product. In short, the absence of an effective market.

We plan to "jump start" the process using a Challenge Grant to get local markets for learning technologies up and running. Communities across the country will be challenged to define their own vision of how information technology can be used to promote learning. Acting much like the Empowerment Zone program, communities would be challenged to combine local talent and local funding sources in a plan to use technology for education or training. Local telecommunication firms, local businesses interested in helping local school systems, and small businesses with special training needs would play an active role. Local sources would be expected to pay for the computer and communications equipment required by the plan and federal funding would pay for the development of new curricula and instructional content.

Eligible groups could create consortia by combining purchasers and providers: schools, colleges and universities, teachers and other experts on the material that needs to be learned, and telecommunications firms, computer firms, software designers and other experts on developing and implementing tools to provide education and training products. Unlike the Empowerment Zone, the communities need not be confined to geographic areas but could be linked by common interests (e.g., teachers of history, groups with disabilities, small businesses with common training problems).

2. Provide incentives for developers to push the state of the art in learning technologies and take risks in developing products for untested education and training markets.

It's essential that efforts be made to create markets for innovative products. But there are big problems to "jump starting" the market process. The DoD, and everyone else who has tried to use new technologies for learning, know that we are still in a stage of development similar to the automobile industry just before the Model-T putted into view. The land is filled with electronic equivalents of Stanley Steamers. It's an exciting time but we've clearly got a long way to go. Progress depends on being able to follow technical innovations in computers, communications systems, visualization technologies and software. It means designing systems for real people, people with very different ways of thinking and different notions of what is interesting, challenging, and fun. And it means understanding the passion and compassion, the discipline and theatre needed to make education work.

Inventing a better way to learn is one of the hardest, and probably the most important, development problems the nation has ever faced. We need to treat it that way. Federal research -- including defense research -- has a long tradition of helping businesses push the state of the art in aircraft, agricultural chemicals, drugs and medical equipment.

We plan to make education and training technology research a new focus of federal research, not by increasing funding, but by focusing existing research funding more closely on topics of greatest interest to schools, training institutions, and product developers. The new program will be managed by an Interagency Technology Office. This office is envisioned as a unique "skunk works" staffed by people with expertise in managing technology development (from DoD, NASA, and other technology agencies) and by people with expertise in education and training. The Department of Defense, the CIA, NSA and other defense agencies have major programs aimed at developing and exploiting learning technology. A major mission will be to ensure that DoD training programs benefit from the enormous private investment in civilian education markets we hope to stimulate.

Revolutionary new technology means that innovative new approaches to learning are possible. Federal research money can help innovators in businesses and universities develop and test concepts that break new ground -- concepts that commercial developers would like to try but that involve risks too great for any company to undertake on its own. Federal research funds from several agencies would be managed to support proof-of-concept demonstrations in key areas: pre-school substitutes for the passive experience of watching television; simulations that allow adventures and experiments in different ecologies (e.g., a pond in New England, a savanna in Argentina, a rain forest in South Asia); systems that send students on "dangerous" assignments to

ancient cities; systems that allow "virtual apprenticeships" for high-school students that are useful both to the student and potential employers; systems for allowing reserve officers and enlisted personnel to keep abreast of new defense technology using home computers.

The process of creating proof-of-concept demonstrations in areas like this is the best possible way for businesses, universities, and federal research managers to understand what we know and what we don't know about how to use learning technology. The projects need to be ambitious. Some will fail. But the successes will provide a firm foundation for commercial products that would be offered in markets stimulated by the Challenge Grant process.

3. Fund research in innovative curricula, individualized instruction, exploratory learning, intelligent tutoring, fundamental software tools, evaluation methods and other areas where the information is directly useful to product developers and schools but no firm can justify financing the research on its own.

The new learning tools open up a new realm of possibilities. The systems developed may look a lot more like the kinds of experience-based apprenticeships used in traditional societies than they do the 19th century mass production methods with "egg crate classrooms". But, in contrast to traditional apprenticeships, the new experiences can involve extraordinary experiences and tools -- assignments involving use of state-of-the-art gene sequencing equipment (in simulation), or searching through simulated laboratories in 9th century Beijing. The tools will change what we can expect to learn, where learning takes place and the nature of being a teacher. Ultimately, they should enable teachers to be dramatically more effective by giving them more time to tutor.

Learning how to do this will not be easy. Federal research can target basic problems identified by teachers, businesses, and product developers -- research that benefit the entire community but which no firm or agency can support entirely with its own funds. Topics include research on the kinds of new learning strategies and curricula made possible by the new technology, development of generic computer software tools needed to support intelligent tutoring, and the development of simulations to support experiential learning.

Many of the new technology-based learning methods that seem compelling in theory may prove ineffective in practice. But since the new systems raise expectations about what can be learned, measurement tools must be developed to assess the degree of success that can be achieved. One objective of the Learning Challenge is teaching students, employees, or military personnel how to operate in ambiguous situations, and make decisions with incomplete and contradictory information. This requires just-in-time learning, an ability to ferret out critical information and an understanding of how to find the experts. These skills are not going to show up

well on multiple choice tests. Finding good ways to evaluate projects with ambitious goals will benefit all the players.

4. Break the logjams that make it difficult for product developers to get and use digital versions of federal cultural and scientific collections in the Smithsonian Institution, National Parks, NASA, and other federal agencies.

The federal government holds vast, unique collections of objects, photographs, video and film, and sound recordings. It owns the US Constitution, the Wright Brothers' first airplane, Morse's first telegraph, the world's largest bug collection, Louis Armstrong's personal recording collection, civil war cannons, and countless other materials that are vital raw materials for educational and entertainment products. Once converted to digital form, this material can be widely distributed at very low cost. Developers are eager to gain access to the materials and are willing to pay, commensurate with their value.

Federal funding can never be adequate to make the collections available in digital form. But arguments over property rights and other issues have blocked significant private investment. We will break this logjam by developing an innovative program that will give successful applicants in the private sector limited rights to repositories that they digitize. However, once they have realized a reasonable return on their investment, these rights to the digitized repositories will revert to the American public.

5. Use technology to make federally supported education and training programs more productive and more useful to program recipients

A variety of federal programs target groups with special needs:

- The Head Start program targets low income preschool children and their families.
- Job Corps centers provide assistance for young adults entering the workforce.
- The Rehabilitation Act works to ensure that people with disabilities get the education and training needed to participate fully in the workplace.
- The Eisenhower Professional Development program aims to help elementary and secondary school teachers.

In addition, a variety of programs are available for helping adults get retraining and the federal government itself operates an enormous training enterprise to serve both military and civilian needs. All of these programs are being restructured to make them more efficient and to focus them where they can do the most good.

Each of these programs serves a very different constituency. Few operate programs directly; most make grants to states and other organizations. Each is developing a program for ensuring effective use of technology for their mission -- a task which often means providing constituent groups with information about advances in technology for learning and encouraging state recipients to form partnerships to explore use of technology. We hope that many of these partnerships may also participate in the Challenge Grant programs.

However, it is difficult for any of the federal program organizations or their recipients to keep abreast of technological developments. The Interagency Technology Office, which is being set up to manage the Challenge Grant and demonstration programs, will give these groups an efficient way to stay current using the program office's contacts with technical experts in industry, government, universities, and business. They will provide technical assistance centers for use by federal program officials and for their program recipients operating through existing technical assistance centers operated by the Department of Education and the Department of Labor. They will provide federal program officials with the training needed for them to keep abreast of technological developments and understand the changing landscape of what is possible. In addition, they will advise the community on installing and using advanced communications to connect programs throughout the country.

Close ties between the communities participating in federal education and training programs will be critical for effective operation of the federal research and demonstration programs. The programs can help connect it to teachers, school systems, and local training institutions around the country. Their problems and questions should drive the research agenda. Demonstrations and evaluations should address questions these communities identify.

TECH CORPS

Vision:

A national, non-profit organization of technology volunteers dedicated to helping improve K-12 education at the grass roots.

Mission:

The mission of Tech Corps is to recruit, place, and support volunteers from the technology community who advise and assist schools in the introduction and integration of new technologies into the educational system. Volunteers provide assistance with local planning, technical support and advice, staff training, mentoring, and classroom interactions. The organization utilizes the abilities of skilled individuals and groups across the country in an effort to prepare students, teachers, and schools for the 21st century.

Mode of Operation:

Tech Corps is a volunteer organization. It is funded principally through corporate sponsorships. It has a small headquarters staff to set the Tech Corps mission and agenda, establish and maintain the culture, provide national media liaison, and ensure quality. The broader organization is based on a bottom-up philosophy and draws on the expertise and enthusiasm of technology-literate members of local communities.

Activities:

Tech Corps volunteers work with the teachers and school administrators in their local communities. They do whatever is necessary to promote the effective use of computing and communications technologies in K-12 education. Thus, their tasks may range from getting local contractors to upgrade the electrical wiring in a school, to installing a local area network, to providing assistance in obtaining computing hardware and networking services, to finding a volunteer systems administrator, to helping with the development of a school's World Wide Web home page, to providing assistance with the development of teaching materials, to mentoring students, teachers, or administrators in the uses of computing and communications technologies. Since the determining factors are local needs, a wide variety of tasks are conceivable.

Tech Corps Rollout:

MAY 95	Begin Tech Corps incorporation and tax exemption
JUNE 95	Tech Corps prototype in six states; Obtain corporate and laboratory assistance in building Tech Corps computing and communications infrastructure
AUGUST 95	Tech Corps home page and mirror sites on the Internet in experimental mode; Refine Tech Corps definition, based on feedback from prototype
SEPTEMBER 95	Presidential announcement of Tech Corps and call for organizers; Initial Tech Corps media release and announcement of Charterers' Conference; Public debut of Tech Corps home page; Pointer from White House home page activated
OCTOBER 95	Charterers' Conference held in Washington, DC
NOVEMBER 95	Tech Corps call to businesses at Comdex (possibly by Vice President); Home page focus shifts to recruiting business participants
JANUARY 96	Tech Corps media release and call for participation by school districts; Home page focus shifts to recruiting school districts
APRIL 96	Tech Corps media release and call for participation by volunteers; Home page focus shifts to recruiting individual volunteers
SEPTEMBER 96	Tech Corps operational

DRAFT: 8/1/95

CHALLENGE GRANTS FOR TECHNOLOGY IN EDUCATION

The Challenge Grants for Technology in Education are designed to build alliances between educators, the private sector, and others to develop a new generation of interactive learning tools. These five-year grants will support partnerships that include at least one school district and other organizations seeking to meet educational goals through the use of technology -- particularly in underserved and urban areas.

The first Challenge Grant competition is currently underway, and 505 applications were received by the June 2, 1995 deadline. Such a large number of applications indicates that the "Challenge" to local school districts, companies, universities, and other organizations to work together to develop new educational solutions involving technology has been very successful. Notable in these applications is strong participation from the private sector, universities, and non-profit organizations:

- Two-thirds of proposals have one or more private companies as partners, with one-third being telecommunications companies.
- More than half of the proposing agencies partner with institutions of higher learning (for a total of 900 colleges and universities).
- Over 300 libraries, 250 museums, and nearly 1000 non-profits are included as partners.
- Proposals have been received from every state.

Funding for Challenge Grants is \$9.5 million in FY 95. These funds will leverage millions more in private sector support and local community involvement in education. The grants are administered by a team led by Thomas Carroll at the Interagency Learning Technology Office. Approximately 10 grants will be awarded in September.

DRAFT: 8/2/95

NATIONAL TECHNOLOGY HONOR SOCIETY

Purpose. The purpose of the NTHS is to (1) provide an organization through which students can help bring computing and communications knowledge and technology into their schools and (2) recognize and reward students who use their technological expertise to serve their schools.

Function. Members will (1) assist teachers, school administrators, and adult volunteers with integration and use of technology in schools; (2) train teachers, school administrators, classmates, and parents in the use of technology in the schools; (3) participate in mentoring programs with middle/elementary schools; (4) serve as computer system administrators for a class or teacher; and (5) perform other functions which serve the goal of increasing/improving the use of technology in education.

National Sponsor. National Association of Secondary School Principals will manage and guide the NTHS, which will be modeled on the National Honor Society (founded in 1926). NASSP will perform the following functions for the NTHS: create and maintain an organizational structure to support the NTHS on a national level; determine and publish guidelines for local chapters; and publicize the NTHS organization in schools. NASSP will also set NTHS membership selection criteria and define a reward structure.

Potential Faculty Sponsors. Computer science, engineering, tech prep, science, physics, and math teachers; media center managers; other faculty with computing expertise and interest.

Parental Involvement. NTHS can work with the PTA to educate parents on the use computers and the Internet in the schools.

Endorsement. The President's Advisor for Science and Technology, John H. Gibbons, has written NASSP in support of the NTHS concept.

DRAFT: 7/31/95

EXECUTIVE ORDER #####
INTERAGENCY LEARNING TECHNOLOGY OFFICE

By the authority vested in me as President by the Constitution and the laws of the United States of America, including _____ (Public Law #####), and in order to establish an interagency learning technology office to bring learning technology to bear on the objectives of education, training, and life-long learning, it is hereby ordered as follows:

Section 1. Establishment. There is established the Interagency Learning Technology Office ("the ILTO").

Section 2. Purpose. The purpose of the ILTO is to initiate and support focused collaborations of the technology agencies with the Department of Education to create and demonstrate learning technologies for the 21st century.

Section 3. Functions. (a) The principal functions of the ILTO are, to the extent permitted by law:

- (1) To initiate and support focused interagency collaborations in the research, development, demonstration, assessment, and dissemination of learning technologies across the Federal government.
- (2) To identify and focus the knowledge and expertise on learning technologies that exist within each of the Federal Departments and Agencies.
- (3) To promote and coordinate public-private sector collaboration, investments, and partnerships for improving learning productivity.
- (4) To serve as a single point of access to the best available learning technologies within the Federal government for state and local governments, private companies, and individual Americans.
- (5) To assist Federal agencies with identifying and using technology in major education and training programs.

(b) The ILTO may, at the discretion of its Director and consistent with FACA requirements, convene advisory panels to assist in the performance of its functions.

Section 4. Direction. (a) The Chair of the Executive Board of the ILTO ("the Chair") shall be a senior official of the United States Government, whose oversight of

the ILTO shall be added to his or her existing duties. Assignment to the position of ILTO Chair shall be made by the President of the United States, and the Chair shall serve at the pleasure of the President.

(b) The Executive Board shall be appointed by the National Science and Technology Council.

(c) The Executive Director of the ILTO shall provide day-to-day management of the ILTO and shall be appointed by and will report to the Executive Board.

Section 5. Administration. (a) Professional and support staff of the ILTO shall be assigned to the ILTO by the supported Departments and Agencies. The Department of Defense, the Department of Energy, the Department of Labor, the Central Intelligence Agency, and the National Aeronautics and Space Agency shall detail, on a nonrefundable basis, at least one senior level representative to the ILTO. Additional individuals may also be detailed to the ILTO by the Federal agencies mentioned herein or other agencies as needed. Staff of the ILTO shall:

- (1) serve as the project leaders and principal points of contact for their supporting agency's learning technology demonstration program(s);
- (2) coordinate demonstration proposals and plans with the Office of Science and Technology Policy, the Office of Management and Budget, and other Federal agencies as necessary, as well as with the NSTC Committee on Education and Training;
- (3) draft and staff interagency agreements to implement demonstration projects;
- (4) help focus and coordinate related Federal research and development programs with public and private sector organizations.

(b) Initially, the Department of Education shall provide core administrative and financial support for the ILTO.

(c) The ILTO may receive and make use of additional funding from any Federal agency.

Section 6. Future Modification. If any subsequent Public Law (including, but not limited to, an appropriation of funds for the use of the ILTO) deals with the ILTO, those portions of this Executive Order which are not inconsistent with this Public Law shall remain in force.

8/2/95 -- Modify Section 2, Purpose, to read as follows:

Section 2. Purpose. The purpose of the ILTO is to initiate and support focused collaborations of the technology agencies with the Departments of Education *and Labor* to create and demonstrate learning technologies for the 21st century. *It will also encourage the use of technology in all Federal education and training programs.*

TECH CORPS

Vision:

A national, non-profit organization of technology volunteers dedicated to helping improve K-12 education at the grass roots.

Mission:

The mission of Tech Corps is to recruit, place, and support volunteers from the technology community who advise and assist schools in the introduction and integration of new technologies into the educational system. Volunteers provide assistance with local planning, technical support and advice, staff training, mentoring, and classroom interactions. The organization utilizes the abilities of skilled individuals and groups across the country in an effort to prepare students, teachers, and schools for the 21st century.

Mode of Operation:

Tech Corps is a volunteer organization. It is funded principally through corporate sponsorships. It has a small headquarters staff to set the Tech Corps mission and agenda, establish and maintain the culture, provide national media liaison, and ensure quality. The broader organization is based on a bottom-up philosophy and draws on the expertise and enthusiasm of technology-literate members of local communities.

Activities:

Tech Corps volunteers work with the teachers and school administrators in their local communities. They do whatever is necessary to promote the effective use of computing and communications technologies in K-12 education. Thus, their tasks may range from getting local contractors to upgrade the electrical wiring in a school, to installing a local area network, to providing assistance in obtaining computing hardware and networking services, to finding a volunteer systems administrator, to helping with the development of a school's World Wide Web home page, to providing assistance with the development of teaching materials, to mentoring students, teachers, or administrators in the uses of computing and communications technologies. Since the determining factors are local needs, a wide variety of tasks are conceivable.

Draft: 13 August 1995

Tech Corps Rollout:

MAY 95	Begin Tech Corps incorporation and tax exemption
JUNE 95	Tech Corps prototype in six states; Obtain corporate and laboratory assistance in building Tech Corps computing and communications infrastructure
AUGUST 95	Tech Corps home page and mirror sites on the Internet in experimental mode; Refine Tech Corps definition, based on feedback from prototype
SEPTEMBER 95	Presidential announcement of Tech Corps and call for organizers; Initial Tech Corps media release and announcement of Charterers' Conference; Public debut of Tech Corps home page; Pointer from White House home page activated
OCTOBER 95	Charterers' Conference held in Washington, DC
NOVEMBER 95	Tech Corps call to businesses at Comdex (possibly by Vice President); Home page focus shifts to recruiting business participants
JANUARY 96	Tech Corps media release and call for participation by school districts; Home page focus shifts to recruiting school districts
APRIL 96	Tech Corps media release and call for participation by volunteers; Home page focus shifts to recruiting individual volunteers
SEPTEMBER 96	Tech Corps operational

DRAFT: 8/1/95

CHALLENGE GRANTS FOR TECHNOLOGY IN EDUCATION

The Challenge Grants for Technology in Education are designed to build alliances between educators, the private sector, and others to develop a new generation of interactive learning tools. These five-year grants will support partnerships that include at least one school district and other organizations seeking to meet educational goals through the use of technology -- particularly in underserved and urban areas.

The first Challenge Grant competition is currently underway, and 505 applications were received by the June 2, 1995 deadline. Such a large number of applications indicates that the "Challenge" to local school districts, companies, universities, and other organizations to work together to develop new educational solutions involving technology has been very successful. Notable in these applications is strong participation from the private sector, universities, and non-profit organizations:

- Two-thirds of proposals have one or more private companies as partners, with one-third being telecommunications companies.
- More than half of the proposing agencies partner with institutions of higher learning (for a total of 900 colleges and universities).
- Over 300 libraries, 250 museums, and nearly 1000 non-profits are included as partners.
- Proposals have been received from every state.

Funding for Challenge Grants is \$9.5 million in FY 95. These funds will leverage millions more in private sector support and local community involvement in education. The grants are administered by a team led by Thomas Carroll at the Interagency Learning Technology Office. Approximately 10 grants will be awarded in September.

DRAFT: 8/2/95

NATIONAL TECHNOLOGY HONOR SOCIETY

Purpose. The purpose of the NTHS is to (1) provide an organization through which students can help bring computing and communications knowledge and technology into their schools and (2) recognize and reward students who use their technological expertise to serve their schools.

Function. Members will (1) assist teachers, school administrators, and adult volunteers with integration and use of technology in schools; (2) train teachers, school administrators, classmates, and parents in the use of technology in the schools; (3) participate in mentoring programs with middle/elementary schools; (4) serve as computer system administrators for a class or teacher; and (5) perform other functions which serve the goal of increasing/improving the use of technology in education.

National Sponsor. National Association of Secondary School Principals will manage and guide the NTHS, which will be modeled on the National Honor Society (founded in 1926). NASSP will perform the following functions for the NTHS: create and maintain an organizational structure to support the NTHS on a national level; determine and publish guidelines for local chapters; and publicize the NTHS organization in schools. NASSP will also set NTHS membership selection criteria and define a reward structure.

Potential Faculty Sponsors. Computer science, engineering, tech prep, science, physics, and math teachers; media center managers; other faculty with computing expertise and interest.

Parental Involvement. NTHS can work with the PTA to educate parents on the use computers and the Internet in the schools.

Endorsement. The President's Advisor for Science and Technology, John H. Gibbons, has written NASSP in support of the NTHS concept.

DRAFT: 7/31/95

EXECUTIVE ORDER #####
INTERAGENCY LEARNING TECHNOLOGY OFFICE

By the authority vested in me as President by the Constitution and the laws of the United States of America, including _____ (Public Law #####), and in order to establish an interagency learning technology office to bring learning technology to bear on the objectives of education, training, and life-long learning, it is hereby ordered as follows:

Section 1. Establishment. There is established the Interagency Learning Technology Office ("the ILTO").

Section 2. Purpose. The purpose of the ILTO is to initiate and support focused collaborations of the technology agencies with the Department of Education to create and demonstrate learning technologies for the 21st century.

Section 3. Functions. (a) The principal functions of the ILTO are, to the extent permitted by law:

- (1) To initiate and support focused interagency collaborations in the research, development, demonstration, assessment, and dissemination of learning technologies across the Federal government.
- (2) To identify and focus the knowledge and expertise on learning technologies that exist within each of the Federal Departments and Agencies.
- (3) To promote and coordinate public-private sector collaboration, investments, and partnerships for improving learning productivity.
- (4) To serve as a single point of access to the best available learning technologies within the Federal government for state and local governments, private companies, and individual Americans.
- (5) To assist Federal agencies with identifying and using technology in major education and training programs.

(b) The ILTO may, at the discretion of its Director and consistent with FACA requirements, convene advisory panels to assist in the performance of its functions.

Section 4. Direction. (a) The Chair of the Executive Board of the ILTO ("the Chair") shall be a senior official of the United States Government, whose oversight of

the ILTO shall be added to his or her existing duties. Assignment to the position of ILTO Chair shall be made by the President of the United States, and the Chair shall serve at the pleasure of the President.

(b) The Executive Board shall be appointed by the National Science and Technology Council.

(c) The Executive Director of the ILTO shall provide day-to-day management of the ILTO and shall be appointed by and will report to the Executive Board.

Section 5. Administration. (a) Professional and support staff of the ILTO shall be assigned to the ILTO by the supported Departments and Agencies. The Department of Defense, the Department of Energy, the Department of Labor, the Central Intelligence Agency, and the National Aeronautics and Space Agency shall detail, on a nonrefundable basis, at least one senior level representative to the ILTO. Additional individuals may also be detailed to the ILTO by the Federal agencies mentioned herein or other agencies as needed. Staff of the ILTO shall:

- (1) serve as the project leaders and principal points of contact for their supporting agency's learning technology demonstration program(s);
- (2) coordinate demonstration proposals and plans with the Office of Science and Technology Policy, the Office of Management and Budget, and other Federal agencies as necessary, as well as with the NSTC Committee on Education and Training;
- (3) draft and staff interagency agreements to implement demonstration projects;
- (4) help focus and coordinate related Federal research and development programs with public and private sector organizations.

(b) Initially, the Department of Education shall provide core administrative and financial support for the ILTO.

(c) The ILTO may receive and make use of additional funding from any Federal agency.

Section 6. Future Modification. If any subsequent Public Law (including, but not limited to, an appropriation of funds for the use of the ILTO) deals with the ILTO, those portions of this Executive Order which are not inconsistent with this Public Law shall remain in force.

8/2/95 -- Modify Section 2, Purpose, to read as follows:

Section 2. Purpose. The purpose of the ILTO is to initiate and support focused collaborations of the technology agencies with the Departments of Education *and Labor* to create and demonstrate learning technologies for the 21st century. *It will also encourage the use of technology in all Federal education and training programs.*