

# FREQUENTLY ASKED QUESTIONS ABOUT DO IT

## ***Q: What is the Digital Opportunity Investment Trust (DO IT)***

DO IT will do for education and training what the National Institutes of Health do for health and medicine, the National Science Foundation does for science, and DARPA does for national defense. Like NIH, NSF and DARPA, DO IT will be a grant and contract-making entity that stimulates and funds research and development to transform lifelong learning, training, and teaching for the digital age. It will harness the great resources of advanced information technology for use by the nation's schools, libraries, museums, universities, and science and arts institutions. It will develop new learning models and prototypes, coordinate the production and distribution of what works, and help develop standards and establish usage rights. DO IT will serve as a gathering place for the exchange of information among America's private sector companies and entrepreneurs, its brightest researchers and, its most promising leaders in education.

The goal of DO IT is to raise approximately a billion dollars a year for these vital purposes.

## ***Q: Why do we need the DO IT trust fund?***

While the nation spends almost a trillion dollars a year on education and training, we spend \$280 million on educational research, most of it at the Department of Defense. By contrast, the annual budgets for NIH and NSF are \$27 billion and \$5 billion respectively. \$50 million of what is spent on learning research goes through the Department of Education. The rest gets funneled through the Defense Department to DARPA and other programs that research ways of using technology to vastly improve military training. DO IT would ensure that such advances will be used to benefit all citizens of all ages. DO IT would also serve as a coordinating entity for initiatives in various government departments, educational institutions, and in the private sector.

Anyone who has ordered books from Amazon or shopped on E-Bay knows how advanced user recommending systems and personalized shopping have become. The cookies on your daughter's computer probably know as much or more about what she likes and dislikes than her teacher or you do. In this global, knowledge-based economy, we need a catalyst to pull the new information technologies together to help transform learning and training as they have transformed so many other sectors of our economy. We need to ensure coordinated understanding of research results, IT tools, on-going research programs and projects across disciplines in industry, academia, and non-profit centers; to fund high priority R&D with emphasis on development, evaluation, and dissemination; to support multi-disciplinary teams to ensure integration of emerging technologies into education and integration of recommendations of learning scientists into educational practices; to fund private industry, non-profits, library, museum, and academic research teams and to leverage gains from one field to other fields. We also need to fund digitization of the great collections in our libraries and museums, the DNA of our civilization.

## ***Q: What role does the government have in funding educational technology?***

No less a respected free-market conservative Republican than former House Commerce Committee Chairman Thomas Bliley (R-VA) stated succinctly in an article for the Hill newspaper: "Such are the rightful investments of government: to do collectively these things that cannot, or will not, be done privately, but that nonetheless must be done. If there was a reasonable profit to be made in life long learning over the Internet, there'd be no need for DO IT; in its absence, Congress and the White House must act and soon."

**Q: *How will the Trust be funded?***

The DO IT legislation proposes that a percentage of the funds received from auctions of the publicly owned telecommunications spectrum between the years 2008 and 2028 be placed in a special account within the Treasury. The interest generated by this fund would be used to fund the activities of DO IT on an annual basis. The corpus will always remain within the Treasury.

**Q. *Why do we need research and development for education? Aren't our problems with the basics: reading, writing arithmetic?***

Technology has transformed every aspect of our lives EXCEPT education. If a person woke up from a hundred-year sleep in any office place today, he or she would be unable, without training, to function with the level of technology fully integrated into almost every aspect of our work lives from communication technology, to data manipulation and storage to assembly and manufacturing using digital technology. If that same "Rip Van Winkle" woke up in almost any classroom today, there would be almost no level of discomfort – it is practically the same except for a few computers sitting in the room. Technology has transformed the way we practice medicine, the way we do commerce, the way we travel, the way we fight wars. That same level of transformation must occur in teaching and learning if we are to continue to be the world leader we are today.

**Q: *Why do we need a new entity like DO IT – isn't this already being done at the Department of Education?***

DO IT's core mission has two principal parts: 1) research and development of advanced technology applications for training and learning and 2) digitization of our nation's cultural and educational DNA. There is no work on digitization being done at the Department of Education. The research and development for learning and job training currently undertaken by the federal government is, according to all major studies and groups across the political spectrum, woefully inadequate; severely under-funded with sporadic initiatives spread across a number of agencies with no central leadership, coordination or evaluation mechanism. DOE is funding operations using presently available technologies; DO IT will concentrate on the funding and testing of new technologies and new and innovative ways of using information technology to assist learning.

Continuing the analogy with the NIH – we have in our government both the NIH and the FDA – the FDA is designed to work with current developments and products, the NIH is designed to fund and drive research for new developments and advances. In the same way, the Department of Education is focused on the "front lines" of education today serving teachers, administrators and communities engaged in current federal education programs. DO IT will complement the work done by the Departments of Education, Labor and Commerce by driving innovation and research that will inform the programs these agencies will oversee tomorrow.

**Q: *Give us some examples of the types of programs DO IT would fund and why they are important.***

DO IT would fund proposals that explore

- Adapting tools that have been highly developed in gaming technology for learning. For example, the development of a game that would help ninth graders understand the immune system and the effects of foreign elements in its functioning.
- Embedding evaluation, testing, and diagnostic technology in software: Most programs could be adapted so that a constant assessment of learning is taking place.

- Customizing learning for individual children and workers: A game could be developed that would identify the learning styles of the individual so that material can be adjusted by the teacher to that style.
- Developing virtual learning environments: A virtual reality of Ancient Baghdad would show today's students, here and there, the proud and glorious history of the Mesopotamian Valley.
- Using haptic (touch) technology for training of workers, medical assistants as well as the learning challenged. Already being developed for some medical procedures the principles could be adapted for manufacturing and other job retraining.

But, most importantly, DO IT will fund research for developments that we cannot fully imagine today. Just as the NSF was created to ensure that American intellectual muscle was given the greatest opportunity for scientific achievement on the eve of the Cold War, today, in a globally interdependent information-driven world DO IT will ensure that American citizens will have the educational foundation to remain political and economic leaders in the 21<sup>st</sup> Century.

**Q: *Wouldn't a large government initiative compete with the private sector?***

DO IT will act as a *partner* of, and stimulus for the private sector, not a competitor. It will expand the reach of privately-funded research and development well beyond anything possible today – and *share* the fruits of that research with the public, so private sector entrepreneurs will develop commercial applications for DO IT funded prototypes. As the Congressionally mandated report that informs the DO IT legislation says: “Although underlying content would be in the public domain, commercial firms will have the ability to make enhancements to the content, develop future alterations, and provide distribution and customer support.”

**Q: *DO IT projects a trust of \$20 billion – a lot of money. Shouldn't these funds go for other pressing needs, like funding for the schools directly, or for national security or reducing the deficit?***

Only the *interest* on \$20 billion, a sum closer to \$1.5 billion a year, will be expended. Based on today's rate of federal spending, these funds would be expended by the federal government in *8 hours*. Instead, DO IT offers us the opportunity to *endow America's future*, improving the learning productivity of *all* Americans in what will be the *best security investment our nation could ever make*.

The President's Information Technology Advisory Committee (PITAC) reported in 2001 that we spend \$300 billion a year on public K-12 education, of which a mere \$100 million is allocated to R&D, a grossly inadequate .03 percent ratio, far below the average spent on R&D in this country by every other key industry.

As for national security, we became the world's sole superpower by utilizing advanced technology to equip and train our armed forces; so too we must now endow our nation's *first responders* to protect us at home. If we are to remain competitive in the world economy, then we must now *retrain* and *re-tool* our *workforce* for the careers of tomorrow. And if we are to preserve our quality of life, we can no longer afford to let our *children* fall behind their competitors in other nations in the areas of mathematics, science and technology. That is what DO IT is all about.

**Q: *Are other countries, our competitor nations, investing in the work that will be done by DO IT?***

Yes. Sweden is one of the most highly ranked for e-readiness and countries as diverse as South Korea and Brazil are investing heavily in technology and learning. While the Chinese are committed to leading the world, other nations are also pursuing, coordinating, and financing national-level plans to transform their respective nations into highly IT literate countries. Incentive programs like Singapore's ICT21 Masterplan and a multi-billion pound sterling fund in the UK have been established up to explore these questions and set policy for the most effective ways to develop a competitive knowledge economy.

**Q: *How will DO IT affect life long learning and how will that help our senior citizens and our economy?***

The Social Security Administration projects that by the year 2030 there will be twice the number of people over the age of 65 as there are today—a whopping 70 million Americans. If all of these citizens were to retire at 65, the economic burden to the government would be enormous. DO IT would help fund advances in training and utilization of technology in libraries, museums and community learning centers that would give seniors the tools to remain productive and contributing members of society and the economy for many years beyond general retirement.

**Q: *Can we afford not to fund DO IT?***

In his acceptance speech at the Convention, President Bush told us: “The times in which we work and live are changing dramatically...This changed world can be a time of great opportunity for all Americans to earn a better living, support your family, and have a rewarding career. And government must take your side.”

He continued: “Many of our most fundamental systems -- the tax code, health coverage, pension plans, worker training -- were created for the world of yesterday, not tomorrow. We will transform these systems so that all citizens are equipped, prepared, and thus truly free to make your own choices and pursue your own dreams.”

Prominent in that list of those saddled with out-moded methods is our education system. DO IT is designed to meet the President's goal of transforming our systems, in this case, of learning and training, so that our citizens are equipped and prepared to be leaders in the 21<sup>st</sup> Century.

By 2006, nearly half of all U.S. workers will be employed in industries that produce or use information technology products and services, according to the U.S. Department of Commerce. A recent Hudson Institute study found that sixty percent of all future jobs will require skills that only thirty percent of today's workers possess.

**Q. *Has Congress previously looked at this challenge?***

Congress has studied this problem time and again. We have been given the strongest recommendation to initiate a national entity like DO IT from:

- \* The U.S. Commission on National Security chaired by Senators Hart and Rudman
- \* The Glenn Commission Report *Before It's Too Late*
- \* The Congressional Web-Based Education Commission Report
- \* President George W. Bush's Information Technology Advisory Committee