

Wariness of U.S. tech lag on the rise

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In order to successfully compete with other nations in the 21st century, the United States must integrate the advancements of technology in to all public institutions, according to experts.

"Technology is transforming society; at first it left public interest institutions in the dust, but now that's changing," said Henry Kelly, president of the Federation of American Scientists, who spoke at a conference hosted by the New America Foundation on Capitol Hill to coincide with the House "Innovation Week" this week.

Kelly noted that while education is considered a conservative institution, people are waking up to the possibilities of technology in advancing public institutions, acknowledging major support of virtually every national institution.

According to experts taking part in the discussions, the changes that technological advancements will bring will allow for a wider range of people to gain greater educational information.

The possible advancements are a digital opportunity that would better the entire nation, said Dexter Fletcher, senior researcher for the Institute for Defense Analyses, an organization that provides research to the U.S. Department of Defense.

"Acquiring the best technology for learning is not a problem but a challenge, it is an opportunity to excel," Fletcher said.

Speakers agreed with Fletcher that the technology of computers provides the value of instruction, education and training to any individual any time, anywhere.

And technology is beneficial because it is personal, highly interactive and available at all times, Kelly added.

Furthermore, educational programs on computers are re-usable, durable, and don't stop working, Fletcher also said.

In addition, panel speakers placed a particularly large emphasis on how children could benefit educationally from the advancement of technology.

According to Michael Calabrese, director of the Wireless Future program at the New America Foundation, kids are already spending six hours a day on electronic media. This is the type of interaction they have become accustomed to and that should therefore be utilized, he said.

In order to instigate such changes, Congress is working to pass the Digital Opportunity Investment Trust (DO-IT) legislation, which would increase federal leadership and investment in advanced learning technologies.

To date, three DO-IT prototypes are being developed for educational advancement. Immune Attack, for example, is an educational video game that teaches about human immunology.

There is an urgent need for launching programs like DO-IT in the United States right now, emphasized Calabrese.

Rayne Guilford, deputy director of Digital Promise who hopes to see the legislation passed during the current session, likened the goals of DO-IT

to the Northwest Ordinance and the GI Bill.

Digital Promise is a non-profit aimed at keeping public institutions in tune with the digital age.

"Once a century, Congress makes a major investment in transforming training and education," Guilford said. "The Digital Promise is the 21st century equivalent of the GI bill."

And these goals cannot be realized unless Congress steps up to the plate and gives America these new revolutionary tools, Guilford added.

At this point no commercial market exists for the advancement of projects such as DO-IT.

But while there are plenty of ways to improve learning, cost remains an issue, since private corporations cannot provide enough funding alone to support DO-IT.

Yet another problem is the constant increase in what we need to know and the number of people that need to know it, Kelly said.

Moreover, Calabrese added that since Americans and their backgrounds are diverse, the only way to provide huge complex training to a huge complex body is through technology.

"How we teach is as important as what we teach," said Anne Murphy, project director of Digital Promise.

And for Marland Buckner, senior federal affairs manager for Microsoft Corporation, including teachers along with students in the advancement of the DO-IT project has proved critical for the advocates of innovation.

"These new technological resources are designed to drive innovation at the highest level, not just for the elite but for everyone," said Buckner, who also said that getting feedback from students and teachers was key.

And while the technology will not replace teachers, it does have capabilities that teachers do not, speakers said.

Providing data showing how much more effectively one can learn in a one-on-one setting vs. a classroom setting, Fletcher said computers were similar to tutors in terms of the sequence, content, style, difficulty and pace of computers allowing for high interactivity.

"Computers and technology make tutoring affordable," Fletcher said. "Despite advancements made, much more research still needs to be done."

Embracing the digital opportunities provided will improve learning, if done right, and will provide easy access to training, education, and performance, Fletcher added.

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