

# FOIA MARKER

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**Collection/Record Group:** Clinton Presidential Records

**Subgroup/Office of Origin:** Speechwriting

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**Subseries:**

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**OA/ID Number:** 18672

**FolderID:**

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**Folder Title:**

Commencement 6/5/98 - Computer Literacy

**Stack:**

**S**

**Row:**

**91**

**Section:**

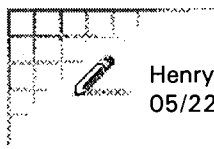
**6**

**Shelf:**

**8**

**Position:**

**1**



Henry C. Kelly  
05/22/98 08:23:55 AM

Record Type: Record

To: Thomas A. Kalil/OPD/EOP  
cc: See the distribution list at the bottom of this message  
Subject: Re: Decision memo to POTUS on MIT speech

I guess we disagree on this one. If the President is going for an innovation in curricula this is emphatically not the one I'd pick. My impression is that schools are already burdened with a lot of required distractions from core subjects. If I were to add something to the curriculum, this would not be high on my list.

- The characteristics on the list for "IT literacy" are in fact the characteristics of clear thinking and effective learning using any media. Kids are probably not leaving school with adequate skills in these areas but focusing on IT skills seems to me to be a gimmick which could divert from the core problem
- The goal of "Use technology effectively as a tool for learning in core academic subjects" is not an IT literacy goal but a goal for the education community to develop and use effective software and purchase needed hardware. The goal should be to develop innovations which lead to improved grasp of the underlying subjects using all means necessary. The burden is on the IT community to develop and prove that technology based instruction is in fact a wonderful addition to instruction -- you know I'm convinced it is.
- I can almost guarantee that the basic tools of communication using IT will change beyond recognition during the next 5 years. Right now the most important skill in using IT is knowing how to write clearly and quickly on a keyboard. The clear writing part is the enduring skill. The information age will put special burdens on basic skills in mathematics, science, and both conventional and unconventional communication skills. An ability to communicate using graphics, sound recordings, etc. will become part of the conventional cannon of communication -- assignments are already asking for delivery in the form of interactive web pages. If there's a new goal it should be built around expanding communication skills broadly.
- My obsession here is that an effective IT world is invisible. We IT junkies succeed if people don't even think they're using computers but are thinking about music, history, etc. If people feel that they are translating their interests into a special language needed by a computer we have failed.
- Its also ironic that we're trying to get adults who are marginally computer literate to provide skills to kids who are almost certainly more literate in the management of the new tools than they are. The kinds in my childrens' schools are teaching the teachers about IT.

Message Copied To:

Michael Cohen/OPD/EOP  
Jonathan H. Schnur/OPD/EOP  
jim kohlenberger/ovp @ ovp  
Barbara Chow/OMB/EOP  
Jeffrey M. Smith/OSTP/EOP  
Lowell A. Weiss/WHO/EOP  
Jeffrey A. Shesol/WHO/EOP

**Summary:** We believe that you should use the MIT commencement address to set a national goal of universal information technology literacy as a requirement for high school graduation. We think there is a strong case to be made that this is a "new basic." To be full participants in the information economy and information society - our children need to be able to use information technology to acquire and synthesize information, prepare for a life-time of learning, and collaborate in the technology-intensive workplace of the 21st century. Information technology can also be a powerful tool for teaching and learning in all academic subjects.

As of 1996, 10 states have already established some sort of requirement in this area. We do not believe this should be a top down, federal mandate. We do you think that you have an opportunity to encourage states and localities to move in this direction.

Your vision of universal IT literacy needs to be broader than the traditional definition of "computer literacy" - which has tended to focus on the basic skills required to use a computer and a few computer programs, such as a word processor or a spreadsheet. This is necessary but not sufficient. For example, students need to be able to effectively use information technology to locate, extract, and synthesize information from multiple sources. They need to be able to use information technology to learn and express key concepts in all academic subjects - such as math and science. We are still trying to determine whether the phrase "information technology literacy" captures this broader concept.

#### **Why should you call for universal IT literacy?**

1. **Information technology can be a powerful tool for teaching and learning in all academic subjects**

IT literacy is not just an end in itself. The rationale for your Educational Technology Initiative is that information technology can be a powerful tool for teaching and learning across the curriculum. Students who are IT literate and who have access to technology are able to:

- Engage in project-based learning - such as collecting and sharing environmental information with students and scientists all over the world;
- Conduct research using primary material;
- Learn at their own pace, and get immediate feedback on whether they understand a new concept by using interactive courseware.

2. **Many high-wage jobs now require IT skills:**

- There is already a 10-15 percent wage premium for people who know how to use computers as compared to those who don't.
- Jobs in the information technology sector pay \$48,000 per year, as compared to a private sector average of \$28,000.
- Information technology is increasingly pervasive in all industries. Many firms are using information technology to customize products and services, forge closer relationships with customers and suppliers, and slash the time required to develop new products. A machinist, for example, may need to know how to operate a programmable machine tool.
- Although there is some debate about the exact numbers, many high-tech companies report that they cannot hire enough workers with IT skills, and that this is their number one constraint on growth.

3. **Being IT-literate will allow people to be full participants in the emerging Information Society:**

Information technologies are becoming so pervasive that people who are IT-literate will have more opportunities and will be able to make better choices -- as workers, parents, voters, consumers, owners of small business, and members of local communities.

People who are IT-literate are able to:

- Be better consumers of health care by finding out what others are saying about the quality of care they are receiving from HMOs or individual physicians;
- Track the voting record of their member of Congress on issues they care about -- or get more information on a policy issue than the 30 second soundbite on the evening news;
- Tap in to an EPA database to find out what corporations are dumping toxic substances into the local environment;
- Work from home - or use the Internet to sell the products and services of their own small business;
- Log on to the web site of their local school to find out what homework their children are supposed to be doing, communicate more frequently with their children's teachers, and compare how their school is doing relative to other schools;
- Use "intelligent agents" to get the best price on a new car or a family vacation;

- Acquire a new skill to compete for a higher-wage job by participating in a “virtual university”; and
- Learn and adapt to future waves of technological innovation.

#### **Proposed Administration “vision” for universal IT literacy**

- States should have establish universal IT literacy as a requirement for high school graduation. Students should be encouraged to become IT literate at a much earlier age -- but certainly by the time that they graduate from high school.
- This is a “new basic” - but it clearly rests on a foundation of other basic skills. Obviously, knowing to send e-mail or browse the Web is worthless without knowing how to read and write effectively.
- Being IT literate is about more than knowing how to turn on a computer and use a few computer programs. It requires demonstrating the ability to:
  - Use technology effectively as a tool for learning in core academic subjects;
  - Locate and synthesize information from multiple sources;
  - Communicate and present information effectively using electronic media; and
  - Collaborate in teams using information technology.
- The National Academy of Sciences should convene experts in industry and education to develop a consensus on:
  - The need for universal IT literacy;
  - A definition of the core IT skills that every high school graduate should have;
  - More demanding requirements for students that want to pursue a career in IT;
  - How students can demonstrate that they have these skills; and
  - A mechanism for updating the definition -- given the rapid pace of technological change.

[The National Academy already has some work underway on “What Everyone Should Know About Information Technology” that could serve as the basis for this work.]

## Discussion

### **Pros**

- Universal IT literacy is clearly an important national goal. Achieving this goal will help students improve their academic performance, prepare them for the workplace of the 21st century, and enable them to be full participants in the emerging Information Society.
- A number of states have already adopted different technology requirements for high school graduation -- and your advocacy could encourage more states to do so.
- Even those parents who have a sense that technology has passed them by definitely want their children to participate in the Information Revolution.

### **Cons**

- It may be difficult to communicate that the Administration is promoting something that goes beyond the traditional, narrow definition of "computer literacy."
- The proposal could get caught up in the politics of the national standards debate.

Draft May 21, 1998

MEMORANDUM FOR THE PRESIDENT

FROM:

RE: MIT COMMENCEMENT ADDRESS -- UNIVERSAL INFORMATION  
TECHNOLOGY LITERACY

**Summary:** We believe that you should use the MIT commencement address to set a national goal of universal information technology literacy as a requirement for high school graduation. We think there is a strong case to be made that this is a "new basic." To be full participants in the information economy and information society - our children need to be able to use information technology to acquire and synthesize information, prepare for a life-time of learning, and collaborate in the technology-intensive workplace of the 21st century. Information technology can also be a powerful tool for teaching and learning in all academic subjects.

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- Although there is some debate about the exact numbers, many high-tech companies report that they cannot hire enough workers with IT skills, and that this is their number one constraint on growth.

*↳ what do they mean by it?*

**3. Being IT-literate will allow people to be full participants in the emerging Information Society:**

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### **Views of your advisors**