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About INFOBITS

Infobits is an electronic service of the Institute for Academic Technology's Information Resources Group. Each month we monitor and select from a number of information technology and instruction technology sources that come to our attention and provide brief notes for electronic dissemination to educators.

[Collaboratories -- Doing Science in a Virtual Lab](#)
[Finding Experts/Colleagues Online](#)
[College Education Key to Office Workers' Success](#)
[Universal Access to Technology in Education](#)
[Interview with Cyberspace Pioneer](#)
[Metadata Project Holds Promise](#)

COLLABORATORIES -- DOING SCIENCE IN A VIRTUAL LAB

A collaboratory, a term coined in 1989 by computer scientist William Wulf, is a "center without walls" allowing users to "perform their research without regard to geographical location-interacting with colleagues, accessing instrumentation, sharing data and computational resources, [and] accessing information in digital libraries." In "The Virtues (and Vices) of Virtual Colleagues" (*Technology Review*, vol. 101, no. 2, March/April 1998, pp. 52-59), Nancy Ross-Flanigan explores the benefits derived when scientists can run experiments using remote connections to data gathering instruments, can have shared access to research results, and can communicate online with colleagues and mentors. Ross-Flanigan points out that there are some downsides to working in an electronic environment: lack of trust, difficulty in team building, increased information overload. [See also "Balkanization of the Global Village," *IAT Infobits*, December 1996, No. 42, <http://www.iat.unc.edu/infobits/bitdec96.html#4>]

Collaboratories have been set up to help institutions with limited resources partner with major research universities to share expensive equipment. Some collaboratories allow scientists to mentor individual students or provide expert advice to K-12 classrooms.

The complete article and links to the collaboratory projects described in the article are available on the Web at <http://web.mit.edu/techreview/www/articles/ma98/ross-flanigan.html>

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 Annual subscriptions are available for \$19.95 (U.S.); \$25.95 (Canada); \$37.95 (foreign air delivery to all other countries).

FINDING EXPERTS/COLLEAGUES ONLINE

Collaboratories are not the only virtual communities where thinkers and researchers congregate. Founded in 1988, the non-profit Edge Foundation, Inc., was established "to arrive at the edge of the world's knowledge, seek out the most

complex and sophisticated minds, put them in a room together, and have them ask each other the questions they are asking themselves." To eavesdrop on the latest Edge conversations, check out their Web site at <http://www.edge.org/>

Want to start online dialogue with others in your field but don't know how to contact them? Locating email addresses for others in academe can be a time-consuming, frustrating task, despite the proliferation of email address directories available on the Web. (See <http://www.unc.edu/cit/guides/irg-08.html#2> for examples of directories.) Many higher education institutions now provide online faculty directories that include email addresses. To locate schools that have a Web presence, try Christina DeMello's extensive list of college and university Web pages. The list has not been updated recently, nevertheless, with over 3,000 entries from around the world, it is the most comprehensive list of its kind.

Alphabetical listing: <http://www.mit.edu:8001/people/cdemello/univ.html>

Geographical listing: <http://www.mit.edu:8001/people/cdemello/geog.html>

COLLEGE EDUCATION KEY TO OFFICE WORKERS' SUCCESS

A recent study by the Educational Testing Service (ETS) refutes the conventional image of a future American workforce divided into two groups: high-paying, high-technology jobs and low-paying, low-skilled jobs. The study found that in the 1990s office workers make up 41 percent of the U.S. workforce and account for 50 percent of all earnings. Anthony Carnevale and Stephen Rose, co-authors of the study's report, "Education for What? The New Office Economy," found that the "office sector . . . is the main source of new jobs, and that these jobs pay the highest." The study also confirms that college education is a key factor in securing a place in the growing office economy: between 1959 and 1995, 75 percent of college-educated workers held the high-paying elite professional and managerial jobs that promise greater job growth and earnings potential.

A brief summary of the report is available on the Web at <http://www.ets.org/aboutets/officecon.html>

Free copies of the report are available from ETS, Communications Services, MS 50-D, Rosedale Road, Princeton, NJ 08541 USA; tel: 609-734-5050.

ETS is the world's largest private educational measurement institution. The non-profit organization develops and administers achievement, occupational and admission tests, such as the SAT for the College Board. For more information, contact Corporate Headquarters, Educational Testing Service, Rosedale Road, Princeton, NJ 08541 USA; tel: 609-921-9000; fax: 609-734-5410; email: etsinfo@ets.org; Web: <http://www.ets.org/>

UNIVERSAL ACCESS TO TECHNOLOGY IN EDUCATION

Recent articles and reports stress that universal access to technology in schools is vital for preparing students for future challenges in the workplace and society. In "Creating a Level Playing Field for Campus Computing: Universal Access" (*Syllabus*, vol. 11, no. 6, February 1998, pp. 12, 14, 29, 44), Glen McCandless describes universal access in higher education and outlines the major issues that are preventing the realization of it: who pays, its impact on student enrollments, faculty resistance to change, and the freedom from imposed standards in academe. An excerpt from the article is available on the Web at http://www.syllabus.com/feb98_mag.html

In the CEO Forum's "School Technology and Readiness (StaR) Report: From Pillars to Progress" it was reported that "while 3% of American schools [of the 80,000 public schools surveyed] are effectively using technology in the classroom, almost 60% of America's schools have inadequate and outdated technology." Using the "Four Pillars" of education and technology outlined by the Clinton/Gore administration (hardware, connectivity, digital content, and professional development), the CEO Forum created an assessment tool (School Technology and Readiness Chart) for school leaders to "gauge whether their school is preparing its students for the 21st century." Copies of the report can be obtained from the CEO Forum by calling 202-393-1010.

The complete report is also available on the Web at <http://www.ceoforum.org/report97/> [HTML format] and <http://www.ceoforum.org/report97/report97.pdf> [PDF format].

The CEO Forum on Education and Technology was founded in the Fall of 1996 to "help ensure that America's schools

effectively prepare all students to be contributing citizens and productive workers in the 21st Century. To meet this objective, the Forum will issue an annual assessment of the nation's progress toward integrating technology into American classrooms through the year 2000." For more information, contact: The CEO Forum on Education and Technology, 1001 G Street, NW, Suite 900 East, Washington, DC 20001 USA; tel: 202-393-2260; fax: 202-393-0712; email: ceoforum@itstrategies.com; Web: <http://www.ceoforum.org/>

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INTERVIEW WITH CYBERSPACE PIONEER

Asked about the use of computers in the classroom, John Perry Barlow said, "We need to change our pedagogical model to one that enhances students' opportunities to get out and really experience things." As co-founder of the Electronic Frontier Foundation, Barlow is no enemy of technology, but has strong opinions on the appropriate applications of it in learning and training in schools and in the corporate sector. An interview Barlow granted, after delivering a speech at the 1997 Educom conference, is recorded in "A Confederacy of Apprentices" (*Training*, vol. 35, no. 1, January 1998, pp. 44-48, 50). The full text of the article is available this month on the Web at <http://www.trainingsupersite.com/publications/magazines/training/article1.htm>

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Annual subscriptions are available for \$79 (U.S.); \$89 (Canada); \$100 (all other countries).

METADATA PROJECT HOLDS PROMISE

According to Elliot Soloway, in "No One Is Making Money in Educational Software" (*Communications of the ACM*, vol. 41, no. 2, February 1998, pp. 11-15), finding educationally appropriate materials is a "classic time-consuming, hit-or-miss activity for teachers." He points out that the metadata system developed as part of Educom's Instructional Management Systems (IMS) initiative [<http://www.imsproject.org/>] holds great promise for solving this problem with regard to Web-based materials. Metadata is "data about data" which "allows the user to locate, evaluate, access, and manage online available learning resources." The University of North Carolina at Chapel Hill is a member of the IMS initiative, and Dr. Thomas Wason, IAT Director of Research and Evaluation, is in charge of the IMS Metadata project. For more information on the Metadata project, see the project's homepage at <http://www.imsproject.org/metadata/index.html> and Dr. Wason's papers in the IAT's technical publications area at <http://www.iat.unc.edu/publications/tech.html>

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URL: <http://www.unc.edu/cit/infobits/bitfeb98.html>

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