Bibliography II: Resources and Models

K-12: Innovative Schools

Argyle Magnet School for Information Technology   Silver Spring, Maryland, http://www.mcps.k12.md.us/schools/argylems. At Argyle Middle School, all students must take a comprehensive technology course each year, earning them a national technology certification. However, students may choose to take a second strand of elective courses that focuses on either programming or digital media. The digital media program, in particular, encourages students to work in teams to develop, market, and create video games, digital music, and digital art. Students are taught to solve problems and explore new information with technological tools available in their Instructional Media Center.

Arthur F. Smith Middle Magnet School   Alexandria, Louisiana, http://www.rapides.k12.la.us/smithjr. At the Arthur F. Smith Middle Magnet School, students learn and gain professional training through a curriculum with an emphasis on communication arts. The program was the first in Louisiana to offer middle-school students the opportunity to learn animation and digital editing using current media industry standards. Students work throughout their time at Arthur F. Smith to build a digital and printed portfolio, acquiring cutting-edge technology skills in the process. The goal of this project is to allow students to experience the power of media communication and to give them an opportunity to develop their creative potential. Teachers at Arthur F. Smith are organized into cross-curricular teams, and they coordinate

interdisciplinary and technology-enhanced lessons and projects in such a way that the students become active participants in the learning process.

Beacon School   New York, New York, http://www.beaconschool.org. The Beacon School was founded in 1993 by teachers from the Computer School (see below) who wanted to create a high school based on the same principles of technological knowledge and global awareness. The school is located in a converted warehouse that has been retrofitted to accommodate an impressive array of technologies. Beacon prides itself on its extensive use of the Internet: All teachers and students have their own email addresses, and many have created personal Web sites. However, this focus on electronic communication has not left students without avenues for personal contact and collaboration. For example, each year they must demonstrate their mastery of the curriculum by presenting independent research projects to a panel of teachers. In developing these projects, students are encouraged to make use of the school's many high-tech labs and resources. Another popular program is the annual film festival in which students share and critique each other's digital media projects.

Brooks Global Studies Extended Year Magnet School   Greensboro, North Carolina, http://schoolcenter.gcsnc.com/education/school/school.php ?sectionid=6952. At Brooks, they believe that rapid improvements in technology and communications have made it essential for today's young people to learn about the world and human cultures. Thus, the focus of the school is global literacy, with a commitment to collaborative learning and technology. The global studies program emphasizes the five major geography themes developed by the National Geographic Society: location (exactly where on the earth's surface places are found); place (the physical and human characteristics of specific places that set them apart from others); relationships within places (how humans interact with their environment); movement (how people, products, information, and ideas within and among countries change); and regions (how regions form and develop).

Center for Advanced Technologies, Lakewood High School   St. Petersburg, Florida, http://www.cat.pinellas.k12.fl.us/Default.aspx. The Center for Advanced Technologies is a public school magnet program housed within Lakewood High School. The program opened in 1990 and

moved into its own building in 1991. Each year, students attending Lakewood must apply for one of the approximately 150 places in the selective CAT program. Aside from small class sizes and a team of highly trained teachers, the CAT program offers its students access to multimedia labs, computer workstations, and a fully equipped television studio where a daily live television show and weekly newsmagazine are produced for the local FOX network affiliate.

The Computer School   New York, New York, http://www.thecomputer school.org/index.php. This middle school was founded in 1983 as a result of a grant from the developers of the Logo program at MIT. Although computer programming and technology have left Logo's green turtle far behind, the Computer School continues to focus on its original mission: to educate children to become technologically aware and to understand the power of the computer and related technology to access information and resources spread throughout the global community. In order to reach these goals, technology is integrated into all aspects of the curriculum and school life. The results are, ideally, well-rounded students who are able to express themselves clearly and coherently through a variety of technology and media.

Denali Borough School District Alaska, http://denali.ak.schoolweb pages.com/education/district/district.php?sectionid=1. Beginning in the fall of 2004, laptops were distributed to all sixth- to twelfth-grade students and teachers in the remote Denali Borough School District. Unlike many such programs, which often fail to see desired results due to the privileging of equipment over more fundamental change, the Denali Borough is committed to accompanying the laptops with a long-term revision of the curriculum and a new approach to learning. This program has created a classroom environment in which students take on greater responsibility for their own education and work together with their teachers to learn new skills and ways of approaching problems. The traditional classroom structure and environment has been replaced by a project-based curriculum in which students use networked programs to create digital research projects, electronic drop-boxes to turn in assignments, and school servers to store their work. In the years since the program was initiated, academic performance has increased, and discipline referrals have decreased. The borough's home-schooled students were also the only group in the

state to meet the national AYP (Adequate Yearly Progress) standard. The mission of the project is as follows: The Denali Borough School District, with proactive student, parent, and community involvement, provides a nurturing, diverse, quality education that empowers students, promotes lifelong learning, and produces conscious locally involved citizens.

Francis Scott Key Technology Magnet School Baltimore, MD, http://www.fsk.org/school/index.html. At Francis Scott Key, technology is integrated into instruction to create a curriculum that is able to adapt to a very diverse population, including developmentally delayed and ESOL students. For example, tools such as Smart-Boards and the Opass (an interpretive device) are used to enhance the learning environment for these students. Teachers and students also engage in learning activities in a Distance Learning Lab, in which the walls of the classroom are literally and figuratively broken down to encourage collaborative telecommunication activities with other students and teachers across the country.

Frost Lake Magnet School of Technology and Global Studies St. Paul, Minnesota, http://frost.spps.org. Frost Lake is a K-6 (including a full-day kindergarten program) school in which students use a variety of technology tools to explore the theme of global studies. It calls itself a school that is "technology infused, globally based, and literacy focused." What makes Frost Lake unique is its small class size (no more than 22 students in grades K-4) and an emphasis on collaborative instruction and the use of technology to enhance and support teaching and learning in every classroom.

Quest to Learn School   New York, New York, http://www.instituteofplay.com/node/114. Slated to open in fall 2009, this gaming school is a joint venture between the Gamelab Institute of Play and the nonprofit organization New Visions for Public Schools. This innovative middle and high school redefines the learning paradigm and actively seeks to change the way institutions of learning are conceived of and built by blurring the traditional line between learning and play. It aims to prepare students for a digitally mediated future through a curriculum structured around the creation and execution of alternate reality games. The project will also act as a demonstration and research site for

alternative trends in education funded, in part, by the MacArthur Foundation Digital Media and Learning Initiative.

Gary & Jerri-Ann Jacobs High Tech High School   San Diego (Point Loma), California, http://www.hightechhigh.org. Housed in a converted naval training warehouse, High Tech High School (HTHS) makes maximum use of an open floor plan, high ceilings, and low central walls to encourage students and teachers to interact more freely. Students learn in specialized labs equipped with computer workstations as opposed to traditional classrooms. This redefinition of conventional notions of face-to-face interactions within institutional learning spaces supports an integrated project-based curriculum in which digital portfolios and internships are part of the curriculum. The goal of this publicly funded charter high school is to provide its approximately 400 students (drawn from the ethnically diverse surrounding urban community) with the technical experience, academic excellence, and leadership skills that will allow them to succeed in today's high-tech industries. The school was originally conceived by a coalition of San Diego business leaders and educators who founded HTH Learning, a private nonprofit organization, to oversee the development and construction of the school. Since it was first authorized as a single-charter high school in 2000, HTHS has expanded significantly and is now part of a family of seven K-12 schools. The HTHS network does not believe in centralized management for its member schools but instead gives them the freedom to maneuver within the original set of design principles, thereby allowing them to continually adapt to local circumstances. The network has received significant funding from the Bill and Melinda Gates Foundation.

High School of Telecommunication Arts and Technology   Brooklyn, New York, http://www.hstat.org/main.asp. High School of Telecommunication Arts and Technology is dedicated to the integration of an interdisciplinary curriculum with the creation and modification of online content. It is the only high school in New York City to have its own Web server and to teach every student HTML. Among the school's high-tech offerings is a course specifically dedicated to creating and maintaining the school's Web site and a fully equipped television studio.

Johnson Street Global Studies K-8 Extended Year Magnet School   High Point, North Carolina, http://schoolcenter.gcsnc.com/education/school/school.php?sectionid=7019. Johnson Street Global Studies Magnet School originated as an elementary school and expanded to include a pre-kindergarten and middle-school program in July 2006. The Global Studies theme provides an environment in which students learn about global issues and the relationships and interdependence among peoples and nations. Beginning in kindergarten, students study two different countries each year, and, by the end of eighth grade, they have covered topics such as the economics, education, environmental conditions, cultures, and technologies of countries on each of the seven continents.

Jonas Salk Middle School   Sacramento, California, http://www.jsms.com. The Jonas Salk Middle School has achieved a complete turnaround in student and teacher commitment to learning through the implementation of a technology-infused curriculum. With the help of funding and technology support from Apple Computers, the school now organizes its days around the creation and execution of collaborative assignments. One of the most popular of these programs is the daily newscast, which is almost entirely student produced and stresses innovation through digital storytelling. The school has found, not surprisingly, that when students were encouraged to share their work with their peers via online networking the turn-in rate rose to nearly 100 percent.

Kellman Corporate Community School   Chicago, Illinois. Kellman Corporate Community School was founded in 1988 by Chicago businessman Joseph Kellman. Kellman wanted to create a school in which business concepts were integrated into the educational environment. As in a well-run business, teachers and students are expected to meet frequently, exchange ideas, and collaborate. Although the school is public, the Kellman Family Foundation funds an extra hour of class Monday through Thursday. These "banked" hours allow the students to leave school at noon on Fridays, giving teachers the rest of the afternoon for professional development. Due to its location in one of Chicago's poorest African-American neighborhoods, the school's largest obstacle was finding a way to give its students equal access to technology and media. Thus, Kellman seeks to level the playing field and

bridge the digital gap by giving each student in fourth through eighth grades a wireless laptop. As an added bonus, each graduating eighth-grader also receives the gift of a laptop to take to high school (the computers used during the previous years were leased).

New Technology High School Napa, California, http://www.newtech high.org/Website2007/index.html. New Technology High School (NTHS) advocates a union of technology and curriculum. Students are taught by teams of teachers who take a student-centered approach in the classroom, creating computer-based academic content through the development of problem-solving and experiential assignments. Classes are not organized around the traditional divisions of subject but are instead interdisciplinary and collaborative. For example, as a final project, students create an online portfolio of their NTHS career from tenth grade through twelfth grade that is then shared through digital networking. The school also offers a variety of other clubs and organizations, often technology oriented, that are student-created and student-driven. Although originally developed for the community of Napa, California, the NTHS network now includes 25 schools, with seven in Northern California, four in Southern California, six in North Carolina, two in Oregon and Louisiana, and one each in Alaska, Colorado, Illinois, and Texas.

NYC Museum School New York, New York, http://schools.nyc.gov/ SchoolPortals/02/M414/default.htm. The 400 high-school students at the NYC Museum School spend up to three days a week at a chosen museum (either the American Museum of Natural History, the Metropolitan Museum of Art, the Children's Museum of Manhattan, or the South Street Seaport Museum) studying with specialists and museum educators. Students work on different projects depending on which museum they choose (i.e., geometry and computer animation at the Children's Museum or navigation at the South Street Seaport Museum). At the end of their senior year, each student shares a thesislike project on a chosen theme. The NYC Museum School was founded in 1994 by a former Brooklyn Museum assistant director in partnership with a former teacher with the Lab School in New York. It has been featured in the Bill and Melinda Gates Foundation "High Schools for the New Millennium" Report.

Putnam Valley Middle School   Putnam Valley, NY, http://www.pvcsd
.org/ms/index.php. Putnam Valley Middle School aims to create an
environment where learning is a collaborative experience between
teachers and students. The school is involved in Apple Computers'
1-to-1 learning program, which allows for every seventh and eighth
grader to receive a personal laptop computer. Consultants from Apple
were brought in to conduct workshops on how best to integrate the use
of technology into the curriculum. Putnam, and other schools partici-
pating in Apple's 1-to-1 learning program, hope that through consis-
tent and extended access to technology, students will be better prepared
for the job market of the future.

School of the Future   New York, New York, http://www.sofechalk.org/
home.aspx. The School of the Future in New York City is one of many
schools successfully integrating the principles of the Coalition of
Essential Schools (small class size, an emphasis on depth rather than
coverage, teachers who function as coaches and guides, an interdisci-
plinary curriculum, the creative use of technological resources, and
collaboration between teachers, http://www.essentialschools.org). The
curriculum at this sixth- to twelfth-grade institution is project-based
and focuses on peer-to-peer evaluation. Eighth-grade students must
present a portfolio (often, but not exclusively, digital) to a panel of
sixth- and seventh-grade students at the end of the year. This portfolio
is used to evaluate whether they are ready for high school. High school
students, for their part, must complete four separate research projects
(one per year) that are exhibited and presented to a panel of fellow stu-
dents, parents, and teachers. These projects are designed and carried
out entirely by the students, with guidance from a team of specialized
teachers.

School of the Future   Philadelphia, Pennsylvania, http://www.micro
soft.com/education/schoolofthefuture. The School of the Future in
Philadelphia is unique in that it is the first urban high school to be
built in a working partnership with a leading software company,
Microsoft Corporation. The school opened in September 2006 and
serves approximately 750 students in a state-of-the-art, high-tech, and
"green" facility. The school is not a magnet school: It was built in a low-
income, high-crime neighborhood in the belief that the "school of the
future" must be accessible to all students, regardless of their economic

status or existing skill sets. Thus, the school has set up a lottery system to ensure that every applicant has an equal chance to "cross the digital divide." Microsoft's Partners in Learning initiative played an integral part in the design and conceptualization of the school, not through a monetary donation (The School of the Future is funded by the School District of Philadelphia) but through the development of new technologies for both teaching and administrative purposes. Among the most innovative, and controversial, of these technologies is a smart card that allows access to digital lockers and that tracks calories consumed during school meals (breakfast and dinner are also served before and after school). Class schedules and locations change every day (the goal being to break down our culture's dependency on time and place), and all rooms are designed with flexible floor plans to foster teamwork and project-based learning. Instead of a library and textbooks, all students are given a laptop with wireless access to the Interactive Learning Center, the school's hub for interactive educational material. These laptops are linked to smartboards in every classroom and networked so that assignments and notes can be accessed even from home (eventually, through the "Wireless Philadelphia" initiative, Web access will be universal, but until then the School of the Future has decided to subsidize its students' home Internet access). The building itself is also unique in its holistic approach. Rainwater is caught and repurposed for use in toilets, the roof is covered with vegetation to shield it from ultraviolet rays, panels embedded within the windows capture light and transform it into energy, room settings auto-adjust based on natural lighting and atmospheric conditions, and sensors in all rooms turn lights on and off depending on whether the space is being used. The School of the Future is just the beginning for Philadelphia: It is part of a capital construction campaign that includes five new high schools, four elementary schools, and additions and improvements to existing schools. The goal of this program is to reconstruct the learning environment—an alternative to the more common approach of overlaying a traditional curriculum with high-tech tool. A rebroadcast of a segment on the school from The News Hour with Jim Lehrer is available at http://www .youtube.com/watch?v=2Mug66WnoSk.

Walt Disney Magnet School   Lansing, Michigan, http://www.disney.cps .k12.il.us. The Walt Disney Magnet School's approximately 1,500

lottery-selected students are drawn from a variety of ethnic and economic backgrounds. The school aims to meet the needs of its diverse students through an arts- and technology-focused curriculum that takes place in an open-space environment. Projects are arranged around themes such as art, music, dance, animation, and digital music. At least once a year, each student is able to carry out a two-week integrated art and technology project in the 30,000-square-foot Communication Arts Center, which includes, among other things, an animation lab and a digital music lab. The goal of the curriculum is to train students to be independent and creative thinkers who have the tools to problem-solve in today's technology-oriented landscape.

Webster High School Tulsa, Oklahoma, http://www.tulsaschools.org/schools/Webster. Webster High School is a magnet school that includes three strands: the Digital Media and Broadcasting strand, the Information Technology strand, and the Journalism, Marketing, and Advertising strand. All paths aim to give students access to essential knowledge and skills to prepare them for careers in the visual and print media industries. The campus includes a state-of-the-art student-run television studio that encourages hands-on learning and collaborative thinking. The curriculum for Webster High School was developed in conjunction with leaders in professional associations, institutions of higher education and career technology.

K-12: Digital Learning Programs and Research

Consortium for School Networking (CoSN)   http://www.cosn.org. Consortium for School Networking (CoSN) is a consortium of K-12 education leaders who are committed improving the quality of teaching and learning through the strategic use of technology. One of its primary aims is to enable and empower K-12 leaders and policy-makers to increase their knowledge and to find innovative ways of incorporating emerging technologies into their curricula. Toward this end, CoSN works to develop programs and activities such as reports, analysis tools, and professional development resources. It also is deeply committed to supporting member advocacy efforts in order to ensure that law and policy changes serve the interests of students, not businesses or the government.

Digital Youth Research: Kids' Informal Learning with Digital Media   Berkeley, California, http://digitalyouth.ischool.berkeley.edu. Digital Youth Research is a research project administered by the Institute for the Study of Social Change at the University of California, Berkeley, with assistance from investigators at other schools in the University of California system. This project seeks to address the gap between young people's experiences with digital media (e.g., social networks and gaming) outside of schoolwork and their engagement with those same technologies in an in-school setting. Emergent modes of informal learning, such as communication and play, will be examined through a targeted set of ethnographic investigations in local neighborhoods in northern and Southern California and in virtual spaces, such as online games, blogs, messaging, and social networks. The objectives of the project are to describe a young person's role as an active innovator (rather than a passive consumer) in digital media, to think about implications of this for K-12 and higher education, and to advise software designers and educators about how to build better learning environments to take advantage of these new skill sets. This project is sponsored by The John D. and Catherine T. MacArthur Foundation.

FOCUS: Teen Voices on Digital Media and Society   http://www.focuson digitalmedia.org. Global Kids, a New York nonprofit, started an online focus group in April 2007 devoted to the topic of teens, digital media, and society. This short-term project (lasting only four weeks) was conceived as a way to make sure youth perspectives were being heard by policy-makers, teachers, and researchers. The discussion, in which 48 official participants took part, covered a range of topics that reflected the role that digital media plays in the lives of today's youth. Initial discussion topics were provided by Global Kids in conjunction with its partner institutions and grantees, the MacArthur Foundation's Digital Media and Learning Initiative and NewsHour EXTRA (the online youth forum for the NewsHour with Jim Lehrer), in the form of Digital Media NewzFlashes (articles paired with thought-provoking questions). Further content and discussion threads were created throughout the dialogue by the participants themselves. Although educators did not take part in the online dialogue, the FOCUS Web site provided information and suggestions for a digital media curriculum in the Teachers' Lounge forum.

From Lunch Boxes to Laptops   State of Maine School System, http://www.maine.gov/portal/education/k12.html. In the year 2000, the former governor of Maine, Angus King, persuaded his state to launch the first large-scale distribution of laptop computers in the history of the United States. That year, laptops were distributed to every seventh-grade student in the state—42,000 computers in total. King believed that only by reaching a student-to-laptop ratio of 1:1 would a technology program such as this have the power to make a true difference. King hoped that the laptops would become the personal property of each student, but this idea was met with skepticism. When the plan was implemented, the computers remained the property of the school. Furthermore, it was left up to each school to decide if the students would be allowed to take the laptops home with them; about 50 percent of schools allowed this to happen. The program involved more than just distributing the laptops; there was also a concerted effort made to transform the classroom in order to take advantage of the possibilities offered by the new hardware. Teachers were organized into teams and given comprehensive training on how to use the laptops and also how transform their teaching styles to give their students more independence and initiative. In other words, the teachers took on the role of a coach and facilitator and worked with students toward the common pursuit of knowledge. The program was largely a success; student engagement with course material was heightened and test scores increased. The program is now being expanded into high schools, and a private fund has been set up to help low-income families to apply for Internet access at home.

Games and Professional Practice Simulations (GAPPS) Group   http://www.academiccolab.org. The Games and Professional Practice Simulations (GAPPS) Group is a digital learning and research initiative supported by the Academic Advanced Distributed Learning (ADL) Co-Lab at the University of Wisconsin, Madison, in partnership with a variety of educational institutions and funded in part by the MacArthur Foundation. GAPPS studies the manner in which digital technology has been (or has not been) incorporated into primary education and seeks to find ways to improve this relationship. One of the primary interests of the program is how video game technologies (both playing and creating games) can be used to effectively teach complex technical and

problem-solving skills. These skills can then be applied to any number of real-life situations, both in and out of the school environment. As a development program, the ultimate goal of GAPPS is to address the nation's poor performance in science and technology and to ensure the future success of the next generation in a global job market. GAPPS believes that the only way to do this is to give students the opportunity to become comfortable with the ever-changing field of technology and the creative application of media skills from an early age.

Georgia Institute of Technology College of Computing   http://www.cc .gatech.edu/gacomputes. In the summer of 2007, Georgia Institute of Technology College of Computing implemented a pilot program called "Introduction to Technology Design for Teenagers." The goal of the program was to facilitate active learning and skill acquisition through the creation of individually tailored projects that are both fun and instructive. These projects were designed by the students themselves and included activities such as redesigning a "Google interface for teens," writing a Facebook application, or prototyping a new multiplayer game. It is the hope of the program that courses like this will help prepare today's teenagers for future careers in high-tech industries.

Level Playing Field Institute   http://www.lpfi.org. The Level Playing Field Institute is a San Francisco-based nonprofit organization committed to promoting fairness in education, the workplace, and society at large. Founded in 2001 by Freada Kapor Klein, PhD, the Institute seeks to reveal and remove barriers that are threatening underrepresented groups in the realms of higher education and business. They believe that everyone should have equal access to all opportunities regardless of racial, cultural, or economic differences. This "leveling" would start in the early stages of education when all talented students would receive quality preparation for higher education and future careers. Educational projects such as the Summer Math and Science Honors Academy (SMASH) program for high-school students and the Initiative for Diversity in Education and Leadership (IDEAL) scholarship program for undergraduates are helping the Institute achieve its goal. Through these programs and others, the Level Playing Field Institute hopes to create an open dialogue about the sometimes subtle modes of discrimination at work in today's society and then work collaboratively to remove these hidden barriers.

New Media Literacies   http://www.projectnml.org. The New Media Literacies project (NML) is a new initiative headed by Dr. Henry Jenkins of MIT's Comparative Media Studies Program that intends to develop a theoretical framework and hands-on curriculum for K-12 students that integrates new media tools into broader educational, expressive, and cultural frameworks. NML believes that the most successful learning environments are student-driven, creative, and collaborative, all characteristics that can be enhanced by digital media and new network technologies. Through participation in this project, students will not only learn technical skills but will also develop a critical framework for thinking about the role of media in their lives. This project is funded by the John T. and Catherine D. MacArthur Foundation.

One Laptop Per Child   http://laptop.org/en/index.shtml. The One Laptop Per Child project was the brainchild of Nicholas Negroponte, the cofounder and director of the MIT Media Laboratory. In 2005, he launched a nonprofit organization whose goal was to provide $100 laptops to every child on earth. He reasoned that it was possible to stimulate children's innate capacity to learn, share, and create by providing them with the material means to explore their own potential. This, in turn, would result in a new generation of free thinkers and empowered youth. While the initiative has gone forward, it has also met with much criticism for a substandard product, insufficient testing, and poor marketing. However, despite these setbacks, the One Laptop Per Child initiative has been a revolutionary first step in lowering the cost and increasing access to technology throughout the world.

Open Education Resources (OER)   http://www.hewlett.org/oer. OER was founded by the William and Flora Hewlett Foundation as a way to make high-quality educational content and tools freely available to anyone with access to the Internet. This project is global in nature and aims to offer equal access to knowledge and educational opportunities regardless of geographical and cultural constraints (although the majority of the materials are in English). Resources offered on the Web site include entire course plans, modules, textbooks, videos, exams and evaluation materials, software, and much more. All materials reside in the public domain or have been released under an intellectual property license.

ThinkeringSpaces http://www.thinkeringspace.org. ThinkeringSpaces is a research project that installs innovative and networked learning spaces in existing library environments. These spaces will draw on the collections and resources of each library and seek to encourage hands-on tinkering with materials, objects, messages, and images (both physical and virtual). Rather than imposing a particular structure onto a child's desire to learn, ThinkeringSpaces aims to tailor its environment to the way children actually perceive, interpret, and use learning opportunities, promoting open-ended and unfettered thinking. The goal of the program is to help facilitate the expansion of a wide range of interests and sets of skills and to allow children to move beyond conventionally defined projects. These learning environments take the shape of free-standing platforms that can be used individually or collaboratively. This project was designed by the Illinois Institute of Technology Institute of Design and funded by the MacArthur Foundation. The results of the research will be used to establish design principles, criteria, and specifications for the development of full-scale installations.

University of Chicago Urban Education Institute http://uei.uchicago.edu. The Urban Education Institute at the University of Chicago has teamed together with Woodlawn High School and the North Kenwood/Oakland campuses of the University of Chicago Charter School to develop after-school media literacy programs for high-school students. The goal of this program, funded in part by a grant from the MacArthur Foundation, is to allow inner-city students access to digital media resources and instruction. Through an emphasis on creative design work, students learn skills used by media professionals and work collaboratively to produce video documentaries, podcasts, video games, and music videos.

Words Without Borders http://www.wordswithoutborders.org. Words Without Borders is an online literary magazine where volunteers post free translations of short stories from around the globe. The organization also advocates literature in translation through the planning of events (often virtual) that connect non-English-speaking writers to students and academic institutions. The ultimate goal of Words Without Borders is to introduce international writers and writing to the general public and thus foster a global exchange of voices and ideas. Its Web site also contains units and lesson plans for high-school

readers/teachers that are organized around the themes used in advanced placement classes (e.g., justice, exile, self-sacrifice). Words Without Borders is a partner of PEN American Center and the Center for Literary Translation at Columbia University. The Web site is hosted by Bard College.

Higher Education: Institutions, Research, and Projects

Humanities, Arts, Science, and Technology Advanced Collaboratory (HASTAC) http://www.hastac.org. HASTAC (pronounced "haystack") is a virtual consortium of humanists, artists, scientists, and engineers, researchers, and nonprofit research institutions who are committed to new forms of collaboration across communities and disciplines fostered by creative uses of technology. The HASTAC network consists of more than 80 institutions, including universities, supercomputing centers, grid and teragrid associations, humanities institutes, museums, libraries, and other civic institutions. HASTAC works to develop tools for multimedia archiving and social interaction, gaming environments for teaching, innovative educational programs in information science and information studies, virtual museums, and other digital projects. Its mission is two-fold: to ensure that humanistic and humane considerations are never far removed from technological advances and to push education and learning to the forefront of digital innovation. Similarly, HASTAC is dedicated to the idea that this complex and world-changing digital environment requires all the lessons of history, introspection, theory, and equity that the modern humanities (broadly defined) have to offer. The infrastructure of HASTAC is jointly supported by Duke University and the University of California Humanities Research Institute (UCHRI). Funding for HASTAC has come from grants from the National Science Foundation, the Digital Promise Initiative, and the John D. and Catherine T. MacArthur Foundation, as well as from its member institutions.

The John Hope Franklin Center for Interdisciplinary and International Studies Duke University, http://www.jhfc.duke.edu. The Franklin Center is a consortium of programs at Duke University that are committed to revitalizing notions of how knowledge is gained and exchanged. Inspired by the example of John Hope Franklin—Duke professor emer-

itus, historian, intellectual leader, and lifelong civil rights activist—the Center encourages participants from a broad range of disciplines, perspectives, and methodologies to come together and explore intellectual issues. The Franklin Center's mission is to bring together humanists and those involved in the social sciences in a setting that inspires vigorous scholarship and imaginative alliances. The Center is also committed to employing advanced technologies, such as multimedia and high-speed videoconferencing, not only as a means to an end, but as objects of critical inquiry themselves. In sum, the Franklin Center seeks to meld past knowledge and present questions, international perspectives, and technology with local concerns, timeless scholarship, and timely issues.

University of California Humanities Research Institute (UCHRI) http://www.uchri.org. UCHRI is a multicampus research unit that serves all 10 campuses in the University of California system. Founded in 1987, UCHRI promotes collaborative work representing different fields and institutions both within and beyond the University of California. The Institute's research addresses topics traditional to the humanities such as literature, philosophy, classics, languages, and history, as well as the pressing human dimensions that arise in the social and natural sciences, technology, art, medicine, and other professions. UCHRI interacts with University of California campus humanities centers and with individual faculty to promote collaborative, interdisciplinary humanities research and pedagogy throughout the University of California system and the larger academic world. Stressing interdisciplinary research, UCHRI bridges gaps between disciplines across the humanities and human sciences and seeks to overcome the intellectual and institutional barriers that can separate the humanities from other fields.

HASTAC on Ning: A Synergistic Symposium for the Cybernetic Age http://hastac.ning.com. HASTAC on Ning is a social network created by Mechelle De Craene. This network was started as a companion site to http://www.hastac.org and is a way for members of the HASTAC community to learn more about each other and share ideas and information. Members of this site can post videos, links, and participate in a group blog in order to promote new models for thinking, teaching, and research. Ning is a Palo Alto, California-based company that allows participants

to create their own customizable social network about anything (http://www.ning.com/).

The Anthropology of the Contemporary Research Collaboratory (ARC) http://anthropos-lab.net. Anthropology of the Contemporary Research Collaboratory (ARC) is a collaboratory in the human sciences founded by Paul Rabinow (University of California at Berkeley), Stephen J. Collier (New School for Social Research, New York), and Andrew Lakoff (University of California at San Diego). The goal of this virtual institution is to explore the anthropology of the contemporary through the encouragement of collaboration, communication, and research inquiry across disciplines and academic institutions. ARC focuses on developing techniques and tools in fields such as synthetic anthropos, nanotechnology, vital systems security, biopolitics, and concept work. Through collaboration, ARC aims to create the conditions for successful creative inquiry and original research.

The Centre for Advanced Learning Technologies (CALT) http://www.calt.insead.edu. CALT is a project launched by INSEAD, an international business graduate school with campuses in Singapore and France. CALT was officially founded in 1995 in order to promote the understanding and study of the effect of new media and technologies on management theory and practice. The CALT Research Agenda specifically studies the impact of new media and technologies on the virtual business environment (e.g., Internet-based business practices and the management of virtual communities) and on the way management skills are learned. CALT researchers produce materials in diverse formats, such as academic articles, technical papers, conference presentations, knowledge dissemination events and workshops, and online content.

Center for History and New Media at George Mason University http://chnm.gmu.edu. Founded in 1994 by the historian Roy A. Rosenzweig, the Center for History and New Media (CHNM) researches and develops innovative ways to use digital media and computer technology to democratize history. By "democratizing history," the Center means working to incorporate forgotten voices and multiple viewpoints, reaching diverse audiences, and encouraging popular participation in presenting and preserving the past. In order to accomplish this goal, CHNM is currently working on more than two dozen digital history

projects that include World History Matters, which helps teachers and their students locate, analyze, and learn from online primary sources; Echo: Exploring and Collecting History Online, which collects, organizes, and preserves digital materials in the history of science, technology, and industry; Interpreting the Declaration of Independence, which uses foreign translations to promote a richer understanding of the Declaration; History News Network, a Web-based magazine that places current events in historical perspective; and three Teaching American History projects in collaboration with Virginia public school districts. The Center also collaborates with the American Social History Project/Center for Media and Learning at the Graduate Center of The City University of New York on several digital archiving projects, most prominently the September 11 Digital Archive. CHNM also works to develop free tools and resources for historians. Many of these, such as Zotero, Web Scrapbook, Survey Builder, Scribe, Poll Builder, and Syllabus Finder, have had a significant impact on the way humanities research and education is being carried out.

Center for Information Technology Research in the Interest of Society at the University of California, Berkeley   http://ucberkeley.citris-uc.org. Center for Information Technology Research in the Interest of Society (CITRIS) brings together faculty and students from four University of California campuses (Berkeley, Davis, Merced, and Santa Cruz) with industrial researchers at over 60 corporations from the private sector in the common goal of creating information technology solutions for social, environmental, and healthcare issues. Founded in the late 1990s, CITRIS was one of the first organizations in the nation to create a public-private partnership specifically to explore the potential of technology. The Center is currently focusing on several fields of research, including the improvement of access to healthcare through the development of intelligent infrastructures and innovative technologies, finding sustainable and environmentally friendly energy solutions, and bringing technological knowledge to developing regions, both in the United States and throughout the world.

Center for Studies in Higher Education at the University of California, Berkeley   http://cshe.berkeley.edu. Center for Studies in Higher Education (CSHE) is currently implementing a number of projects that contribute to our understanding of how learning institutions are adapting

to the digital age. The most relevant of these is the Higher Education in the Digital Age (HEDA) project directed by Dr. Diane Harley. The goal of the HEDA program is to research the policy implications for institutions of higher education trying to incorporate emerging technologies. Ongoing research takes place in one of two broad and interrelated areas of inquiry: the costs and benefits (economic, academic, and social) of digital technology in higher education, and patterns of institutional change during the process of integrating these technologies. Under the broad umbrella of the HEDA program are smaller, more focused projects such as the Digital Resource Study, which seeks to understand the use of digital resources in undergraduate education in the humanities and social sciences, the Future of Scholarly Communication, which researches the needs and desires of faculty for in-progress scholarly communication (i.e., forms of communication employed as research is being executed) as well as archival publication, and the Regulation of E-Learning, a project that explores current and ongoing debates in the regulation of technology-mediated higher education both domestically and internationally. HEDA is also tracking and analyzing all online distributed education projects that are taking place throughout the University of California system.

Connexions   http://cnx.org. Last year, Rice University started the first all-digital open-content university press, Connexions. Through Connexions, scholars are able to collaboratively develop, share, and publish academic content on the Web. For the most part, Connexions favors small modules of learning material (as opposed to complete books) that can be rapidly produced and easily incorporated into larger collections or courses. In this way, Connexions hopes to mimic the modular and nonlinear style of learning that is favored by today's younger generations. It also hopes to actively involve users in the development process by encouraging collaboration and additions, thereby allowing knowledge to be shared and lines of communication to be opened. Content is currently being developed for students and educators of all levels and is freely accessible under the Creative Commons "attribution" license.

Electronic Cultural Atlas Initiative at the University of California, Berkeley http://www.ecai.org. The Electronic Cultural Atlas Initiative (ECAI) is a consortium of scholars, archivists, and other members around the

globe who share the vision of creating a distributed virtual library of cultural information with a time and place interface. Its goal is to create a global atlas of historical and cultural resources, using space and time to enhance understanding and preservation of human culture. They do this through TimeMap, a set of software tools developed by Ian Johnson and Artem Osmakov at the University of Sydney, Australia. The ECAI TimeMap is a customized version of these tools.

EDUCAUSE   http://www.educause.edu. EDUCAUSE is a nonprofit association made up of institutions of higher education and corporations serving the higher education technology market. Its mission is to advance education by promoting the intelligent use of information technology. In order to do this, it develops professional development activities, teaching and learning initiatives, provides online information services, and publishes relevant texts. Current major initiatives include the EDUCAUSE Learning Initiative (ELI), a community of institutions, organizations, and corporations committed to advancing learning through innovative technologies, and Net@EDU, which is working to promote advanced networking among institutions of higher education, governments, and business.

Electronic Learning Community Lab   http://www.static.cc.gatech.edu/elc/index.shtm. Electronic Learning Community (ELC) is a research institute associated with the Georgia Institute of Technology College of Computing. It focuses on discovering how online communities are designed for learning and how this can be improved. ELC research is inspired by an educational theory called constructionism that posits that people learn best when they are making something that is personally meaningful to them. While constructivist learning traditionally focuses on individuals, the ELC Lab aims to incorporate this philosophy into the online environment. Current projects include Science Online, a science wiki that focuses on high-quality scientific information for students and educators, research into how large-scale collaboration occurs in online animation communities, and GameLog, a blogging environment where gamers can explore the features and design elements that make particular games successful.

EQUEL   http://www.equel.net. EQUEL (which stands for "e-quality in e-learning") is a virtual center that brings together researchers and practitioners from 14 European institutions of higher education in

order to research innovations in and practices of e-learning. The organization is supported by the e-learning initiative of the European Commission. The primary goal of EQUEL is to foster increased knowledge and understanding of the effect of e-learning practice, theory, and philosophy through a network of researchers and practitioners. The center ultimately plans to offer a range of consulting and evaluation services, including e-learning courses, based on the tools and methods developed by its members and affiliates.

Euro Computer Supported Collaborative Learning http://www.euro -cscl.org. Euro Computer Supported Collaborative Learning (CSCL) is a Web-based community that gives its members a forum where they can share and discover information about the field of CSCL. Membership is open to practitioners (teachers), researchers, and school administrators. The Web site is funded by The European Commission in the Information Society Technologies (IST) Framework, "School of Tomorrow."

Experiential Technologies Center at the University of California at Los Angeles http://www.etc.ucla.edu. Originally founded in 1997 as the Cultural Virtual Reality Lab (CVRlab), the Experiential Technologies Center (ETC) explores the application of emerging digital technologies to cultural heritage projects. The CVRlab was originally established in order to facilitate a collaborative project to reconstruct Trajan's Forum in Rome, and the ETC has continued this work, bringing together the knowledge of experts in a variety of fields and creating a solid methodological approach that addresses all aspects of virtual environments: visualization, sound, temporalization, spatialization, and other experiential factors. Recently, the Center expanded its mission to include pedagogy (both for higher education and K-12 schools), performance, and the development of open-source tools for creating dynamic virtual environments.

Franklin W. Olin College of Engineering   Needham, Massachusetts, http:// www.olin.edu. Olin College is a small, tuition-free college that is trying to reinvigorate the field of engineering by designing a new kind of engineer who will be able to easily bridge science, technology, enterprise, and society. The college opened in 2002 and was funded by the F.W. Olin Foundation, which literally put all its resources into the creation of the new school. Olin has not only redesigned the field of engi-

neering but has redesigned traditional engineering curriculum: Instead of academic departments, there is a single, synthetic interdisciplinary program that focuses on entrepreneurship and humanities as well as technical skills.

The Game Pit at Northern Virginia Community College http:// www .nvcc.edu. The Game Pit was originally dreamed up by the Dean of Business Technologies at Northern Virginia Community College, John Min, as a way to raise falling enrollments in the college's information technology classes. It is an open-access classroom equipped with consoles for Xbox and PlayStation and 15 high-end PCs devoted to playing games such as *World of Warcraft* and *Counter-Strike*. Administrators are also hoping that the availability of a gaming center on campus will give students a place to meet and socialize, creating an enhanced feeling of community and camaraderie in a largely commuter school. For video depicting the Game Pit and its most devoted users, see http:// chronicle.com/free/v54/i16/16a02601.htm.

Global Text Project http://globaltext.terry.uga.edu. The Global Text Project was founded in January 2004 by Richard T. Watson of the University of Georgia and Donald J. McCubbrey of the University of Denver with the goal of delivering freely available open content electronic textbooks to developing nations (books will also eventually be available in hardcopy, CD, or DVD format). The project's first title, *Information Systems*, was released this past fall and is currently being used at Addis Ababa University in Ethiopia and Atma Jaya Yogyakarta University in Indonesia. A second book, *Business Fundamentals*, is slated for release early this year and nine others are in development. In order to produce these textbooks, the Global Text Project recruits professors and experienced professionals from around the world to write at least one chapter on a topic of their choice (all work is done pro bono). The chapters are reviewed and assembled into complete books by scholars and editors. At times, the chapters will be written using wikis, so that multiple participants can contribute to and edit the material during the writing process. The books will also constantly evolve to build on current events and to incorporate the expertise of those (both instructors and students) using the texts. The project aims to set itself apart from other open textbook efforts, such as Wikibooks, by making sure that scholars have editorial control over the finished project. Ultimately,

the Global Text Project hopes to develop 1,000 titles in a variety of languages, an endeavor that will require approximately 20,000 volunteers.

Human Sciences and Technologies Advanced Research Institute at Stanford University   http://www.stanford.edu/dept/h-star/cgi-bin/hstar.php. Human Sciences and Technologies Advanced Research Institute (H-STAR) is an interdisciplinary research center initiated by Stanford University with the goal of furthering our understanding of how we are affected by technology. Some key questions asked by the center are: How do people use technology, how can we improve technology to make it more user-friendly (and competitive in the marketplace), how does technology affect our everyday lives, and how is technology used to create innovation in learning, business, and entertainment? H-STAR researchers use these questions to develop projects that aim to reduce the complexity of technologies, close the digital divide, create technologies that respond to specific human needs, and address issues of trust and security in widespread use of technology. Within H-STAR are two smaller interdisciplinary centers that focus on particular projects, the Center for the Study of Language and Information and the Stanford Center for Innovations in Learning (see below), as well as an industry partners program, Media X.

HUMlab at the University of Umea in Sweden   http://www.humlab.umu .se/about. HUMlab is both a virtual and real-life organization where the humanities, cultural studies, and modern information and media technology can work together. It aims to combine ideas from different times, cultures, environments, and fields of study. The virtual environment is funded by the Kempe Foundation and the Bank of Sweden Tercentenary Foundation, while the organization of HUMlab is centered under the Faculty of Arts at Umea University.

Institute for Advanced Technology in the Humanities at the University of Virginia   http://www.iath.virginia.edu. The goal of Institute for Advanced Technology in the Humanities (IATH) is to explore and develop innovative ways of incorporating information technology into scholarly humanities research. At the Institute, humanities and computer science research faculty, computer professionals, student assistants and project managers, and library faculty and staff come together in a collaborative effort to document and interpret the record of human

achievement in digital form. IATH was founded in 1992 with a major grant from IBM as a way to enable use of sophisticated technical tools in the arts and humanities. Its mission has since evolved to specifically address the problem of making sure that humanities research is able to persist through time and across media in a constantly changing digital world.

The Illinois Center for Computing in the Humanities, Arts, and Social Science at the University of Illinois, Urbana-Champaign http://www.chass .uiuc.edu/index.html. The Illinois Center for Computing in the Humanities, Arts, and Social Science (I-CHASS) is a recently formed collaboration venture between the humanities (e.g., humanists, artists, and social scientists), computer sciences, and engineering. The Center seeks to foster innovation by bringing these fields together in order to identify, create, and adapt computational tools that can be used in humanities education and research. I-CHASS's mission is to bring together the expertise and experience of humanists and information technology specialists in a way that is mutually beneficial to the future development of both fields, as well as other fields in the sciences and technology. I-CHASS is also making a concerted effort toward the democratic redistribution of technological knowledge through participation in programs such as the National Science Foundation's Engaging People in Cyberinfrastructure (EPIC). The Center believes that because technology is evolving at such a fast pace it is increasingly important that a concerted effort be made to close (or at least shrink) the information gap before it spins out of control.

Immersive Education http://immersiveeducation.org. Immersive Education is a nonprofit initiative that encourages international collaboration in the development of virtual-reality software for educational purposes. The currently available software package, which uses interactive three-dimensional graphics, Web cameras, Internet-based telephony, and other digital media, is designed to work within already existing open-code virtual worlds, such as Second Life. The endeavor was founded by Aaron Walsh, an instructor at Boston College, in the hopes of creating three-dimensional, interactive learning environments that would have the same attraction to students as popular massive multiplayer games. These games encourage self-directed learning and collaborative action in ways that many scholars would like to see

transferred to the classroom. Originally only available to university students, the next generation of Immersive Education software is broadening its scope to include K-12 education and nonacademic users (e.g., corporate training programs).

Institute for Digital Research and Education at the University of California at Los Angeles   http://www.idre.ucla.edu. Institute for Digital Research and Education (IDRE) is a newly organized institution committed to researching and supporting innovative scholarship that takes advantage of new technologies. The Institute encourages collaboration between faculty from different departments and disciplines at UCLA, the opening of new research questions, and the enrichment of the learning environment. IDRE is meant to be a convergence point for interdisciplinary expertise, perspectives, and methodologies through the implementation of networked local, national, and international digital environments.

Institute for Multimedia Literacy at the University of Southern California http://iml.usc.edu. The Institute for Multimedia Literacy (IML) was founded in 1998 by the University of Southern California's Dean of Cinematic Arts, Elizabeth Daley. Daley was inspired by a conversation with filmmaker George Lucas about the lack of educational programs dedicated to researching and addressing the changing nature of literacy in a networked culture. In order to remedy this situation, the IML began developing educational programs that promoted effective and expressive communication through the use of multimedia applications and tools. Originally a program embedded within the Annenberg Center for Communication, the IML has since broadened its scope to include faculty and students from many different departments and backgrounds. The Institute works closely with faculty and researchers to integrate multimedia literacy skills and analysis into a wide range of classes. It also supports an honors program in Multimedia Scholarship and has recently instituted a core curriculum aimed at teaching students across fields how to use and develop new multimedia technologies.

The Knowledge Media Laboratory   http://www.carnegiefoundation.org/programs/index.asp?key=38. The goal of the Knowledge Media Lab (KML) is to create a future in which communities of teachers, faculty,

programs, and institutions collectively advance teaching and learning by exchanging educational knowledge, experiences, ideas, and reflections. KML is currently working to develop digital tools and resources (e.g., the KEEP Toolkit) for educators as a way to facilitate the sharing and creation of effective teaching practices. They are also researching how best to combine various technologies to create learning environments that entirely re-think traditional methods of teaching and learning. This initiative is funded by the Carnegie Foundation for the Advancement of Teaching.

MATRIX: The Center for Humane Arts, Letters, and Social Sciences Online at Michigan State University   http://matrix.msu.edu. MATRIX was originally established to host the computing activities of H-NET: Humanities and Social Sciences Online, an independent scholarly initiative by humanists and social scientists to find more innovative ways to use the Internet. However, MATRIX's mission was soon extended far beyond this, and it became a full-fledged interdisciplinary center involved in research, educational practice, networking, publications, and outreach. As the best-funded humanities technology center in the country, MATRIX is deeply committed to not only advancing critical understanding of human nature and access to knowledge within academia but also to expanding its influence into developing nations. For example, the Center is currently working to build open-source inexpensive hardware and software that will be freely available worldwide. Through this project and others, MATRIX hopes to become a true "matrix" of interdisciplinary and international research.

MIT OpenCourseWare   http://ocw.mit.edu/OcwWeb/web/home/home/index.htm. MIT's OpenCourseWare (OCW) is a revolutionary Internet site that allows open access to course materials used in MIT's general curriculum. It was proposed by a faculty committee in the year 2000 as a way to advance lifelong education around the world and was officially launched in 2003. Since that time, OCW has grown to include syllabi, lecture notes, readings, videos, and other course materials for over 1,800 courses. Over 90 percent of faculty members at MIT have participated in this venture, voluntarily contributing their teaching materials to the Web site. All materials are published under an open license that encourages reuse, redistribution, and modification for educational purposes. In 2004, OCW began to create mirror sites at

university campuses all over the world in order to facilitate access and to make translations available. OCW's most recent venture has been to launch a new Web site, Highlights for High School, that reorganizes already existing course materials into a format that matches Advanced Placement curricula and thus makes the tool more accessible for high school students and teachers. MIT's OpenCourseWare has inspired a global movement that has resulted in universities from around the world creating their own open courseware sites.

Maryland Institute for Technology in the Humanities at the University of Maryland   http://www.mith2.umd.edu. Maryland Institute for Technology in the Humanities at the University of Maryland (MITH) was founded in 1999 as a collaboration between the University of Maryland's College of Arts and Humanities, its libraries, and the Office of Information Technology. The Institute functions as a think tank for research into digital tools, text mining and visualization, and the creation and preservation of digital information. Among its many current projects are the Electronic Literature Organization, an internationally recognized group devoted to the writing and publishing of electronic literature; the Preserving Virtual Worlds project, which develops methods to preserve the notoriously ephemeral world of virtual environments; and the production of Web-based tools for archives and networking.

Multimedia Research Center at the University of California, Berkeley   http://bmrc.berkeley.edu. Founded in 1995, the Multimedia Research Center at the University of California, Berkeley (BMRC) is an interdisciplinary group of artists, educators, professionals, and scientists who are committed to building partnerships between academia and the media industry. All participants are joined by a common interest in experimenting with interactive multimedia technology and finding new ways to incorporate this into professional practice and education. The group focuses on four areas: multimedia authoring (including the development of advanced learning environments), teaching and learning (distance learning as well as interactive and collaborative course materials such as the Open Mash Toolkit), infrastructure (e.g., a system to support the networking of all multimedia content at the University of California, Berkeley), and public programs (lectures, seminars, and symposia).

New Media Consortium (NMC) http://www.nmc.org. The New Media Consortium (NMC) is an international nonprofit consortium of nearly 250 educational organizations dedicated to the exploration and use of new media and new technologies. Member institutions include colleges, universities, museums, research centers, and private companies across the United States, Canada, Europe, Asia, and Australia. The Consortium has identified three core areas of long-term research and activity: These are the Dynamic Knowledge Initiative, which explores how developing technologies are driving the formation of new knowledge; the Emerging Technology Initiative, which seeks to identify and make public emerging technologies that have educational relevance; and the New Collaborations Initiative, which encourages interdisciplinary and cross-sector idea sharing. Through collaborative research and development programs in each of these core areas, the NMC aims to promote the use of new technologies to support learning and creative expression.

MIT Media Lab http://www.media.mit.edu. The Media Lab opened its doors in 1985 with the mission of "inventing and creatively exploiting new media for human well-being without regard for present-day constraints." This statement set the tone for the Lab's ongoing reputation as a cutting-edge innovator in radical technology. The Lab was originally conceived in 1980 by Nicholas Negroponte (who would go on to found One Laptop Per Child) and former MIT President Jerome Wiesner. It was, and still is, housed within MIT's School of Architecture and Planning—a location that is indicative of its commitment to interdisciplinary collaboration between the arts and sciences. The Lab is not solely interested in information technology innovations but in inventing and reinventing how human beings experience technology and, by extension, how technology is changing the way we experience the world. All its myriad projects and inventions have been bound by a common goal: designing the technology to allow people to create a better future. Currently the Lab is in the process of a major expansion. When finished, the new complex will house the Okawa Center, which focuses on exploring how children live, learn, and play in the digital age; the List Visual Arts Center; the Center for Advanced Visual Studies; and other pedagogical and lab-based programs.

PERSEUS at Tufts University http://www.perseus.tufts.edu. Perseus is an evolving digital library, edited by Gregory Crane, promoting interactions through time, space, and language. Its primary goal is to bring a wide range of source materials to as large an audience as possible in anticipation that this greater accessibility to the sources for the study of the humanities will strengthen the quality of questions, lead to new avenues of research, and connect more people through the intersection of ideas. PERSEUS is a nonprofit enterprise, located in the Department of the Classics at Tufts University. The project is also funded by the Digital Libraries Initiative Phase 2, the National Endowment for the Humanities, the National Science Foundation, and the Institute of Museum and Library Services.

The Pittsburgh Science of Learning Center at the University of Pittsburgh and the Carnegie Mellon University http://www.learnlab.org. The Pittsburgh Science of Learning Center is creating a research facility known as LearnLab, designed to dramatically increase the ease and speed with which learning researchers can create theory-based experiments that pave the way to an understanding of how people learn. LearnLab makes use of advanced technologies to facilitate the design of experiments that combine the realism of classroom field studies and the rigor of controlled laboratory studies. LearnLab's activities include authoring tools for online courses, experiments, and integrated computational learner models as well as running in vivo learning experiments

Stanford Center for Innovations in Learning http://scil.stanford.edu/index.html. Stanford Center for Innovations in Learning (SCIL) was established in 2002 as an independent center within the Human Sciences and Technologies Advanced Research Institute (H-STAR; see above) program. It is devoted to advancing scholarly research in the science, technology, and practice of learning and teaching. The center is housed in Stanford's new Wallenberg Hall, an experimental facility where educators and administrators can explore new ways of integrating technology into the classroom environment. SCIL is dedicated to cross-cultural collaboration: The center's goal is to bring together teachers, researchers, and students from across the world to develop improvements in formal and informal learning environments of all types. The center is codirected by Roy Pea, professor in learning sciences and technologies, and Stig Hagstrom, professor in materials science and former chancellor of the Swedish university system.

UCLA Center for Digital Humanities http://www.cdh.ucla.edu. The Center for Digital Humanities seeks to be an international leader in the development, application, and interpretation of digital technologies for use in the humanities. Its primary function entails enabling the faculty, students, and staff of the Division of Humanities at UCLA to explore innovative uses of technology. The Center also hopes to foster an understanding of how these technologies affect the humanities through ongoing research projects that have implications reaching far beyond the UCLA campus.

Virtual Knowledge Studio http://www.virtualknowledgestudio.nl/index.php. Launched in the fall of 2006, the Virtual Knowledge Studio (VKS) for the Humanities and Social Sciences is an international research and teaching institute hosted by the International Institute of Social History in Amsterdam and the Royal Netherlands Academy of Arts and Sciences. The VKS supports e-research in the creation of new scholarly practices in the humanities and social sciences and encourages the incorporation of this research into the learning environment. Social scientists, humanities researchers, information technology experts, and information scientists work together to integrate elements of design, analysis, and knowledge across academic and geographic boundaries. In June 2007, VKS partnered with the Erasmus University in Rotterdam to open the Erasmus Virtual Knowledge Studio, the institute's first physical campus, as a point of contact for visiting fellows, collaborators, and students.

Voice of the Shuttle http://vos.ucsb.edu. Voice of the Shuttle is one of the oldest humanities resources on the Web. While it was initially conceived as an introduction to the Internet for humanities scholars within the University of California, it became a public resource in early 1995. Voice of the Shuttle provides links to online humanities and humanities-related resources. Links can be submitted by anybody, but all suggested links are checked and, where necessary, edited to ensure quality and reliability.

Continuing and Distance Education

Academic Advanced Distributed Learning Co-Lab http://www.academiccolab.org. The Academic Advanced Distributed Learning (ADL) Co-Lab was established to enable global access to high-quality, reusable

content for distributed learning. Supported by the Department of Defense and the University of Wisconsin at Madison, the Co-Lab serves as a focal point for academic research and evaluation of the ADL tools and content that have been developed by the federal government, academia, and industry. By creating a set of guidelines and standards to identify, assess, develop, and disseminate distributed learning tools and strategies, the Co-Lab hopes to provide the education community with open access to innovative, effective educational material. Topics currently being explored by the Co-Lab are mobile learning, games and simulations for learning, and the construction of digital repositories for ADL content.

Center for the Advancement of Distance Education   http://www.uic.edu/sph/cade. Center for the Advancement of Distance Education (CADE) is an organization supported by the University of Illinois at Chicago School of Public Health. It provides integrated online services to support projects in the health sciences, developing customized Web-based learning, data management, and webcasting solutions to enhance communication and improve information delivery. Currently, CADE is working on a project called Virtual Worlds, which aims to enhance the technologies used by public health and business, including emergency response training, business continuity planning and execution, and human resource counseling. It has created a virtual human resources department where employees can go for information and support. They have also designed a virtual situation room, which bypasses the need for a physical meeting space. In this virtual environment, company leaders can meet, get up-to-date information, or strategize in the wake of a disaster.

COOLSchool   http://www.coolschool.k12.or.us. COOLSchool advertises itself as an "electronic alternative for K-12 education." It is a virtual learning institution that provides electronic learning opportunities to Oregon school districts by working with local teachers to develop and offer online courses, training and mentoring teachers, and providing technical support for school districts wanting to establish an online course selection. What sets it apart from other distance-learning organizations is that it does not offer diplomas and does not believe in replacing face-to-face education. Instead, it aims to supplement the

local school system and make advanced learning opportunities available to motivated students who can then adapt the course materials to fit their individual needs.

EDEN: European Distance and E-Learning Network http://www.eden -online.org/eden.php. EDEN was established in 1991 to function as an international educational association open to all institutions and individuals whose work involved e-learning, open, and distance education. The network's primary goal is to facilitate the sharing of knowledge and the creation of open avenues of communication across Europe and beyond. They are a meeting place and information locus for new technologies and current research, and they also work to bridge cultural and educational gaps that exist between members. EDEN represents all areas of education and training, formal and non-formal alike, and currently lists members from over 50 countries. Although EDEN is registered as a nonprofit under English law, the current home of its secretariat is the Budapest University of Technology and Economics.

Florida Virtual School   http://www.flvs.net. Florida Virtual School was founded in 1997 as the country's first state-wide Internet-based public high school. The school aims to deliver a high-quality, technology-based education to students who have not excelled in the traditional school system. Students are given the flexibility to work at their own pace, select their own classes, and to choose their own environments. However, despite the lack of a physical community of students and teachers, FVS makes sure to give students individual guidance, personal feedback, and opportunities for collaboration through a variety of means, including via phone, email, chatrooms, instant messaging, and discussion forums.

Hispanic Educational Telecommunications Systems http://www.hets .org. Originally founded in 1993 by a group of higher education institutions interested in sharing access to distance education, the Hispanic Educational Telecommunications Systems (HETS) consortium has since expanded its vision to include not only the use of telecommunications in education but all types and levels of asynchronous learning. They are particularly interested in using technology to promote greater collaboration within and among educational institutions. As a Hispanic

organization, it works with individuals and institutions in Spanish-speaking cultures to increase their competitiveness on a global scale and to foster open communication with distance education users throughout the world.

Michigan Virtual University http://www.mivu.org. Michigan Virtual University is a private, not-for-profit Michigan corporation established in 1998 to deliver online education and training opportunities to the citizens of Michigan. It is the parent organization of the Michigan Virtual School (K-12) and the Michigan LearnPort professional development portal for teachers, administrators, and school personnel. MVU and its offshoots seek to offer high-quality course offerings and educational materials to those students for whom traditional education is not feasible. MVU is unique in the distance education world in that it is a learner-centered, solution-based organization that has strong ties to the physical classroom.

OpenLearn LearningSpace: The Open University http://openlearn.open .ac.uk. The Open University is the only university in the United Kingdom dedicated to distance education. It offers a variety of courses and materials to students of all ages (although one has to be at least 18 to enroll) and nationalities. The OpenLearn LearningSpace Web site gives free access to learners anywhere in the world to course materials and discussion forums based on classes offered by the Open University's more traditional learning programs.

Research in Presentation Production for Learning Electronically http:// manic.cs.umass.edu. The Research in Presentation Production for Learning Electronically (RIPPLES) project at the University of Massachusetts, Amherst, investigates, develops, and deploys multimedia learning technologies and explores how to most effectively use them both inside and outside of the classroom. It focuses on developing asynchronous learning environments for distance learning, in which students proceed at their own pace and can access course materials at any time and from any location. RIPPLES delivers lectures in digital audio or video formats and synchronizes them with slides, overheads, or other materials. All course material on its growing Web site can be accessed freely. This project was made possible by a grant from the National Science Foundation.

United States Distance Learning Association http://www.usdla.org. Founded in 1987, the United States Distance Learning Association (USDLA) is an alliance of educational institutions, businesses, healthcare facilities, and government organizations dedicated to advocating and promoting the use of distance learning. The association works with learning communities of all types, including K-12, higher education, continuing education, corporate training, military and government training, home schooling, and telemedicine. The USDLA was the first nonprofit distance-learning association in the United States to support research and development across all fields of education, training, and communication. It has taken a leadership role in fostering dialogue and providing advocacy, information, and networking opportunities for its member institutions. The USDLA has established chapters in all 50 states, and each chapter works closely with local distance learners and educators to help them reach their potential.

Wikiversity http://en.wikiversity.org/wiki/Wikiversity:Main_Page. An offshoot of the Wikibooks project, Wikiversity was founded in 2006 as a community for the creation and use of free learning materials and activities. Wikiversity is not a formal institution but is a multidimensional social organization dedicated to learning, teaching, research, and service. Its primary goals are to create and host free content, multimedia learning materials, resources, and curricula for all age groups in all languages (although currently French is the only language besides English offered) and to develop collaborative learning projects and communities around these materials. Learners and teachers of all kinds are invited to join the Wikiversity community as editors of the Web site and contributors of content.

Journals and Online Resources

Association for Learning Technology Journal http://www.alt.ac.uk/alt_j .html. This is an international, triannual, peer-reviewed journal produced by the Association for Learning Technology (ALT-J). It is devoted to researching and exploring practical applications of learning technologies in higher education. The ultimate goal of this research is to facilitate collaboration between practitioners, researchers, and policy-makers in

education. ALT-J was originally published by The University of Wales Press and is now published by the Routledge Taylor & Francis Group.

The American Journal of Distance Education   http://www.ajde.com/index .htm. The American Journal of Distance Education (AJDE) is an internally distributed and peer-reviewed journal of research and scholarship in the field of American distance education. Articles address digital teaching techniques such as audio and video broadcasts, teleconferences and recordings, and multimedia systems. The principal focus of current research is the World Wide Web, and its related fields of online learning, e-learning, distributed learning, asynchronous learning, and blended learning. AJDE aims to provide a solid foundation of valuable research-based knowledge about all aspects of pedagogy and resources in distance education.

First Monday   http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm. First Monday (which is issued on the first Monday of every month) is one of the first openly accessible, peer-reviewed journals on the Internet. It was founded in May 1996 as a forum for discussion on the emerging technologies associated with the World Wide Web. The journal published on a range of topics, stipulating only that they be original research papers addressing the Internet and related technologies.

Game Studies   http://www.gamestudies.org. *Game Studies* is a peer-reviewed journal whose primary focus is on the aesthetic, cultural, and communicative aspects of computer games. It publishes articles on topics ranging from the nature of narrative in games to virtual economies and forms of interaction and communication in multiplayer games. It is a cross-disciplinary journal dedicated to exploring the cultural implications of gaming and to providing an academic channel for the ongoing discussions on games and gaming.

innovate: journal of online education   http://www.innovateonline.info. *innovate* is an open access, bimonthly, peer-reviewed online periodical published by the Fischler School of Education and Human Services at Nova Southeastern University. The journal focuses on the creative use of digital technology to enhance learning processes in academic, commercial, and governmental settings. Its goal is to foster communication

about innovative uses of technology across sectors and to encourage the sharing of ideas and resources.

International Journal of Computer-Supported Collaborative Learning (ijCSCL) http://ijcscl.org. ijCSCL is a new journal founded by the International Society of the Learning Sciences (ISLS). It is a peer-reviewed academic journal whose primary aim is to promote a deeper understanding of the nature, theory, and practice of the uses of computer-supported collaborative learning. The goal of the journal is to facilitate an understanding of how people learn in the context of collaborative activity and how to design the technological settings for collaboration.

International Journal of Emerging Technologies in Learning (iJET) http://www.online-journals.org/index.php/i-jet. The *iJET* publication is an international journal published out of Germany that promotes the exchange of trends and research in technology enhanced learning. It aims to bridge the gap between pure academic research journals and more practical publications meant for a general public. Thus, it publishes interdisciplinary articles not only on research but also application development, experience reports, and product descriptions.

Journal of Computer-Mediated Communication (JCMC) http://jcmc.indiana.edu/index.html. JCMC is one of the oldest Web-based Internet studies journals and has been published continuously (with one issue appearing every three months) since June 1995. It is a Web-based, peer-reviewed scholarly journal focused on social science research on computer-mediated communication via the Internet and wireless technologies. The journal was founded as an interdisciplinary platform for discussions on these subjects and publishes work by scholars in communication, business, education, political science, sociology, media studies, information science, and other disciplines. In 2004, JCMC became an official journal of the International Communication Association.

The Journal of Technology, Learning, and Assessment (JTLA) http://escholarship.bc.edu/jtla. JTLA is a peer-reviewed, scholarly online journal housed jointly in the Technology and Assessment Study Collaborative (inTASC) and the Center for the Study of Testing, Evaluation, and Educational Policy (CSTEEP) at Boston College. The journal's goal is to address the intersection of computer-based technology, learning, and assessment. It publishes articles that examine how teaching and

learning are altered by new technologies and seeks to measure the impact that this has through nontraditional assessment methods. The journal is currently supported by the William and Flora Hewlett Foundation and the Bill and Melinda Gates Foundation.

Language Learning and Technology   http://llt.msu.edu. *Language Learning and Technology* is a refereed journal that was founded in July 1997 in order to disseminate research and pedagogical information to foreign and second language educators around the world. Articles specifically focus on the intersections between language education and the use of new technology. The focus of the publication is not technology in and of itself, but rather how technology is used to enhance and change language learning and language teaching. *Language Learning and Technology* is sponsored and funded by the University of Hawai'i National Foreign Language Resource Center (NFLRC), the Michigan State University Center for Language Education And Research (CLEAR), and the Center for Applied Linguistics (CAL).

Learning Inquiry   http://www.springerlink.com/content/1558-2973. *Learning Inquiry* is a new, refereed scholarly journal devoted to the exploration of "learning" as a focus for interdisciplinary study. The journal's goal is to be a forum for a dialogue on all types and manifestations of learning, including informal as well as formal environments. Contributions will come from business professionals, government organizations, institutions of education at any level, and lifelong informal learners. The journal is intended to be of interest to the general public, or more specifically to anyone invested in learning, understanding its contexts, and anticipating its future. *Learning Inquiry* strives to strike a balance between presenting innovative research and documenting current knowledge to foster scholarly and informal dialogue on learning independent of domain and methodological restrictions.

Vectors: Journal of Culture and Technology in a Dynamic Vernacular   http://www.vectorsjournal.org. *Vectors* is a peer-reviewed online multimedia journal that highlights the social, political, and cultural stakes of our increasingly technologically-mediated existence. The journal focuses on the way in which technology shapes, transforms, reconfigures, and/or impedes our social relations, both in the past and in the present. As such, the journal is inherently cross-disciplinary and accepts submis-

sions from scholars and experts in any field. *Vectors* is also unique in that it is published as a multimedia production: Its "articles" are made up of moving and still images, sound, computational structures, software, and text. The goal of the journal is to fuse the old and new in terms of media, subject matter, and style.

Blogs

boyd, danah. "apophenia: making connections where none previously existed." http://www.zephoria.org/thoughts

Chronicle of Higher Education. "Wired Campus Blog." http://chronicle .com/wiredcampus

Davidson, Cathy. "Cat in the Stack: Cathy Davidson's HASTAC Blog on the Interface of Anything." http://www.hastac.org/blog/79

De Craene, Mechelle. "HASTAC on Ning: A Synergistic Symposium for the Cybernetic Age." http://hastac.ning.com

Digital Youth Research. "Kids' Informal Learning with Digital Media." http://digitalyouth.ischool.berkeley.edu

Epistemic Games. "epistemic games: Building the Future of Education." http://epistemicgames.org/eg/?cat=63

Eyebeam Art and Technology Center. "Eyebeam reBlog: Distilling Art and Technology." http://www.eyebeam.org/reblog

Games for Change. "Games for Change (G4C)." http://www.gamesfor change.org

Global Kids' Digital Media Initiative. "Blog." http://holymeatballs.org

Hargittai, Eszter. "Eszter's Blog." http://www.esztersblog.com

The Institute for the Future of the Book. "if:book." http://www.future ofthebook.org/blog

Ito, Mimo. "Mimo Ito—Weblog." http://www.itofisher.com/mito/weblog

Jenkins, Henry. "Confessions of an Aca/Fan: The Official Weblog of Henry Jenkins." http://www.henryjenkins.org

———. "henry3@mit.edu." http://web.mit.edu/cms/People/henry3

Jussel, Amy. "Shaping Youth." http://www.shapingyouth.org/blog

Levine, Peter. "Blog." http://www.peterlevine.ws/mt

Lopez, Antonio. "Mediacology: Composting the Western Mind." http://mediacology.com

Losh, Liz. "Virtualpolitik." http://virtualpolitik.blogspot.com

The MacArthur Foundation. "Spotlight: Blogging the Field of Digital Media and Learning." http://spotlight.macfound.org

MIT and Stanford University. "Tomorrow's Professor List Serve." http://amps-tools.mit.edu/tomprofblog

New Media Consortium. "NMC Campus Observer." http://sl.nmc.org

Pacifici, Sabrina. "beSpacific: Accurate, Focused Law and Technology News." http://www.bespacific.com/index.html

Raynes-Goldie, Kate. "Everything is Relative." http://oceanpark.livejournal.com/tag/academic

Rheingold, Howard. "DIY Media Weblog." http://www.video24-7.org.

Salen, Katie. "Missives from the Mob." http://www.gamersmob.com/weblog

Schussman, Alan. "schussman.com." http://www.schussman.com

Stutzman, Fred. "Unit Structures: Thoughts about Information, Social Networks, Identity and Technology." http://chimprawk.blogspot.com

Terra Nova. "Terra Nova." http://terranova.blogs.com

Vaidhyanathan, Siva. "Sivacracy.net." http://www.sivacracy.net

Water Cooler Games. "Videogames with an Agenda." http://www.watercoolergames.org

Works by the Principal Investigators

Cathy N. Davidson's work for the last decade has focused on the role of technology in the twenty-first century. In 1999, she helped create the program in Information Science+Information Studies (ISIS) at Duke and, in 2002, cofounded the Humanities, Arts, Science, and Technology Advanced Collaboratory (HASTAC) with David Theo Goldberg. Davidson blogs regularly as Cat in the Stack at http://www.hastac.org.

Davidson is the author or editor of 18 books on wide-ranging topics including technology, the history of reading and writing, literary studies, travel, Japan, and women's and Native American writing. Her *Revolution and the Word: The Rise of the Novel in America* (Oxford University Press, 1986) is a study of mass literacy and the rise of American democracy. With documentary photographer Bill Bamberger, she wrote the prize-winning *Closing: The Life and Death of an American Factory* (Norton, 1998). Davidson has served as the editor of *American Literature* (1989–1999) and President of the American Studies Association. From 1998 until 2006, she was Vice-Provost for Interdisciplinary Studies at Duke and, in this role, oversaw more than 60 interdisciplinary programs and institutes, including the Center for Cognitive Neuroscience. The changes in this rapidly growing and by no means unitary field, along with Davidson's ongoing work with the MacArthur Foundation Digital Media and Learning Initiative and with HASTAC, are the background and motivation for *The Rewired Brain: The Deep Structure of Thinking in the Information Age* (forthcoming, Viking Press).

She is currently the Ruth F. DeVarney Professor of English and the John Hope Franklin Humanities Institute Professor of Interdisciplinary Studies at Duke University.

David Theo Goldberg directs the systemwide University of California Humanities Research Institute. He is also Professor of Comparative Literature and Criminology, Law, and Society, as well as a Fellow of the Critical Theory Institute at the University of California, Irvine. He has authored several books, including *The Racial State* (Basil Blackwell, 2002) and *Racist Culture: Philosophy and the Politics of Meaning* (Basil Blackwell, 1993). He has also edited or coedited many books, including *Anatomy of Racism* (University of Minnesota Press, 1990), *Multiculturalism: A Critical Reader* (Basil Blackwell, 1995), *Between Law and Culture*

(University of Minnesota Press, 2001), *Relocating Postcolonialism* (Basil Blackwell, 2002), and *The Companion to Gender Studies* (Basil Blackwell, 2004). His most recent book is *The Threat of Race: Reflections on Racial Neoliberalism* (Oxford, UK: Wiley-Blackwell, 2009). He is a co-founder of HASTAC: Humanities, Arts, Science, Technology Advanced Collaboratory, the international consortium for humanities and digital technologies, networking centers, institutes, and programs at more than 75 institutions of higher learning. He has been active in advancing digital technologies for pedagogy and research across the University of California, serving on various University of California-wide committees overseeing the future of research information and its stewardship for the University of California system.