SPECIAL DOUBLE ISSUE

The Arts, Education and Technology: A Winning Combination

by Sheila Bergman, Nancy Langan and Scott Stoner
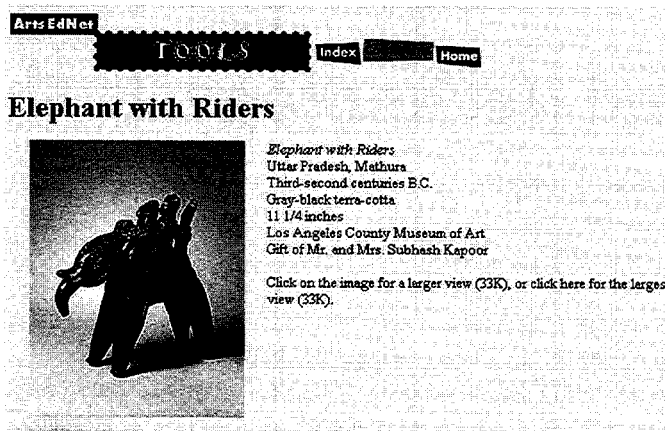
A Braver New World

Computer technology is changing the way of life for a growing number of children and teens in diverse communities nationwide, allowing them to reach beyond the walls of studios and classrooms. Visual and performing arts source materials and new tools are now at the fingertips of artists and educators, assisting them in developing innovative arts education curricula and programming. Across the country, educators are using the challenging technological advances in computers, software, video, satellites, and telecommunications to apply exciting and practical means of making the arts more central to education. Consider the following:

● Using low-cost videoconferencing, students, directors, and costume designers from New York City, and Portsmouth, England, collaborated on a production of *The Crucible*. Playwright Arthur Miller joined them for the final live cross-Atlantic performance (though the two groups remained an ocean apart).

● In a "virtual classroom" in Wyoming, students and aspiring authors wrote poetry, plays, and prose; an online artist-in-residence held writing seminars from his office computer at the community college while students participated from their high school and library computers.

● Oregon high school students teamed with artists, through a school district and local arts agency partnership, to develop a 3-D animation fly-through of a proposed park for the city's Parks and Recreation Department, as part of the state's workforce readiness curriculum.

With low-cost video-conferencing, students in England and the United States rehearse scenes from Arthur Miller's *The Crucible*.

Throughout the country visual and performing arts institutions are working with partners in arts, education, and technology to develop resources. The Kennedy Center's Internet site, "What is Jazz," organizes audio, graphics, and text in a way that allows users to search for information by artist name, style, or geography. The Getty Center for Education in the Arts' Internet site provides teachers and students with images of paintings and sculptures with accompanying lesson plans, and is also adding a series of "live" appearances by working artists who will show their work and then respond to questions over the Internet.

Elephant with Riders

Elephant with Riders
Uttar Pradesh, Mathura
Third-second centuries B.C.
Gray-black terra-cotta
11 1/4 inches
Los Angeles County Museum of Art
Gift of Mr. and Mrs. Subhash Kapoor

Click on the image for a larger view (33K), or click here for the largest view (33K).

ArtsEdNet website (developed by the Getty Center for Education in the Arts).

And this is just the beginning. Teachers, artists, local arts agencies, and children are also creating Internet sites that offer technology planning guides for grades K-12, exhibition galleries, answers to the most frequently asked questions about the Internet, and arts education curriculum that can be downloaded and used in classroom or art center computers. Imagine lesson plans co-created by youth, teachers, and local artists and distributed via the Internet!
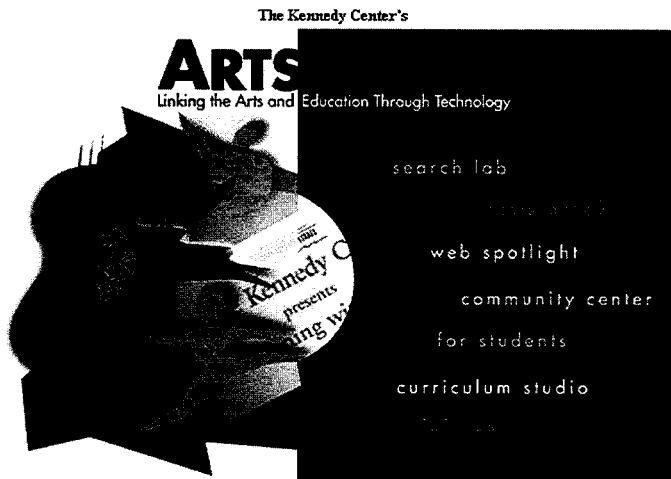
In the newly redeveloped neighborhood of Yerba Buena Gardens in San Francisco, the Studio for Technology & the Arts (YBG Studio), a nonprofit arts and technology center dedicated to providing programming for Bay Area youth, has embarked upon an innovative project. At-risk teenagers, local artists, and educators are working together to design youth-oriented lesson plans and arts activities, which they place on their website every other month. The project has led to partnerships between YBG Studio and local corporations whose support is helping create and maintain a forum for sharing ideas and exhibiting artwork. With a small initial investment YBG Studio created a collaborative project that serves its community and schools and has the potential to serve thousands through the Internet.

Rural, suburban, and urban America alike are embracing the many benefits that technology has to offer. These arts and technology initiatives are helping communities pursue national and state education reform and local school improvement, teacher and artist professional development, interdisciplinary learning, and school-to-work readiness efforts. Local community projects are utilizing Goals 2000 funds and dedicated hotel taxes, and are participating in national community NetDays to wire schools to the Internet, transforming the classroom into a non-textbook-based learning environment.

This issue of *Monographs* provides profiles of how local arts agencies, arts organizations, and educators are incorporating new technologies into their already-existing programming and curriculum. *The Arts, Education and Technology: A Winning Combination* highlights examples of how locally, the arts community and schools are forging new collaborations with partners such as libraries, universities, public access television stations, cooperative education agencies, and businesses to link arts and technology to the classroom. Funding trends are discussed by Arlene Krebs, author of *The Distance Learning Funding $ourcebook*. In the resource section is a list of publications and online websites. Believe it or not, this braver new world of technology can be demystified.

This *Monograph* also appears on the Internet, as a guest of the Kennedy Center's World Wide Web site, ARTSEDGE, a national online arts and education information network. Accessing this *Monograph* on ARTSEDGE provides direct links to all web-based resources referenced in this issue. The website also serves as a clearinghouse for local arts agency staff and constituents to share information,

The Kennedy Center's

ARTS Linking the Arts and Education Through Technology

search lab

web spotlight

community center

for students

curriculum studio

Homepage for Kennedy Center's ARTSEDGE, a national arts and education information network. ARTSEDGE is hosting a website for this *Monograph*, with links to all the web-based resources referenced in this publication.

resources, and ideas for future collaborations and to address some of the basic needs and challenges for newcomers by identifying existing examples of online tools and resources. Visit the *Monograph* website at <http://artsedge.kennedy-center.org/aetcbp.html.

Collaborative and Interactive Learning Through Technology

According to *Advanced Telecommunications in US. Public Schools, K-12*, a recent survey by the National Center for Education Statistics (NCES), half of the nation's public schools have at least one computer connected to the Internet, well up from 1994's 35 percent. Technology has the potential to play a significant role in ensuring the arts are a core subject area and vital to the K-12 curriculum. Interactive computer technologies are providing students and teachers with greater opportunities to experience firsthand the images, sounds, and motions that embody the arts — as well as to discover the interdisciplinary and multicultural dimensions of arts education.

Title V Indian Education Program, San Francisco, California
"In Our Own Words," a project of American Indian Contemporary Arts, in collaboration with a San Francisco media center and the local Title V Indian Education Program, set the stage for a poet and Native American drummer to work with youth to develop their own poetry and create a poetry anthology. The youth went on to work with a local public radio station to produce and broadcast a program based on their poetry. Once they learned a few basics of computer technology, they combined imagery, music, and words into a digital movie of their poems. "I know that this program helped prevent at least one of the participants from dropping out of school," says Janeen Antoine, director of American Indian Contemporary Arts, adding that the kids had to stay in school to participate in the program. "They came diligently every week, and sometimes on Saturdays."

"In Our Own Words" grew out of a meeting with Indian groups under the auspices of Bay Area Indian Representatives (BAIR) which identified youth programs as a critical need. The goal of the program is to provide a support group for Indian youth, encourage them to stay in school, and give them positive reinforcement of their Indian heritage. American Indian Contemporary Arts found funding for its poetry and media program from the San Francisco Arts Commission, whose awards include grants for writing and literacy initiatives. Local public schools provided program sites and recruited students to participate. Youth took part in this Title V Indian Education Program project during weekly three-hour afterschool meetings where they began learning the mechanics of writing poetry. The resident poet brought in a Lakota drummer to familiarize participants with drumming, singing, and rhythm-making.

With a producer at public radio station KPFA, youth recorded, edited, and aired their own poetry program. Following the broadcast, several students responded to call-in questions and comments from radio listeners. In the third component of the project, youth used computers to manipulate and combine moving and still images (television news clips and video and film clips) with their poetry to produce a video that aired locally.

Technology in the Arts

by Sheila Hayes, Natrona County High School Art Teacher, Casper, Wyoming

Technology in the arts is becoming an integral part of the Visual Art, Social Science, English, and Theater departments, and also in the vocational program at Natrona County High School in Casper, Wyoming. It started with a four-year grant from the Wyoming Arts Council for the purchase of our first video interactive computer system. The addition of technology to the Art program has been a catalyst for bringing coherence to the school curriculum and for building interdisciplinary teaching and learning. Students and teachers are not limited to 45-minute art or social science classes, instead, teachers combine classes, collaborate on designing interdisciplinary curriculum, and team-teach two-to-three- hour sessions.

"Technology has transformed our classroom into a collaborative learning environment."

Starting this project has taught me a lot. Learning to let go of having to know everything before you work with students is a scary feeling to a lot of educators. At Natrona High School we use a range of software and technology and I have to rely on the students as partners in making sense of new applications and hardware. Technology has transformed our classroom into a collaborative learning environment. Our students set up the entire computer lab from loading the software and connecting the cables to troubleshooting networking and mastering unique software applications. At the beginning of class this group of students had limited computer experience.

The strategy of integrating technology and connecting with the community has resulted in tremendous opportunities for my students. Computer software that we have incorporated into our visual art programs is having an amazing impact. The art students are producing logos, layouts, brochures, advertisement posters for local businesses, as well as for our local fine arts and civic organizations. Students are going out into businesses and working on the job with artists in various commercial art fields. This experience is linking the real world to the students' school experience.

Our most recent grant provided us with animation capabilities. This provided the opportunity for our art classes to create imagery on tape. The programs that we are using are digital so we are a little ahead of our local television stations. This cutting-edge technology provided one of our arts students the skills to land a job with the local TV station. As a result of this connection, our high school studio art classes are creating graphic illustrations and animations for the local television station.

"Technology has become one of the most useful tools in the educational reform movement but, 'the key is to remember that technology is a tool — the new pencil or chalkboard. . . .'"

Television provides an excellent platform for students to view their work as they develop features that are aired in classrooms all around the school. The art, journalism, speech, drama, and television programs are teaming to create an interdisciplinary project. This collaboration comes about in our television production studio. The art classes are composing animated logos, graphic illustrations, short thematic animations, and music videos. Journalism classes are doing investigative reporting and writing. Our speech teacher works on presentation strategies for on-camera reporting, and the drama teacher works with students as they create short feature films. Our TV instructor directs the entire program and teaches technical editing. The productions we create are aired on a local cable channel and in our school every two weeks.

Interdisciplinary approaches bring together great minds. Using the computer lab, the art, English, foreign language, and journalism classes combine their efforts to produce a literary magazine. This product represents the quality of the students' collaborative and interdisciplinary work. The magazine was awarded a superior rating by the National Council of Teachers of English. One of the art students received first place for portfolio from the National Columbia Scholastic Press Association of Columbia University.

It has been a very exciting process integrating computer technology into the art program at our school. As this integration has developed we have received additional grants from the Board of Cooperative Education Services (BOCES), an extension program affiliated with our local community college, Wyoming Council of the Arts, and our school district technology program. It is our goal to have a visual technical center that creates an environment for all students to explore computer technologies in the arts.

Four years ago we started with one computer and one software application. We are now working with six video interactive Macintosh systems, a network, a scanner, a SyQuest, four software languages, a VHS camera, and a laser printer. At this point, our Art Department has raised $65,000 dollars. We have accomplished much but we still have a tremendous goal ahead of us.

Cross-Curriculum Teaching

Throughout the United States, education specialists are curtailing the fragmented "skill and drill" style of learning in favor of integrating instruction across disciplines. The American Society for Curriculum Development and the National Association for Education of Young Children have set integrated learning as a policy priority. The integration of language arts, social studies, and visual and performing arts themes are quickly becoming a part of curriculum development throughout the United States. Technology has become one of the most useful tools in the educational reform movement but, "the key is to remember that technology is a tool — the new pencil or chalkboard. Its successful infusion is dependent upon having clear educational principles shared by all, and

having the educational structures in place so that the benefits of technology can be realized," says Fred Carrigg, executive director for Academic Programs at the Union City School District, a New Jersey district that is leading the way in incorporating technology and interdisciplinary curriculum into school improvement.

Minnesota Alliance for the Arts in Education/Twin Cities, Minnesota

The Minnesota Alliance for the Arts in Education recently received a $105,000 General Mills Foundation grant for a two-year project to find ways of using technology as a tool to bring "all the arts to all the kids" in three Twin Cities-area schools. "The project will involve not just arts teachers, but hopefully the complete school staff and administration, in acquiring the skills and knowledge of how to integrate the arts into all areas of the curriculum," explains David Bach, the Alliance's executive director. "We can also create some exciting new learning opportunities for students. For example, architecture can be taught through math, visual arts, and computer technology."

Each school, along with its local community, developed a plan for integrating the arts into the curriculum through technology. Schools then received a $10,000 equipment grant and a $5,000 grant to train staff in the use of technology and the arts. Part of this project is aimed at connecting learning in the arts to real work situations. Schools will visit businesses which make use of technology in artistic ways in areas from graphic design and advertising to the complex technology used in local theater productions. In addition, the Alliance will be working with a group of local arts organizations to explore ways in which technology can be used to connect more students to cultural resources in their community. The Alliance prints a newsletter to help connect sites and share information. If you would like to receive the newsletter, contact the Minnesota Alliance for the Arts in Education, 8100 Landmark Center, 75 W. Fifth Street, St. Paul, MN, 55102.

Kenmore Middle School/Arlington, Virginia

Harvard University education professor Howard Gardner's "Multiple Intelligence" theory is increasingly influencing education reform and local curriculum approaches. Gardner's research indicates that intelligence has several modes: logical, verbal, musical, visual, and kinesthetic. The Kenmore Middle School in Arlington, Virginia, is one of a growing number of schools encouraging students to use all these modes. The school's new academic program weaves dance, music, art, and technology into every class — from math to social studies to foreign language. The Arlington County Cultural Affairs Division, along with community artists and cultural organizations, partners with this now-thriving neighborhood school, which had once suffered a period of lost enrollment due to redistricting.

In math, students analyzed the angles and proportions in paintings by Pablo Picasso and Albrecht Durer — and researched the lives of artists and mathematicians. In science and foreign languages, students have learned vocabulary through song. In social studies, they have scripted and videotaped skits based on the lives of arctic explorers Matthew Henson and Robert E. Perry. Students and teachers are excited by and engaged in the new curriculum. Already, after the first year, there is strong evidence that students are learning more. Performance has improved on the Virginia standardized literacy test in reading, writing, and math, and scores are higher on the IOWA NPCT test.

"Harvard University education professor Howard Gardner's 'Multiple Intelligence' theory is increasingly influencing education reform and local curriculum approaches. Gardner's research indicates that intelligence has several modes: logical, verbal, musical, visual, and kinesthetic."

With the commitment of an approximately $200,000 annual appropriation from the school board, the program's budget covers professional development for the school's 60 teachers, technology equipment, supplies, conferences, and enrichment activities and summer programs for students.

Kenmore Middle School's collaboration with George Mason University has generated some exciting telecommunication activities. In the Acid Rain Project students used National Geographic Kids Network software and PowerMac workstations to transmit and compare acid rain data with students in South Africa, and practiced writing skills as they communicated with their new pen pals. ESL students created an illustrated book on dinosaurs using the computer program HyperStudio. In another interdisciplinary unit, students learned about solar energy while designing their own solar powered cars and about design while creating advertisements to promote their inventions. In the multimedia class students are developing skills to create presentations on the computer that merge sound, graphics, video, and photographs — skills they then can apply to projects in all subject areas.

During the planning stage, the Arlington County Cultural Affairs Division and local cultural organizations participated in the design of the Kenmore program and provided professional development workshops for teachers to understand how to integrate the arts into the curriculum. Now that the program is up and running, the Cultural Affairs Division supports artist residencies, performances, and cultural programs that link with the communication and technology curriculum. For example, a storyteller and harpist are planning a two-week residency in which students will learn music composition and write stories using electronic equipment and computer software.

Distance Learning
Networking technologies (fax, e-mail) are providing students with tools and facilities to extend hands-on experiences beyond the traditional classroom or studio. Using tools like CU-SeeME and other videoconferencing applications enables students to collaborate in real time with peers from around the world. When networking technology was originally introduced to the education profession as Distance Learning, few organizations or individuals were able to explore videoconferencing because of the initial cost of the hardware and the ongoing cost of connect time. Today, there is a range of options from the Smaller Budget Solutions, a $99 dollar computer camera and software which uses CU-SeeME technology and a desktop computer, to high-end business applications designed by companies such as Multilink and Sony. *Technology & Learning*, an instructional technologies monthly, and other trade journals provide easy-to-read instructions on how to get started and teacher-written case studies that include funding information.

The Gertrude Stein Repertory Theatre/New York City
The Gertrude Stein Repertory Theatre (TGSRT) has been experimenting with innovative forms of arts education using multimedia telecommunications since 1992. Its World Stage Network program focuses on live long-distance collaborations between at-risk students, rather than on traditional concepts of distance learning. Many World Stage Network projects have been possible because of an early partnership with the marketing, technical, and product development divisions of IBM, in addition to their philanthropic giving program.
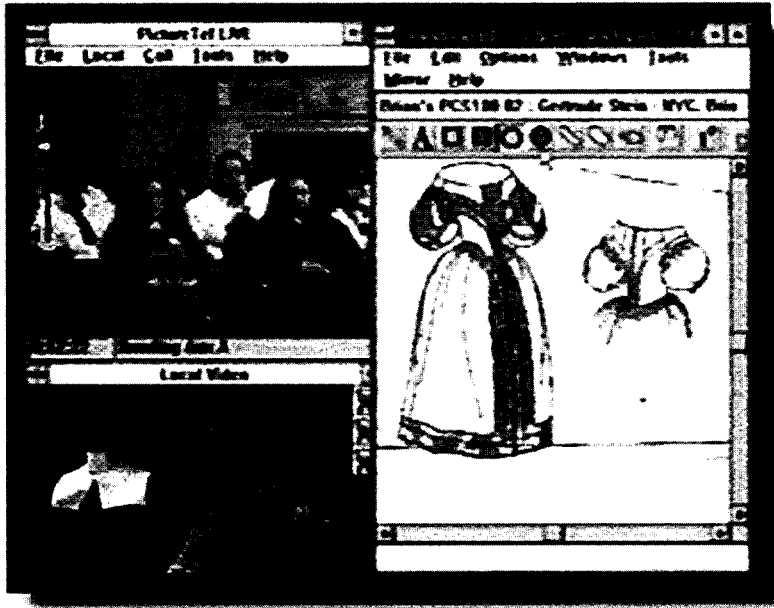
With videoconferencing, students on two different continents discuss the historical research and preparation for theatrical production with a costume and set designer.

In 1994, for example, students at the Portsmouth Academy in Portsmouth, England, rehearsed Arthur Miller's *The Crucible* together with students from the New York Public School Repertory Company, an experimental school for at-risk kids on the Lower East Side of Manhattan. The technology used was desktop videoconferencing, a low-cost alternative to conventional videoconferencing. The two schools were able to see and hear each other on large projection screens. They could also share and display drawings and graphics. Besides rehearsing scenes together, a set designer and costume designer were invited to share the kinds of historical research and preparation they do while developing a professional theater production. For the final session, Arthur Miller joined the students to discuss the relationship of the play to early American history, the politics of the 50s, and theater history.

The success and visibility with *The Crucible* initiative quickly led TGSRT to other partnerships with sites around the U.S., including *Logos*, a TGSRT project developed in association with Urban Gateways in Chicago and HOLA in Los Angeles. *Logos* used videoconferencing to enable children to collaborate on using the arts to explore environmental issues from remote locations. Currently, TGSRT is developing a website for IBM called Small Planet Pavilion. Part of the 1996 Internet World Exposition, Small Planet Pavilion is a journal on "learning and culture in a networked age." It reports on education and arts projects that use networked computing technology to encourage international collaboration and creativity.

Rural Teachers, Artists and the Internet

by Rick Kempa, Assistant Professor of English, Western Wyoming College, Rock Springs, Wyoming

"Wyoming is often seen as a small community with long streets," says Wendy Bredehoft, AIE program manager for the Wyoming Arts Council. "Of the 455,000 people who live in Wyoming's 98,000 square miles, 71 percent live in rural communities. Because the vast distances between communities make people feel isolated — both physically and psychologically — from each other, there has been a strong interest in Wyoming in the use of computers and technology as a means of long-distance communication and education. Both the governor and the Wyoming Department of Education have placed special emphasis on technology by

allocating all of its Goals 2000 money to building computer-based long distance commun-
ication and education programs. The Wyoming Arts Council believes that by combining arts
and technology, we can go far beyond the basic concepts of long-distance communication and
education. Our goals are to promote learning in the arts and technology arenas, by supporting
teachers and students with funding for the tools, training, and technical assistance they need,
and by encouraging the exchange of ideas and information between districts as more and more
systems come online."

In southwest Wyoming last spring, a dozen writers participated in an "electronic workshop"
that took place entirely on the Internet. The project, funded by the Wyoming Arts Council and
the Sweetwater County Board of Cooperative Educational Services (BOCES), included students
from two area high schools, their creative writing teachers, and writers from the community-
at-large. The aspiring writers crafted essays, poetry, fiction, and drama, and, except for a
single training session at the outset, the writers never met face-to-face. Classroom meetings
and discussions happened in cyberspace — what you might have read about as a "virtual
classroom."

The spirit of this project was to demonstrate the exciting learning communities that can be
created for rural and isolated localities. Internet workshops can address the challenges of
geographical distance, isolation of community members and budget limitations. This elec-
tronic workshop brought together local writers, high school students, a college instructor,
and high school creative writing teachers, linking segments of the community into a new
learning network. The Sweetwater County Library provided adult students with access to
library computers and technical assistance from library staff. High school students partici-
pated in the workshop using computer facilities at two different schools, while the writer-
in-residence led the six-week workshop from his computer at the Western Wyoming
College, where he is a faculty member.

The project yielded some insights into the unique challenges and benefits of electronic work-
shops. We learned, for instance, the foolishness of trying to stick to a preset schedule the first
time around. We also found out the importance of having good technical assistance on hand;
someone who can tell you the things that seem obvious but are mysteries to beginners. How,
for example, to upload your files so that Apples and PCs can talk to each other.

Once underway, however, we quickly discovered the benefits. The electronic workshop is
more democratic than its "real time, real space" counterpart. The quieter people can find an
opportunity to speak, and the thoughtful ones have time to think. Best of all, the online
format promotes greater depth of discussion than you normally achieve. Real depth comes
from sustained digging, from picking up today where you left off yesterday, and the electronic
medium invites this kind of continuity. It was especially helpful for high school writers to

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interact with more mature writers and students reported that it raised their skill level. The school envisions a future online project between high school classes and college classes this coming school year. A pilot multi-state writing project is also in discussion.

Electronic online workshops clearly have important implications for local arts organizations and colleges faced with shrinking budgets. Local organizations can arrange for established writers from outside a community's state or region to serve as online "artists-in-residence" without the cost of "importing" the artist. Similarly, students and community members living in isolated or rural areas can participate in online workshops with an Internet account and access to a computer regardless of where they live.

Community Building Through the Web

The propensity and capability of artists and arts educators to collaborate with each other and with other arts and education professionals will be a significant factor in the survival of arts education in the 21st century. We are just beginning to experience the first wave of arts educators who are taking advantage of interactive technologies in both mainstream and more unconventional ways. The World Wide Web provides a classroom window on the world. Students, teachers, and artists can access educational resources ranging from the Getty Museum to the Smithsonian Institution to small regional museums throughout the United States. Conversely, when classes post their own work on the Web, it also provides a window into the classroom or arts center. Showcasing the activities and talents of local students, teachers and artists on the Web enables community members, parents, and local businesses to share in the educational experiences of area schoolchildren, potentially creating new partnerships. The Web provides an ideal opportunity for students to build portfolios of work that allow reflectivity and assessment — important not only to arts education but to the educational process in general.

Plugged In/Palo Alto, California

The Web can also serve as a virtual gateway through which students can actively contribute to shaping their own communities. Plugged In, a nonprofit organization created in 1992, in East Palo Alto, California, helps low-income children and their families learn technology-based skills and gain an understanding of the development of leadership and job skills. Arts projects form the basis of typical assignments, such as the creation of screen savers, cartoon animations, multimedia self-portraits, and personal Web pages that feature creative writing and original art. Plugged In develops collaborative projects that use sophisticated communications technologies in creative ways to provide broad and exciting learning experiences to a community that has traditionally been denied access to computer technology. Projects are created by youth, adults and artists, and are made available nationwide, along with curriculum ideas and organizational information, to community workers and educators through Plugged-In's Internet site on the World Wide Web. Because of the popularity of the program, Plugged In is one of the largest youth employers in east Palo Alto.

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PLUGGED IN

E N T E R P R I S E S

Welcome to Plugged In Enterprises. We are a student-run business, providing Internet-related services to clients around the world. We're spending most of our time working on client projects - so this page is a work-in-progress.

Our rates and services

Find out more about Plugged In Enterprises

Take a look at our portfolio

Meet our team:

Website designed by students of Plugged In, an organization that helps children and families learn technology skills and prepare for employment. Students create screen savers, cartoon animations, multimedia self-portraits and personal Web pages featuring creative writing and original art.

Education Reform, Goals 2000 and Workforce Readiness

Local arts agencies can play a critical role in helping communities, particularly rural communities, embrace the benefits of technology-based collaboration. In rural Lincoln County, Oregon, the Oregon Coast Council for the Arts (OCCA) launched the Animation Project, a program that brings together local artists, the school district, community colleges, businesses, and a consortium of nonprofit agencies. The basic model for the Animation Project is simple and straightforward. Teams of students, educators, and artists work directly with clients developing animations for specific business needs — not unlike a commercial marketing agency or production studio. What is different is that the primary focus is to teach critical thinking and new computer-based skills that will prepare artists, educators, students, and displaced workers for the workplace of tomorrow. The teams produced:

● An animated logo for Oregon State University's Hatfield Marine Science Center's "Earth and Sea Investigators."

● An animated public service announcement for the county Health Department about the negative effects of smoking and alcohol consumption during pregnancy.

● An introduction for a safety training video for Georgia Pacific's Toledo paper processing mill.

● A 3-D fly-through of a proposed park for the city's Parks and Recreation Department.

The Arts/Multi-Media Learning Incubator was also established, which will continue the training model and expand beyond simple animation projects to CD-ROM production and software development. OCCA's incubator helps artists "hatch" entrepreneurial multimedia projects. The arts council links artists with facilities, access to technology, and brokers applied work sites in county businesses.

The school district, OCCA, and University of Oregon, are building on the model 3-D animation project. With a $180,000 Goals 2000 sub-grant, the partnership is continuing to apply high technology across the curriculum with applications to real work situations existing in Lincoln County. The district was awarded the $180,000 competitive grant to implement a school improvement initiative based on the OCCA Animation Project. The partnership will use the funds to provide more teachers

and artists with training in technology (computer generated animation, graphics, multimedia and video) to develop Integrated Thematic Instruction, an approach which applies Howard Gardner's learning theory to cross-curriculum instruction.

The funds will also help establish more local commercial applied-work sites for teams of students and artists. Parents will receive technology demonstrations and training to include them in the process and to reduce communication gaps with children — especially important for households without computer access. The Lincoln County technology initiative has led to an increased understanding of the importance of the arts, artists, and art teachers in the whole curriculum and in the district's school improvement efforts. The Oregon Coast Council for the Arts has been a critical catalyst.

Linking People with their Resources — Local, Regional and Global

Local arts agencies and arts organizations are taking the traditional artist roster and arts education resource directory to websites and public access television, reaching wider audiences and linking schools, artists, cultural organizations, and parents with interactive technology.
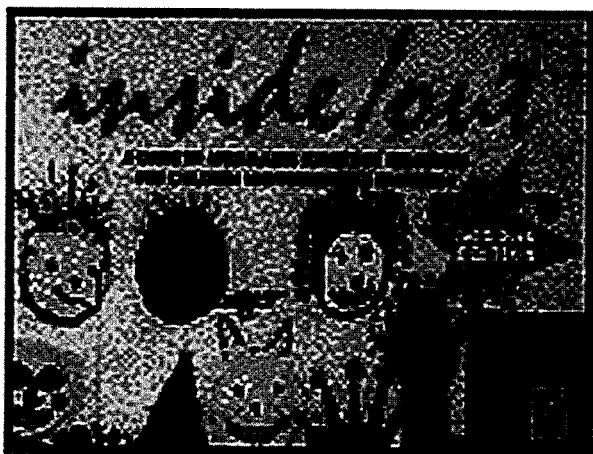
Website graphics for *inside/out*, an online arts education resource directory, a partnership of the Arts Education Collaborative, the San Francisco Arts Commission and the San Francisco Unified School District.
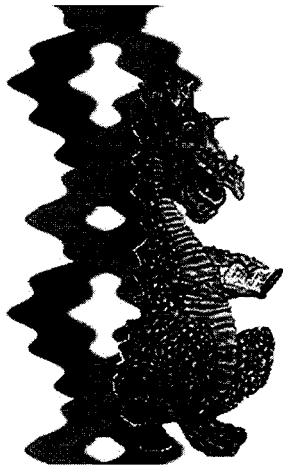
Arts Education Collaborative/San Francisco, California

The Arts Education Collaborative (AEC), in partnership with the San Francisco Arts Commission and the San Francisco Unified School District, created *inside/out, A Guide to Arts and Arts Education Resources for Children and Teens in San Francisco*, an easy-access directory of information on arts opportunities both in and out of school. Shortly after the publication of *inside/out*, KQED's Learning Link, an online professional development program, contacted Ann Wettrick, arts education officer at the San Francisco Arts Commission, and invited the Commission to put the arts education resource directory online. "We realized early on that distribution was critical to making this a successful project," says Wettrick. "We were pleased that KQED could assist us by taking us to the next step." *inside/out Online* takes advantage of the Web's seamless connections to related directories of information regarding local schools, public libraries, and cultural and community centers.

Kennedy Center IMAGINATION CELEBRATION/Colorado Springs, Colorado

Colorado Springs has demonstrated how a local arts community can serve as the catalyst for developing and sustaining a technology-based arts education initiative. The development of a community-based arts education website, under the umbrella of the Kennedy Center IMAGINATION CELEBRATION program (KCIC) at Colorado Springs, represents a partnership between Southern Colorado's arts and cultural resources and its schools, businesses, professional organizations and local government. Key partners are the KCIC program, with the cooperation of the Performing Arts for Youth Organizations (PAYO, the local arts agency), MCI Foundation, Pike's Peak Library District (PPLD), KKLI (a local radio station), and KTSC-TV. Free Internet access (courtesy of MCI) is

Imagine Sites	How to be/who has been a mini or dream maker site.
Edulink	Everything for education...curriculum/helpful tips.
Gift Shop	T-shirts, posters, order forms.
Spotlight	Calendar of Imagination Celebration, Pike's Peak Library, and KTSC events.
Artist's Gallery	Local artists associated with Imagination and regional Dream makers.
KCIC ArtsEdge	Discover the Kennedy Center in Washington D.C.
Imagine!	The "BEST OF" fun and educational websites.
Writer's Block	Annual writers' conference, poetry winners, writing contests...
Backstage	Imagination staff, supporters, and volunteers.

Arts education website developed by Colorado Springs' arts and cultural organizations, and the private and public sectors.

available to all residents at libraries located throughout the Pike's Peak region.

The site is organized to provide information and opportunities to contribute information, ideas, and resources in the following areas:

- *Spotlight* — a calendar of arts education and related cultural events available throughout the region.

- *Artist's Gallery* — local artists who work directly with students and teachers in area schools.

- *Imagine Sites* — schools that have participated in the KCIC's year-round community-based arts education program, as well as information on how to participate.

- *Edulink* — curriculum-based information and resources and professional development opportunities for teachers.

- *Imagine!* — links to related educational websites.

- *Writer's Block* — annual writers' conference that includes poetry and writing workshops and awards.

Websites like these significantly increase the visibility of arts education programs and student achievement in the arts, and stimulate parents' and community members' appreciation of the scope and availability of such resources in their own communities.

This effort is supported with a $10,000 grant from the Kennedy Center's ARTSEDGE network; a $25,000 grant from the Corporation for Public Broadcasting, as a K-12 Testbed Project; and by significant in-kind support from each of the other partners, ranging in value from $10,000 - $20,000. In addition, the radio and television stations are soliciting paid sponsorships from local businesses for each of the site's feature pages.

Seattle Arts Commission/Seattle, Washington
The Seattle Arts Commission (SAC) is developing an online Arts in Education Resource Guide that will be accessible via the city's Public Access Network (PAN). In addition to providing the tradi-

tional roster of artists, SAC's resource guide will include a registry of teachers, schools, parent groups, and community-based groups interested in developing arts-based projects. The SAC guide will also feature technical assistance information that will guide arts and school collaborators through partnership selection, project development, and, where possible, project funding and application processes. Plans for this venture include touch-screen capability that will enable users to scroll through the Guide and/or sort information based on his or her level of expertise and area of interest.

National Efforts

Although much needs to be done to develop nationwide electronic versions of locally-based information and resources, it is equally important to help the local arts and education community locate and integrate the wealth of arts and humanities content that is already available on the Internet. The Library of Congress' evolving National Digital Library, for example, is in the process of digitizing the range of photographs, audio recordings, film recordings, and other archival materials contained in its 200 most popular collections (e.g., Matthew Brady's 1,100 Civil War photographs, which are now available as a CD-ROM and on the Library's Internet site). Other national arts and cultural institutions (like the Smithsonian's various museums and smaller regional museums) and organizations are making archival material and newly developed resources available over the Internet.
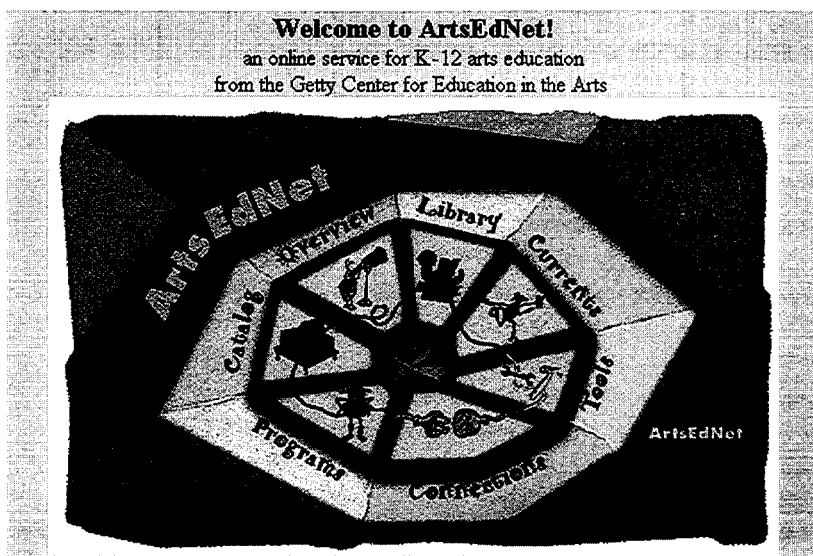
Homepage for ArtsEdNet website, directing users to an online bank of artwork images, curriculum and lesson plan tools, and online forums for exchanging information, ideas and resources.

The Kennedy Center is developing Internet-based multimedia resources that are derived from its adult education lecture series. "What is Jazz" is a resource for both youth and adults which presents information and resources about jazz based on a series of presentations at Kennedy Center by renowned jazz musician and scholar Dr. Billy Taylor. This website organizes this material by artist, style and geography. Many of the "pages" created for the site link to related jazz resources on the World Wide Web. A similar process was used to create a "What to Listen For in Music" site, which, in addition, contains a music glossary where the user can hear a musical concept or term described and also listen to a portion of a musical recording as an example. The Internet and related distance learning technologies (i.e. simulcasts via satellite) enable the delivery of performing arts demonstrations and workshops to students and/or teachers throughout the country.

The Getty Center for Education in the Arts' ArtsEdNet is demonstrating how students and teachers can have access to visual treasures contained in art museums and galleries throughout the world. Getty's Multicultural Art Print Series (MAPS) is available online and contains high-quality images of artworks, textual information about the cultural and historical context of each work, and sample questions to engage students in further research and discussion. ArtsEdNet draws on the work

and accomplishments of the Getty Center's regional institutes in helping teachers and communities understand and implement the discipline-based arts education approach, drawing on four perspectives: studio-production, aesthetics, art criticism, and art history.

New Media for Creative Expression

Zane Vella, an artist and educator who has worked extensively with the San Francisco Exploratorium and several other art and science centers, developed and piloted several online interactive projects. Vella created CitySpace, a project designed to develop network communications and computer graphics skills among youth, and to emphasize the two-way nature of the Internet. Teaming up with Coco Conn, a Hollywood film and video producer turned educator, CitySpace builders (youth participants) were introduced to high-end computer graphic tools and professionals who mentored the young architects. The process focused on the development of a virtual city environment by kids from around the country. The kids shared stories, pictures, sounds, and creations of their own imaginations, and then collaborated to assemble a 3-D navigable city model.

Visitors to CitySpace explore avenues that resemble conventional streets, but are filled with incredible buildings that are made up of colorful geometric designs and photographic images of children and objects. The visitor is able to enter many of the buildings which are embellished with poetry, personal journals and unusual artwork. It can be seen to represent a child's version of interactive theater, designed to include participants from classrooms, computer labs, museums, and science centers located anywhere in the world.

Computers and telecommunications have so revolutionized our ability to develop and deliver information and ideas that we are seeing a number of technology-based innovators and practicing artists who have made career or avocational choices that cross over.

George Coates Performance Works (GCPW) creates large-scale multimedia theatrical performances that use emerging digital technologies in combination with traditional stagecraft, lighting, and film techniques to support live performers in the creation of "a live theater of colliding media."

For the past 20 years, the innovative and successful Laurie Anderson has integrated the arts and technology, and continues to push the technology envelope with her latest work, a CD-ROM called "Puppet Motel," which connects the user to over an hour of music, excerpts from her "Stories From the Nerve Bible" production, and side trips to many real and imaginary destinations. Her website, The Green Room, is on the Internet at the Whitney website, a popular destination for teachers who want to present to their class contemporary artists exploring new technologies online.

City Government Commits Dollars to Arts Education and Technology

The City of San Francisco has made a tremendous and unprecedented commitment to its youth by funding the building of an entire city block, the Children's Center, which is dedicated to enriching educational and recreational activities for Bay Area Children, teens and their families. The Center is

"The Agency's efforts have been spurred on by the feeling that increasingly there seemed little place for children anywhere in American society. . . . Caught in the middle, kids are left to their own devices, either alone at home or on the street. . . ."

the culmination of many years of dreaming, planning and hard work on the part of the San Francisco Redevelopment Agency and multitudes of San Francisco community artists, educators, parents, children, and others. The four-acre $48 million center, funded with agency bonds re-paid with hotel taxes, will be the new 34,000 square-foot home of the Yerba Buena Gardens Studio for Technology & the Arts (YBG Studio), a youth center for arts and technology programming. YBG Studio will be surrounded by learning gardens, an ice skating rink, bowling center, day care center, and antique carousel.

YBG Studio brings visual and performing arts together with new technology tools, such as digital cameras, animation and 3-D modeling software, videoconferencing and Internet exploration, and works within the local school system providing professional development for teachers and arts and technology workshops for youth and parents to explore the wealth of resources available online. The YBG Studio will also receive $6 million as an endowment for operational expenses and has a source of considerable ongoing income from the operations of the antique carousel loaned to it by the Redevelopment Agency. The new YGB Studio facilities are due to open at the Children's Center in Spring 1998.

In the words of former San Francisco Redevelopment Agency vice president, Vivian Fei Tsen, an urban planner and economist and president and founding member of the YBG Studio's Board of Directors, "The Agency's efforts have been spurred on by the feeling that increasingly there seemed little place for children anywhere in American society. . . . Caught in the middle, kids are left to their own devices, either alone at home or on the street. . . . In beginning to address [their] needs on a prime downtown location, San Francisco is expressing its tangible commitment to children and teens throughout the city. It may also be setting an example of national significance, evident to all those who visit Yerba Buena Gardens."

Funding Arts Education and Technology — Trends and Opportunities
by Arlene Krebs — Author, *The Distance Learning Funding $ourcebook* and President,
New Orbit Communications, Brooklyn, New York

Telecommunications and the new media are changing the ways that we educate, where learning takes place, how schools and agencies are organized, and the ways and modes through which teachers and students interact. Schools, higher education, libraries, museums, science-technology centers, arts and culture organizations, community and local government agencies, and business and industry have become common sites for distance learning.

Among the most innovative applications in distance learning today is arts education. For artists and educators this is an exciting time for innovation and teamwork, not only to create the content and context for rich multimedia resources, but to collaborate on grant writing and

fundraising. The national arts education standards have helped to generate funding for projects which integrate arts education across the curriculum.

There are a number of philanthropic and government agencies which have, over the past few years, consistently supported technology-based initiatives. Within the context of their education and arts and culture programs, you should be able to match your project's goals with the priorities of these funding agencies — all of whom demonstrate a deep commitment to address changes in every level and aspect of our educational system.

Although many foundations acknowledge that telecommunications is a necessary and vital component for nonprofits, they do not fund technology per say. Foundations do fund projects whose objectives closely relate to the priorities and goals that the foundation has established. The grant seeker, therefore, must understand that content — dynamic content linking diverse audiences in new ways to increase understanding and to address community issue — is primary. Telecommunications becomes the means to the end — it fosters communication, collaboration and the sharing of resources for the public's benefit. A strong proposal responds to a community's needs and relates these as an attempt to create model partnerships where people and agencies collaborate.

There are some notable funding trends. Support for K-12 schools is closely linked to the new National Education Goals and Goals 2000. Funding priorities include those for early childhood development and at-risk youth; for meeting the needs of girls and women, minorities, and of people with disabilities; for new math, science, arts, and technology curricula; for higher academic standards and new teacher training programs; and for making learning a life-long activity. The corporate giving programs and private foundations of the Bell operating and local telephone companies offer support for technology-based arts education initiatives, as do the philanthropies of computer equipment manufacturers. Moreover, foundations well-known for their support of arts and culture (such as the Coca-Cola Foundation, the Knight Foundation and many more) are now supporting technology-based arts education initiatives.

AT&T recently announced plans to commit $150 million to help put the nation's 110,000 public and private elementary and secondary schools on the information superhighway, including the Internet, by the year 2000. The new five-year program is called the AT&T Learning Network and will begin Winter 1996. Through it, AT&T will make available at no charge some of its newest services and extensive education support to every school in the United States. More specifically, this initiative will provide each school free dial-up Internet service, browser software, and 100 hours of free usage, giving students ready access to the resources they need for class projects. They will also provide free support for teachers; online mentors; models for collaborative online projects; and lesson plans prepared by professional educators. Schools that would like to register or learn more about AT&T Learning Network can call AT&T at 1.800.809.1097, or reach it on the Internet at LearningNet@attmail.com.

Grant writing, despite many people's initial reservations, can be a creative, dynamic process that brings a team of educators and community members together to address their most critical needs and to conceive solutions that appeal to the objectives of funding agencies. Through trials (and errors), grant writing can lead to success. *The Distance Learning Funding $ourcebook* is a document of imaginative, successfully funded projects. What matters most is your commitment and persistence — not to lose your vision for change; not to become discouraged; and to remain determined and positive. A well-known motto comes to mind: "Try, try and try again." Each new attempt refines the process; gains you experience; and offers feedback advice on how to improve your proposal.

The best way to seek funding support is to combine innovative content with a technological infrastructure to create a networked community. Nonprofits must carefully plan how to integrate the new technologies with applications that help to solve pressing local and national issues. Faculty and staff training, materials and curricula development, assessment and dissemination are all appropriate and necessary components of a funding request.

In fact, approximately 50 percent of a grant request should include curricula development, teacher training and evaluation. Most funding agencies are interested in comprehensive evaluation and dissemination efforts. These include evaluations conducted as part of the funded project, as well as evaluations conducted in-house by the grant makers in order to assess their funding priorities and the "best practices" of grantees. Agencies are interested in investing carefully in projects which can serve as models and be replicated, and may assist their grantees to disseminate their research and activities.

Here are some grant writing tips. First, identify the problem you are seeking to address; describe how you will solve the problem; and explain the project's scope. Gather demographic and pertinent information about your school, organization and community. Regularly update this so that it becomes a "boilerplate" background, providing facts and statistics that help to describe the environment of your school, community or organization. Statistics on Title I children; racial/ethnic background; disabled/special education; numbers of teachers; and the numbers of students and teachers involved in this specific project offer the reader insights into the design and potential impact of your grant request. Similarly, for organizations, document the types of services you provide, as exhibitions or afterschool programs or teacher training workshops; the persons served; staff; operating budgets and the like. These facts should be readily accessible.

Next, define the project's objectives. Although your first thoughts, for example, may be to acquire computers, you must remember that private philanthropies (and for the most part, many state and federal agencies) look for a content area that matches their priorities. Then state how you will meet each objective. Keep asking yourself questions that a proposal reviewer may well consider, such as:
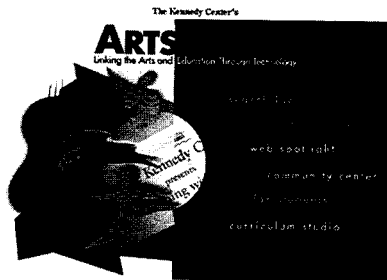
- What is the purpose of this project?

- Who will be involved in managing it?

- Where will the project occur?

- What is the time frame for the project? When will it begin? For what period of time is funding requested?

- What are the problems being addressed? What are the solutions offered? Are these viable and manageable?

- What are your qualifications to accomplish the project's objectives?

- What is the budget? Are these costs reasonable?

- How will you prove the results of the grant?

- How will information about this project be disseminated?

The grant seeker must think broadly about each funding agency's programs, target the project to the appropriate agency and match the project's goals with the agency's funding priorities. For example, one recently-funded Distance Learning project spanned three program areas: arts and culture, education and environmental protection. This grant supported young children to take field trips and nature walks to create drawings and digital camera images for their studies of ecological systems and wildlife. The materials were then entered into the computer, applied to the children's math and science curricula and shared through online networks. This is just one of many examples (such as those cited in this issue of *Monographs*) of how the new media and telecommunications technologies are transforming the ways teachers and students communicate and learn.

There is keen competition for funding. We have to be imaginative and hard working to secure funding for all the projects that we have initiated and for all the good possibilities and projects that we dream of. Do check the *Distance Learning Funding $ourcebook's* website: http://www.technograntts.com for updates on funding trends.

Good Luck and Funding Success!

NEXT STEP: GO TO
http://artsedge.kennedy-center.org/aetcbp.html

Thanks to ARTSEDGE this issue of *Monographs* does not end here. ARTSEDGE has set-up a website to provide direct links to all web-based resources and projects discussed in this issue. This site is also an opportunity for local arts agency staff and constituents to share information, resources, projects and strategies related to arts, technology, and education.

NALAA's staff looks forward to your online comments about this issue of *Monographs*.

Information and Resources

Perhaps the most compelling reason for local arts agencies to get "wired" is that staff will have immediate access to a support system and range of resources that is well beyond the imagination. It is not possible to summarize the enormous scope of information, educational material and art work that is only a keystroke away. We have listed below a sampling of resource materials followed by websites that you might find helpful in integrating new technology tools into your already existing curriculum and programming. If you are feeling adventurous, there are also a few listings of organizations that have an ongoing interest in collaborations with other sites. (All the listed sites are accessible from the ARTSEDGE website)

Publications (Print)

Connecting to the Internet: A Buyer's Guide
Susan Estrada
O'Reilly & Associates, Inc.
103 Morris Street, A
Sebastopol, CA 95472

Learning and Leading with Technology
The ISTE Journal of Educational Technology
Practice & Policy
Publisher: International Society for Technology
in Education
Eugene, OR
800.336.5191

Distance Learning Funding $ourcebook (*by Arlene Krebs*)
Kendall/Hunt Publishing Company
4050 Westmark Drive
PO Box 1840

Dubuque, IA 52004-1840
880.772.9165

Intelligent Agent (media and technology in arts and education newsletter)
Hyperacative Corporation
333 W 56th Street, Suite 3C
New York, NY 10019
212.462.9033

Technology & Learning
Journal of Computing in Teacher Education
Publisher: International Society for Technology
in Education
Eugene, OR
800.336.5191

Publications (Online)

Distance Learning Funding $ourcebook's website
http://www.technogrants.com

Edutopia Newsletter
George Lucas Educational Foundation
Gopher: glef.org and URL: http://glef.org
(Summer 1996 issue focuses on technology and local school improvement initiatives)

Electronic Learning
Publisher: Scholastic, New York, NY
http://scholastic.com/EL
212.505.4900

inside/out Online
A Guide to Arts and Arts Education Resources for Children and Teens in San Francisco
http://www.kqed.org/fromKQED/Cell/arted/intro.html

Online Museums, Organizations and Resources

ARTSEDGE
The Kennedy Center
Washington, DC 20566
202.416.8871
http://artsedge.kennedy-center.org

Getty Center for Education in the Arts
401 Wilshire Boulevard
Santa Monica, CA 90401
310.458.9811
http://www.artsednet.getty.edu

The Kennedy Center Online
Washington, DC 20566
202.416.8871
http://kennedy-center.org

Whitney Museum
945 Madison Avenue
New York, NY 10021
212.570.3676
http://www.ecco-nyc.com/~whitney/

Gertrude Stein Repertory Theatre Company
250 West 104th Street, #43
New York, NY 10025
Web site for IBM's Small Planet Pavilion at the 96 World Expo
http://ibm.park.org

Yerba Buena Gardens Studio for Technology & the Arts
One Federal Street
San Francisco, CA 94107
415.442.0145
http://www.ybgstudio.org

Plugged In — Learning Through Technology
1923 University Avenue
East Palo Alto, CA 94303-2224
415.322.1134
http://www.plugged.org

Los Angeles Educational Partnership
Los Angeles Learning Community Network/
LALCNet
315 West Ninth Street, Suite 1110
Los Angeles, CA 90015
213.622.5237
http://laedu.lalc.k12.ca.us:70/0/www/homepage.html

San Francisco Museum of Modern Art
151 3rd Street
San Francisco, CA 94103-3159
415.357.4000
http://www.sfmoma.org

Los Angeles County Museum of Art
5905 Wilshire Boulevard
Los Angeles, CA 90036-4523
213.857.6000
http://www.lacma.org

San Francisco Digital Media Center/D* Lab
3435 Cesar Chavez Street, Studio #222
San Francisco, CA 94110
http://www.well.com/user/SFDMC/

Organizations Interested in Online Collaboration
Yerba Buena Gardens Studio for Technology & the Arts
415.442.0145

Plugged In
415.322.1134

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Seattle Arts Commission
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206.684.7171

Gertrude Stein Repertory Theatre Company
212.647.9684

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Local Arts Agency Facts 1993	February 1993
An Arts Magnet	January 1993
Olimpiada Cultural: It's More Than A Game	December 1992
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An Elephant In Your Living Room, or the Squaw Peak Pot Controversy	October 1992

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