



A BLUEPRINT FOR STRENGTHENING K-12 VIDEOCONFERENCING IN CALIFORNIA

DISTANCE LEARNING

Ensuring high-capacity broadband connections coupled with a robust technology support system, relevant curriculum, literacy standards, and off-campus educational partnerships will provide California's students with the skills they need to compete in a 21st century economy.

Final Report of the California Broadband Task Force,
The State of Connectivity: Building Innovation Through Broadband
(January 2008: 8)



TODAY, THE VALUE OF VIDEOCONFERENCING FOR EDUCATION is undisputable. It is no longer difficult to imagine a world where K-12 students in California can travel to an art museum or aquarium and engage with content specialists in real-time discussions without leaving their classrooms. Live, interactive videoconferencing is used in classrooms statewide on a daily basis for sharing information, building collaborations, and fostering deeper inquiry into curricula among teachers and students.

This paper summarizes recent discussions among experts on the topic of strengthening the deployment and use of K-12 videoconferencing in California. The recommendations build upon existing resources in the state and envision greater standardization of local network deployment, professional development, technical support, access to learning resources, and forums for communication and collaboration. This blueprint calls for contributions among all stakeholders.

At present, the value of videoconferencing for educational, economic, and social benefits in schools and communities is a topic with substantial momentum. The Final Report of the California Broadband Task Force (CBTF), commissioned by Governor Arnold Schwarzenegger and released in January 2008, is a strong foundation for statewide initiatives that support synchronous broadband learning resources. Now, Californians are encouraged to rise above challenges in order to envision a future where videoconferencing is a standard teaching tool and its benefits are maximized in all K-12 classrooms statewide.

CHARRETTE AT LACMA

ON MAY 16–18, 2008, THE LOS ANGELES COUNTY MUSEUM OF ART (LACMA) hosted a charrette to bring together a group of thirty distance learning and educational leaders. All were invited to participate as champions for K–12 videoconferencing. Participants included members of state, county, and district organizations, and videoconferencing consortia. California constituents were joined by out-of-state videoconferencing specialists who presented cases of successful models for infrastructure and capacity-building. They were asked to examine the challenges in California, identify key efforts to advance videoconferencing initiatives, and propose specific action steps.

With the promising recommendations in the realm of education set forth by the CBTF (see Final Report, Jan. 2008: 74–76), this was a well-timed gathering. Two critical factors also underscored the timing. First, the recent cut in the state education budget requires an increase in programs and services that can be implemented and delivered at a decreased cost; videoconferencing as a teaching tool meets this need. Second, recent results of the 2008 California School Technology survey indicated that only 4% of California schools have videoconferencing equipment appropriate for teaching a classroom of students, compared to 20–25% in other states including Arkansas, Texas, New York, and North Carolina (source: www.cde.ca.gov/lset/rs/techsurvey.asp). As policy-makers and stakeholders increasingly recognize the value of distance learning, and as new technologies emerge, it was a perfect moment for charrette participants to explore key questions.

Working with the goal to build capacity and infrastructure for K–12 videoconferencing in California, participants were asked how to strengthen the groundwork that has already been laid, as well as other key questions to ensure forward movement in the K–12 sector. What incentives are needed to make videoconferencing of central importance to schools? What would this vision look like in K–12 schools, and what are plausible timelines in which to accomplish the selected aims? How is the value of videoconferencing best communicated to leaders at the regional and district levels? What can be done by participants and their organizations in order to connect and strengthen networks?



SCOPE OF THE CHARRETTE

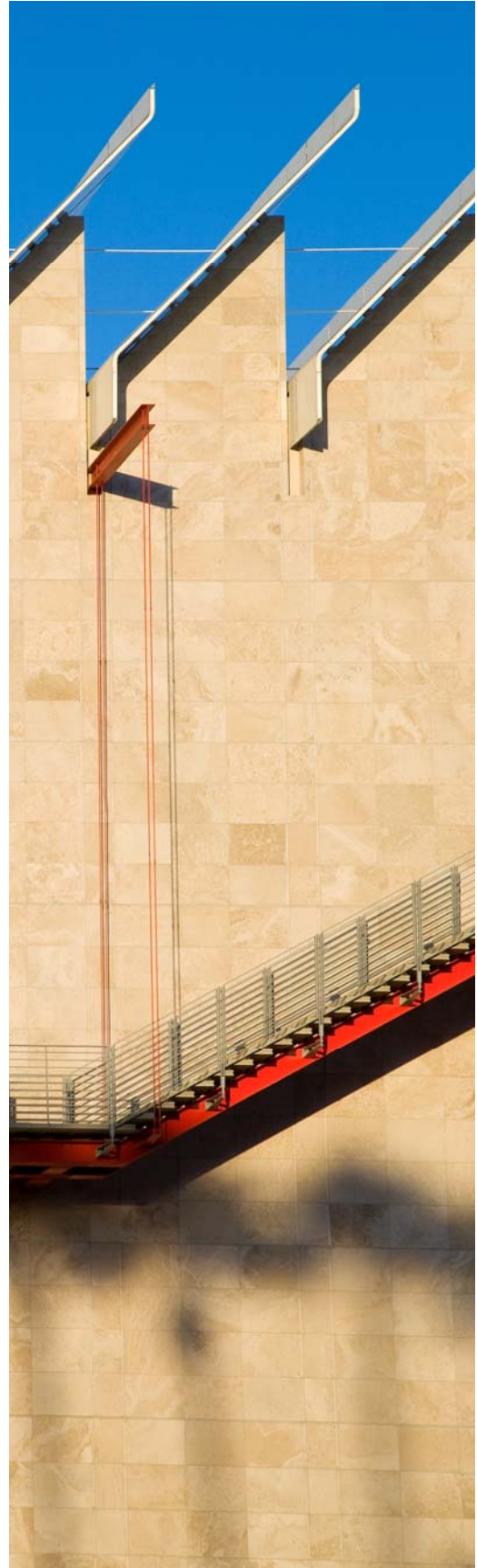
WITH THE COLLECTIVE GOAL OF THE CHARRETTE CLEARLY ESTABLISHED, participants began to determine the scope of their work for the weekend. Information sharing included case-study presentations, reports on a poll taken by charrette participants, panel discussions, and brainstorming activities. By engaging a “Theory of Change” process, the following key rationales, assumptions, and resources were identified:

- Videoconferencing is a teaching tool that has unique value and potential for achieving equity of access to learning resources, not otherwise available; for live collaborative learning among students (regionally, statewide, nationally, globally); for fostering understanding of different cultures; and for enabling active learning.
- California has many of the resources needed for more widespread adoption of videoconferencing, including a robust statewide network, champions among administrators and teachers, models of successful classroom use, and access to providers of content.
- Videoconferencing in California could benefit from standardized guidelines for local networking, as well as a centralized process for professional development, technical support, access to learning resources, and forums for collaboration among teachers and other stakeholders.

Theory of Change: A Process Model

The Theory of Change is a group inquiry process among a variety of stakeholders. It guides the group as they strategize and create a thoughtful plan. The process includes:

1. **Goal** Define clearly the changes desired.
2. **Rationales** List why program activities will work.
3. **Assumptions** Outline why the activities address problems.
4. **Resources** List assets already in place or needed.
5. **External Factors** Consider circumstances beyond control.
6. **Activities** List actions taken to achieve desired results.
7. **Outputs** Note tangible and immediate products that result from activities.
8. **Outcomes** Identify changes in individuals, institutions, conditions, services, sources, or audience.
9. **Indicators** Define markers for recognizing observable changes.



AREAS FOR ACTION

PARTICIPANTS IDENTIFIED FIVE KEY "AREAS FOR ACTION" and divided into small working groups for each area. Each working group engaged the Theory of Change model to make recommendations for short, intermediate, and long-term outcomes at state, regional, district, and organizational levels. Many drafts of products were created during the weekend. These are noted below with an asterisk and are compiled in the *Workbook of Outputs* posted at <http://lacmacharrette.pbwiki.com/>.

Following are the outcomes and indicators set forth by each working group. Short-term outcomes have a timeline of one year to completion (06/30/09); intermediate-term outcomes have a timeline of 1–2 years to completion (06/30/2010); and long-term outcomes have a timeline of 3–5 years (06/30/2013). In some cases, organizations were identified to potentially spearhead efforts.

Communications & Collaboration

Short Term

1. Develop a plan for creating a social network among teachers with the potential for establishing learning groups with common needs.*
2. Develop a clear communication flowchart to business and government leaders and enlist their support. Potential lead organization: K12 High Speed Network (K12HSN).*

Intermediate Term

3. Request that the California Learning Resource Network (CLRN) document and review videoconferencing events on CLRN website for greater visibility and credibility with teachers. Disseminate materials and event dates to California constituents.
4. Explore a partnership between California videoconferencing consortia and the Center for Interactive Learning & Collaboration (CILC) that offers a uniform approach for content providers to create a clearinghouse of resources for the K–12 community; matches partner resources with classroom curricula; and guides content providers in designing programs based on California standards. Potential lead organizations: CILC and Kings County Office of Education (KCOE).*

Educational Value & Advocacy

Short Term

1. Identify the value and benefits of using videoconferencing to advance the K–12 curriculum.*

Intermediate Term

2. Develop a working group to facilitate next steps and implementation of increased understanding, deployment, and use of videoconferencing and other synchronous broadband learning resources in the K–12 sector. The group would include schools, museums, parks, libraries, research institutions, and broadband networks. Potential lead organization: K–20 California Educational Technology Collaborative (K20CETC).*
3. Rally an awareness campaign for videoconferencing. Identify K–12 videoconferencing champions nationwide to serve as ambassadors within professional groups. Potential lead organization: California Technology Assistance Project (CTAP).
4. Identify and disseminate information on areas where additional quantitative and qualitative research is needed to strengthen the value of videoconferencing as an educational tool in K–12 schools. Potential lead organization: WestEd.

Long Term

5. Strengthen awareness of the need for videoconferencing and centralized support within the state. Designate a statewide coordinator.

Funding

Intermediate Term

1. Determine and codify minimum funding levels for Last Mile connections and disseminate the information. Potential lead organization: K12HSN.
2. Develop a clearinghouse of research needed on the topic of effective learning through videoconferencing that will be used to support funding requests. Potential lead organization: WestEd.

Long Term

3. Request commitment from the California Department of Education and support from the California Legislature to provide a budget for K–12 videoconferencing statewide.

Professional Development

Short Term

1. Draft a plan for an integrated approach to professional development for teachers, staff, and administrators at the district level.*

Intermediate Term

2. Develop and disseminate a list of videoconferencing proficiencies for California teacher certification programs. Potential lead organization: Ventura County Office of Education.
3. Define job descriptions for state funded field trainers (“circuit riders”) to provide technical assistance, training, and troubleshooting to district teachers and technicians. Secure funding for circuit riders and fill positions. Potential lead organization: Los Angeles Unified School District.

Long Term

4. Create, organize, and disseminate course descriptions for professional development in videoconferencing. Write abstracts and categorize online and in-person coursework at statewide institutions. Potential lead organization: Orange County Department of Education.

Top Three Benefits of Videoconferencing

According to a poll taken by charrette participants, the top three unique benefits offered by videoconferencing are:

Maximized Budget

Reduces fuel costs and travel time.

Increased Access

Dissolves boundaries; creates exciting virtual fieldtrips; provides equity for all learners.

Expanded Learning

Provides live interaction with experts not otherwise available; facilitates global learning and awareness; creates collaborations among teachers and schools.

Technical Infrastructure & Support

Short Term

1. Develop a sequenced plan for establishing a videoconferencing program at school sites to be disseminated by the county offices of education and other agencies supporting school technology.*

Intermediate Term

2. Draft best practices for videoconferencing implementation, operation, and support at school sites, which includes classroom technical standards for a reliable connection at each endpoint. Potential lead organization: K12HSN.*
3. Create and maintain a repository of technical information and FAQs for school sites with links to related resources. Potential lead organizations: K12HSN and the Corporation for Education Network Initiatives in California (CENIC).

Long Term

4. Create a plan for network improvements within rural regions, building upon the current efforts of the CENIC Last Mile working group. Potential lead organization: CENIC.

NEXT STEPS

BUILDING INFRASTRUCTURE AND CAPACITY TODAY for videoconferencing is centered on effective ways of maximizing the value, training, deployment, and use of the technology. At the LACMA charrette, it was apparent that this can best be accomplished by building upon the strength of existing foundations and networks in the state and the timely efforts of the CBTF. The working groups also reaffirmed the expertise and dedication among professionals in the field that can make the blueprint presented in this paper a reality.

*Please visit the *Workbook of Outputs* at <http://lacmacharrette.pbwiki.com/>. Plans for continued collaboration among the working groups are now being discussed. LACMA invites your comments.

CHARRETTE AT LACMA: WORKING GROUPS

Keynote Speaker

LOUIS FOX, Director
National Internet2 K20 Initiative
University of Washington, Seattle

Communications & Collaboration

RUTH BLANKENBAKER, Executive Director
Center for Interactive Learning and Collaborations
(CILC), Indianapolis

JANE BURRELL, Vice President of Education
and Public Programs
Los Angeles County Museum of Art (LACMA)

NANCY CARR, Consultant, Visual & Performing Arts
California Department of Education (CDE)

BRAD KREY, State Park Interpreter II
California Department of Parks & Recreation

BONNIE MARKS, Executive Director
California Technology Assistance Project
Region 4 (CTAP)

CAROL WILLIS, Manager
Texas Education Telecommunications Network
(TETN) Education Service Center

Educational Value & Advocacy

JANET ADAMS, Curriculum Technology Consultant
Kings County Office of Education (KCOE)

JEFF EGLY, Associate Director Technical Services
Utah Education Network (UEN)

ELIZABETH GERBER, Manager
School and Teacher Programs
LACMA

DANIEL GROSS, Director
Southeastern Wisconsin Instructional
Network Group (SWING)

MIKE GUERENA, Director
Instructional Technology
Encinitas Union School District

SYLVIE HALE, Director
West Ed Interactive, San Francisco

JOHN ITTELSON, Director of Instructional
Technologies K–20 California Educational
Technology Collaborative (K20CETC)

JANE WAGMEISTER, Ed.D., Director of Curriculum
Instruction and Continuous Improvement
Ventura County Office of Education

Funding

LOUISE NAN, Superintendent
Ripon Unified School District

ELAINE SHUCK, Global Education Director
K12 Polycom
Sturgis, South Dakota

Professional Development

PHIL BAKER, President/CEO
ORANO/RION, Toronto

JOHN KWAN, Instructional Technology
Applications Facilitator
Los Angeles Unified School District (LAUSD)

SANDRA LAPHAM, Director Educational Technology
Orange County Department of Education

ANTONIETTE GUGLIELMO, Education Specialist,
Distance Learning, LACMA

SANDRA SHACKELFORD, Associate Superintendent
Educational Services
Ventura County Office of Education

Technical Infrastructure & Support

CHRIS CALDER, Operations Manager
Information Systems
LACMA

RODNEY CONNER, Media Coordinator
Educational Technologies Network
Los Angeles County Office of Education (LACOE)

SHERILYN EVANS, Director of Technical Operations
Corporation for Education Network Initiatives in
California (CENIC)

JOHN FLEISCHMAN, Assistant Superintendent
Technology Services
Sacramento County Office of Education

ALAN PHILLIPS, Technical Services Manager
CA K–12 High Speed Network (K12HSN)
Imperial County Office of Education

DAN THEOBALD, Principal Consultant
i2i Communications
LACMA Consultant for Distance Learning
San Francisco

Charrette Facilitator

SUSY WATTS, Consultant for Strategic Planning
Tumwater, Washington

RESOURCES

Dennison, J. *Understanding the Utilization of Interactive Videoconferencing in the K12 Setting*. Paper presented at the 2008 Society for Instructional Technology and Teacher Education Conference, Las Vegas, NV, 2008. <http://tinyurl.com/6l62ka>.

Final Report of the California Broadband Task Force. *The State of Connectivity: Building Innovation Through Broadband*. January 2008. www.calink.ca.gov.

Greenberg, Alan D. *Taking the Wraps off Video-conferencing in the U.S. Classroom: A State-by-State Analysis*. Wainhouse Research, July 2006. www.wrplatinum.com/content.aspx?CID=5912.

K-12 Videoconferencing: Infrastructure & Capacity-Building in California. Workbook of Outputs and other materials from the charrette held at LACMA, May 16-18, 2008. <http://lacmacharrette.pbwiki.com/>.

DISTANCE LEARNING AT LACMA

The Distance Learning Program at LACMA connects the museum with diverse audiences, locally and globally, through interactive videoconferences. Students engage with artworks from the collection through a selection of programs that encourage processes of inquiry about art in alignment with K-12 curriculum content standards.

For more information about Distance Learning at LACMA contact Antoniette Guglielmo at 323-932-5877, aguglielmo@lacma.org or visit www.lacma.org/Programs/TeachersSchoolsDistanceLearning.aspx.

K-12 art education curriculum and resources are available at www.lacma.org.

PHOTOS

Unless otherwise noted, all photos © 2008 Museum Associates/LACMA.

Broad Contemporary Art Museum, East Elevation (detail), 2008.

Broad Contemporary Art Museum, South Elevation, 2008.

Broad Contemporary Art Museum, North Elevation, 2008.

Charrette participants on the Dona S. and Dwight M. Kendall Concourse entering the Broad Contemporary Art Museum, 2008.

Charrette participants, LACMA West, 2008.

Broad Contemporary Art Museum, East Elevation (detail), 2008.

Robert Irwin, *Palm Garden (detail), 2008.*

Chris Burden, *Urban Light, 2008*, two hundred and two restored cast iron antique street lamps, dimensions variable, © Chris Burden.





ACKNOWLEDGEMENTS

The charrette was prompted by LACMA's interest in fostering the use of educational technology in classrooms, from building partnerships with local school districts to global communities.

To develop this report, LACMA relied upon submissions from the charrette working groups. The recommendations contained in this report reflect the consensus of the participants. LACMA is grateful to all participants for their contributions. This paper was prepared by Antoniette Guglielmo and designed by Jenifer Shell.

Art Programs with the Community: LACMA On-Site is made possible through the Anna H. Bing Children's Art Education Fund.

Education programs at the Los Angeles County Museum of Art are supported in part by the City of Los Angeles Department of Cultural Affairs and the William Randolph Hearst Endowment Fund for Arts Education.