General Assignment Classroom
Instructional Technology Annual Report
Fall 2001

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Executive Summary

As of Fall 2001...

- 100% of general assignment classrooms have overhead projectors
- 80% have Internet access (156/196)
- 75% have video playback equipment (147/196)
- 31% have slide projection (61/196)
- 24% have installed data projectors (48/196), and 11 of these are small classrooms, capacity 20-59
- there are 10 classrooms with permanently-installed classroom computers

During Summer 2001...

- We installed permanent media equipment, including data projectors, in 8 additional rooms, bringing the total number to 48.
- We installed 34 “ring-down” phones in classrooms so that instructors requiring assistance need only pick up the phone to be connected to the AVS Help Desk.

By Fall 2002...

- Upgrade 10 classrooms, including five in Boelter Hall, two in Knudsen Hall, Moore 100, Geology 3656 and Dodd 147.
- We will not be able to continue subsidizing labor costs for the delivery of theft-sensitive equipment to classrooms beginning in Fall 2002.
- We will work closely with departments and the Registrar to try to schedule faculty requiring theft-sensitive equipment into classrooms already appropriately equipped.

For the latest up-to-date information, please visit www.oid.ucla.edu/avs/
EQUIPMENT IN CLASSROOMS, SORTED BY CLASSROOM CAPACITY

<table>
<thead>
<tr>
<th>Classrooms by Capacity</th>
<th>Overhead Projectors</th>
<th>Video Playback</th>
<th>Network Access</th>
<th>Data Projection</th>
<th>Slide Projection</th>
<th>Voice Amplification</th>
<th>Sound Amplification</th>
<th>Installed Computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity 10-19:</td>
<td>23</td>
<td>20</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity 20-39</td>
<td>79</td>
<td>57</td>
<td>70</td>
<td>4</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Capacity 40-59</td>
<td>40</td>
<td>30</td>
<td>34</td>
<td>7</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Capacity 60-99</td>
<td>22</td>
<td>13</td>
<td>15</td>
<td>10</td>
<td>16</td>
<td>8</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Capacity 100-149</td>
<td>14</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>12</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Capacity 150-299</td>
<td>11</td>
<td>10</td>
<td>6</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Capacity 300 and over</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>196</strong></td>
<td><strong>147</strong></td>
<td><strong>156</strong></td>
<td><strong>48</strong></td>
<td><strong>61</strong></td>
<td><strong>43</strong></td>
<td><strong>42</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

GROWTH OF NETWORKED CLASSROOMS DURING PAST THREE YEARS

As of Fall 2001

80% networked: Bunche (30)
Public Policy (25)
Rolfe (19)
Dodd (12)
Royce (10)
Moore (2)
Fowler (2)
Math Sciences (21)
Boelter (17)
Life Sciences (3)
Haines (17)

20% to be networked: Kinsey (11)
Young (6)
Franz (5)
Geology (4)
Knudsen (3)
Dickson (3)
Dance (2)
Slichter (1)
Perloff (1)
Campbell (1)
Botany (1)
The Challenge Facing Us; the Risks Facing Instructors

During the past several years the Office of Instructional Development has continued to build and maintain the classroom infrastructure necessary to support educational technologies, and the investment has paid off. Our most technically savvy instructors have eagerly incorporated new media into their pedagogical strategies.

We are now faced with the challenge of engaging those faculty members who have so far been reluctant to adopt the tools of instructional technology. If we want this risk-aversive majority to integrate technology into instruction, we can and must limit the risks faculty themselves have identified:

Risk 1: Unreliable equipment. This is the technology barrier faculty most frequently cite. In order for equipment to be useful, it must be replaced regularly. “Fear of looking a fool in front of several hundred students when the equipment fails is a real problem,” notes Professor Helen Rees (Ethnomusicology).

Risk 2: Difficult to use. Instructors tell us repeatedly that they cannot afford to split their focus during teaching in order to operate complicated pieces of equipment and deal with computer network connectivity. In order for equipment to be used, instructors must be trained and operating instructions must be clearly documented. Instructors must feel confident that, if all else fails, technical help is available in minutes. Professor Emanuel Schegloff (Sociology) points out that the struggle to operate complicated equipment is not compatible with “good teaching, that transports the students’ minds to a different space.”

Risk 3: Availability of equipment is unpredictable. When instructors cannot be sure the classroom in which they will be teaching is properly equipped, they report being hesitant to make course revisions that depend on the presence of media equipment. The construction boom on campus affords us the distinct opportunity to create new media classrooms as they are being built, as well as to convert existing classrooms to media classrooms. This is a far more cost-effective strategy than equipment delivery on a case-by-case basis.
OID Classroom Services supports innovation, enhancement and improvement in instruction. Specifically, we provide:

- subsidized audio-visual equipment for regularly scheduled undergraduate and graduate (non-professional school) classes
- classroom technology consultation, design and media equipment maintenance
- support, training and troubleshooting in operating equipment
- research and development in instructional technology.

These services are also available for non-subsidized events on a recharge basis.

This report is concerned with general assignment classrooms. General Assignment classrooms are classrooms scheduled by the Registrar’s Office and available at no cost for any academic department’s regularly scheduled courses. These are the classrooms served by the Office of Instructional Development. On the other hand, departmental classrooms are scheduled by individual academic departments. Departmental classrooms are equipped and maintained by the department that oversees their use.

All 196 General Assignment classrooms are equipped with overhead projectors and 75% of them have video playback capability (i.e., Monitor/VCR combinations or video projectors). In a sense, then, all UCLA GA classrooms are media classrooms, although there are only 46 with permanently-installed media equipment.

**CHANGE IN AVS SERVICES ANTICIPATED FOR 2002-2003**

The single most costly service provided by AVS is delivery and pick-up of media equipment at the time of class. For the past 3-4 years, we were able to keep this cost in check by delivering and setting up media equipment in classrooms the night before it is needed, and then removing it the following night.

Unfortunately, several thefts in Spring 2001 demonstrated our inability to effectively secure such equipment against theft while keeping it portable and easy to set up and operate, and we were forced to return to a time-of-class delivery model. This added expense, coupled with a fall-off in recharge income and anticipated budget cuts has left us unable to continue to provide subsidized delivery service next year.
During 2001 we held strategic planning meetings with representatives from academic departments, Facilities, the Registrar’s Office, and the faculty to examine our options for change. We also interviewed managers of media centers on other UC campuses. During 2001-2002 we will be working closely with departmental chairs, deans, MSOs, departmental schedulers and the Registrar’s office to continue to look for new, sustainable and scalable approaches to providing instructors with the resources they need.

**Completed Projects**

**NEW EQUIPMENT FOR CLASSROOM USE**

**The Classroom Computer.** A presentation at this summer’s University of California Computing Support Conference about the design of the new OID Classroom Computer provoked many inquiries from the other UC campuses. Chief Engineer Rick Holmes’s design, incorporating easily available and relatively inexpensive off-the-shelf components, is of interest because of its small footprint in the front of the classroom where space is at a premium, its adjustability and its compliance with the Americans with Disabilities Act. During Summer 2001 the Classroom Computer was installed in all seven Haines Hall media classrooms, MS 4000A and Dodd 175.

**Wireless Network on a Cart.** Summer 2001 also saw the first deployment of our new wireless network on a cart. We are now exploring a partnership with the College Library Instructional Computing Commons (CLICC) to expand classroom computing possibilities by deploying the network cart to assist in circumstances when the CLICC computer classrooms are unavailable or under-equipped to accommodate large classes.

**Portable Videoconferencing.** Interest in videoconferencing has risen dramatically. In response, we acquired the Polycom Viewstation H.323 which enables videoconferencing over the campus backbone and the internet. Now any of the 157 general assignment classrooms with network connectivity is a potential videoconferencing site.

Using the Polycom, we have successfully videoconferenced with Berkeley, Hawaii and New York, as well as between buildings on campus such as Covell Commons, the Faculty Center, Murphy Hall, Math Sciences, Royce Hall and Haines Hall.
Haines Hall. The first building on the UCLA campus to house classrooms, Haines Hall has undergone radical changes since its opening in 1929 as the Chemistry Building.

As with the seismic renovation of other original UCLA buildings, preservation of historical detail was an overarching design concern for architects.

Fortunately, this concern for historical accuracy did not inhibit our ability to install instructional technologies in the classrooms. In fact, former state-of-the-art original slate blackboards co-exist in harmony with current state-of-the-art digital projectors and installed computers in many of the rooms.

Prior to the seismic renovation, there were two media-equipped classrooms in Haines: 2 and 39. The renovation provided the opportunity to upgrade and expand on the equipment in these two rooms, including the addition of an installed Classroom Computer (pictured right), and to add five additional media classrooms, resulting in the following configurations:

<table>
<thead>
<tr>
<th>Haines 39</th>
<th>Projection booth, video/data projector, dual slide projectors, video playback (VCR, DVD, etc.), sound system (wireless microphone and speakers), infrared hearing-assist system, installed computer, and Internet access.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haines 220</td>
<td>Video/data projector, slide projector, video playback (VCR, DVD, etc.), sound system (wireless microphone and speakers), infrared hearing-assist system, installed computer, and Internet access.</td>
</tr>
<tr>
<td>Haines A2,</td>
<td>Video/data projector, video playback (VCR, DVD, etc.), sound system (wireless microphone and speakers), infrared hearing-assist system, installed computer, and Internet access.</td>
</tr>
<tr>
<td>Haines A18,</td>
<td></td>
</tr>
<tr>
<td>Haines 118</td>
<td></td>
</tr>
<tr>
<td>Haines A25,</td>
<td>Video/data projector, video playback (DVD), sound playback amplification, infrared hearing-assist system, installed computer, and Internet access.</td>
</tr>
<tr>
<td>Haines A44</td>
<td></td>
</tr>
</tbody>
</table>
Media Systems Design is developing new techniques for installing equipment so that rooms need not be taken off-line in order to make certain upgrades during the school year. For example, this summer infrastructure was put in place to enable upgrades of several classrooms in Boelter Hall during the academic year.

In this new world of increased interactivity, the old model of providing video to people in viewing rooms in the Media Lab had to be improved. In the past it was sufficient for the viewer to have control over play, reverse, pause and fast-forward. With DVDs, however, users have many more choices, and so MSD and MSM worked together to upgrade Media Lab control systems so that people watching DVDs in enclosed viewing rooms can access the entire range of control needed to interact successfully with the DVDs.

**USER SUPPORT AND EQUIPMENT DEPLOYMENT**

Audio Visual Services provides training, documentation and troubleshooting support for instructors using both installed and mobile instructional technology in general assignment classrooms. AVS also manages the delivery of mobile equipment to classrooms.

In response to feedback from instructors and our Classroom Services Faculty Advisory Committee, AVS created a new position in 2001 to lead a comprehensive signage, documentation and training program. During the 2001-2002 academic year, we will create and place simple, easy-to-follow instructions in all media classrooms. Similar instructions will be available with equipment that is picked up and returned by instructors, and the AVS web site, already a rich source of information about the classrooms, will be enhanced with information about how to operate the equipment as well.

**Feedback from Faculty:**

- Desperately need signage and "how-to" cards in classrooms and on portable equipment
- Need documentation on the web and also hard copy documentation on how to use media equipment
- Need as much support as possible because it's just too hard to teach and operate media equipment at the same time

www.oid.ucla.edu/avs/
TECHNOLOGY CONSULTATION AND NON-SUBSIDIZED ACTIVITIES

Classroom Services Staff (Media Systems Design and AVS) welcome and are always available to consult with campus departments regarding their instructional technology needs.

Our Media Systems Design team provides expertise years in advance to help design media classrooms in new buildings and buildings scheduled for renovation. Consultations during 2001-2002 include:

- DeNeve Auditorium (opening 2002)
- Glorya Kaufman Hall (3 general assignment classrooms, opening 2003)
- Morton LaKretz (3 general assignment classrooms, opening 2003)
- Broad Hall (2 general assignment classrooms, opening 2004)
- Physics and Astronomy Building (opening 2003)

Research & Development

One of our most important functions is to maintain awareness of new and emerging technologies so we can evaluate their efficacy for classroom use. Following are some of the technologies we assessed during 2001-2002 and our findings. Faculty feedback is crucial in determining which systems to acquire, once we have determined that the technology is reliable and can be integrated into existing services.

EXPANDING AND ENHANCING CLASSROOM TECHNOLOGY AND SERVICES

Phones in Classrooms. Faculty are more willing to take a risk using instructional technology for the first time if they know they can get help quickly. We began installing phones with a direct line to the AVS help desk (“ring-down” phones) in many media classrooms and in the hallways near clusters of classrooms. During Summer 2001 we stepped up production and installed ring-down phones in each of the newly renovated 17 Haines Hall classrooms and in the 17 classrooms in Boelter Hall that were refurbished by Facilities this summer.

Hoping to reduce or eliminate the monthly line charges, we did extensive research on the feasibility of installing IP phones in classrooms. Such phones would use the existing Classroom Network infrastructure to connect users with the help desk. Unfortunately, we found that the technology is still immature enough to pose serious challenges regarding cross-vendor compatibility and the instruments themselves are expensive and would be difficult to secure against theft and incidental damage.

Departmental Clients Include:

- African American Studies
- Anderson School
- Anthropology
- Arts & Architecture
- Athletics
- Biomedical Library
- CLICC
- CTS
- Center for the Performing Arts
- Clark Library
- Communication Studies
- Design and Urban Architecture
- English Department
- Facilities
- Film and Television
- GSEIS
- Hammer Museum
- IMPL
- IM Lab
- IPAM
- Jules Stein Eye Institute
- Law Library
- Law School
- NPI
- Near Eastern Languages and Cultures
- Office for Students with Disabilities
- Physics & Astronomy
- Psychology
- School of Dentistry
- School of Engineering
- School of Medicine
- School of Nursing
- Student Psychological Services
- Transportation Services
- UCLA Hillel
- University Extension
- World Arts and Culture
- YRL.
Let there be light. Based on instructor feedback that the media cabinets can be difficult to operate in low light levels, we have begun installing rack-mounted Power Condition Distribution Units with two dimmable lights designed to light the front of the cabinet. We have also been investigating and piloting the use of various types of lamps to serve as podium lights.

FINDING QUICKER, BETTER, CHEAPER WAYS TO PROVIDE SERVICE

Many of our innovations take place behind the scenes, and are not obvious to the instructors using the classrooms. Constantly on the lookout for ways to streamline our services, we have made the following changes to our standard classroom equipment designs:

Faster, Cheaper Suppliers. Panelcrafters supplies custom panels for media cabinets faster and cheaper than our previous supplier.

More Efficient Classroom Lighting. Lutron radio-controlled dimmable fluorescent lighting (installed in Haines and Boelter media classrooms) save money because they avoid the need to install more expensive incandescent dimmable fixtures, and the radio-controlled operation requires much less wiring. We were skeptical at first, but a pilot installation last year in Math Sciences 6229 won us over to this now-mature technology.

Enhanced Pre-Installation. We redesigned our media cabinets to accommodate new Raxxess equipment racks. The new equipment racks (which bolt into the cabinets as a whole unit) allow us to begin assembling and wiring in the shop ahead of time instead of having to do everything on-site in the classroom.

Better ADA Access. New infrared hearing-assist systems with smaller, cheaper and easier-to-connect radiators.

Greater Security. New tamper-proof hardware is being used to keep permanently installed equipment permanently installed.

More Equipment in Smaller Classrooms. We are developing new techniques for staging installations throughout the year, and have tested wall-mounted VCR/DVD players for smaller classrooms.

Maintenance Now Merged with AVS. Another behind-the-scenes change made in 2000 has also improved customer service: Media Systems Maintenance moved from Powell to share space with Audio Visual Services in Campbell. This shift has enabled Maintenance to prioritize classroom equipment repairs more appropriately. Another benefit is greater ease of access for recharge clients bringing and picking up departmental equipment for repair.

Our next initiative will be to acquire more non-circulating replacement equipment in order to facilitate quick swap-outs when classroom equipment breaks down.
WORKING CLOSELY WITH VENDORS AND FACULTY TO TEST AND IMPROVE TECHNOLOGY

We’re always looking for new technologies. In the process, we often work with vendors to tweak a design. In 2000-2001, we looked at:

**Interactive white boards.** We looked at the IBID and Mimio offerings. The technology hasn’t improved greatly since we installed the “smart” board in Life Sciences, and they are still fairly complex to operate. The Mimio is a portable product that promises to “turn any white board into a smart white board,” but it is still somewhat awkward and unreliable.

**Computing.** Several new models of Macintosh laptops were released last year, and not all of them work seamlessly with data projection equipment. Imacs do not have an XGA output, but they do have composite video out ports that use proprietary cables. We found that Macintosh G3s must be lowered below the native 85hz in order to achieve XGA resolution with JVC projectors. On the peripheral front, we’ve finally found a wireless mouse that works in the instructional environment. The first generation of this technology that came out in the mid-90s was awkward, but the new Intellipoint Gyromouse does not need to be on a flat surface to use and has won praise from instructors.

**Data/Video Projection.** The Panasonic PTL711 XGA data projector has a wide-angle lens and keystone correction that works better than any other portable we’ve found. New JVC projectors purchased for installation in Haines Hall do a “quick-alignment” automatically, eliminating the need to do anything manually when it senses a new laptop. We’ve been working with both JVC and Extron to resolve a projector-switcher communication problem with the new JVC M2000 projector.

**Alphasmart.** The Alphasmart is a low-cost, low-tech text processor that has been embraced by the K-12 world as well as by some colleges and universities. It runs on two AA batteries and is ruggedly constructed. We acquired an evaluation unit and showed it to instructors in the Writing Program and English as a Second Language Program, but they did not feel it would enhance instruction.

**IBM TransNote.** The TransNote combines a mobile computer with a digital notepad. We found it to be convenient, versatile and an excellent tool for people who are “writers” rather than “typers.” At this time the device would not be conducive to checking out to users, so we do not plan to acquire any.

**DVD-VCR Combination Units.** Units containing both DVD and VCR capabilities require only one set of cables and reduce the amount of switching, resulting in savings in installation and use.
Appendix: Upgrading Data Projectors

How do we prioritize?

Video/data projectors are replaced as often as possible, based on their condition, age, and the capacity of the room. As of Fall 2001, our top ten upgrade priorities are:

<table>
<thead>
<tr>
<th>Room</th>
<th>Projector Condition</th>
<th>Year Installed</th>
<th>Room Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moore 100</td>
<td>non-functional</td>
<td>1995</td>
<td>419</td>
</tr>
<tr>
<td>Dodd 147</td>
<td>non-functional</td>
<td>1995</td>
<td>354</td>
</tr>
<tr>
<td>Dodd 121</td>
<td>poor</td>
<td>1997</td>
<td>126</td>
</tr>
<tr>
<td>Franz 1178</td>
<td>fair</td>
<td>1991</td>
<td>293</td>
</tr>
<tr>
<td>Knudsen 1220</td>
<td>fair</td>
<td>1991</td>
<td>160</td>
</tr>
<tr>
<td>Knudsen 1200</td>
<td>fair</td>
<td>1991</td>
<td>108</td>
</tr>
<tr>
<td>Young 2200</td>
<td>fair</td>
<td>1992</td>
<td>108</td>
</tr>
<tr>
<td>Geology 3656</td>
<td>fair</td>
<td>1993</td>
<td>62</td>
</tr>
<tr>
<td>Botany 325</td>
<td>fair</td>
<td>1994</td>
<td>79</td>
</tr>
<tr>
<td>Public Policy 2214</td>
<td>fair</td>
<td>1995</td>
<td>87</td>
</tr>
</tbody>
</table>

What is done during a typical projector upgrade?

To make equipment instructor-operable, OID follows a standard of placing a media cabinet, containing source equipment (VCR, DVD, etc.) and controls, at the front of each media classroom. Because instructors may teach in many different rooms on campus, we make the interfaces as similar to each other as possible.

If there is no existing media cabinet, one must be installed. This requires a design to fit any special physical characteristics of the particular room, fabrication and installation of the cabinet, including wiring from the cabinet to the projector.

Even if there is an existing media cabinet, new sources may need to be installed, and new controls may be required. For example, in upgrading from Sony to JVC projectors, wiring between the projector and the cabinet must be replaced, and the controls to operate the projector must be upgraded.

If the room is not already equipped with infrared hearing assist equipment, this must be installed at the time of the upgrade in order to comply with Federal ADA/504 requirements.