

**PLANNING REPORT**  
**CLASSROOM TECHNOLOGY ADVISORY COMMITTEE**  
DRAFT of July 21, 2000

The Classroom Technology Advisory Committee focused on several different issues relating to the classroom experience. What follows in this report is a compendium of the work of various subcommittees formed to address the following issues:

- I. Instructional Functionality
- II. Desktop standardization
- III. Scheduling
- IV. Hardware standardization.(hardware meaning any multimedia equipment including computers, audio and video equipment).
- V. Classroom list including installed equipment and responsible college/department.

After a review of these five issues a set of recommendations is offered for the coming academic year FY01.

**I. Instructional Design and Functionality**

The layout and design of technology equipment placed in classrooms is critical to instructors' successful adoption and use of the technology. Equipment and equipment controls need to be easily accessible and simple to understand. Basic concepts in terms of human-factors design need to be taken into consideration when technology towers and technology-enabled teaching stations are designed. Two types of functionality were identified when addressing the technology needs of Illinois State University: basic and specialized.

- A. Basic Instructional Functionalities
  - Ability to call for support.
  - A surface upon which to write.
  - Display of information printed on transparencies.
  - Display of computer-based information.
  - Access to networked information resources.
  - A work surface for printed materials, class notes, etc.
  - Access to presentation, personal productivity, and web browser software.
  - Basic VHS video playback.
- B. Specialized Instruction Functionalities
  - Audio input/output.
  - Display of video in multiple formats.
  - Display of printed documents
  - Display of three-dimensional objects.
  - Ability to input/output any of the above.
  - Distance Learning, Web Delivery, and etc.

It was recognized by the subcommittee that because of existing building structures and funding constraints, all of these functionalities might not be possible. Planning, however, should be done in such a way that there is minimally basic functionality available in all classrooms and that they are designed in such a way that these functionalities are scalable and expandable. It was further recommended that classroom technology be implemented in such a way as to respect the rights and needs of both instructors and students.

## II. Desktop Standardization

As instructors move between various computer desktops in campus classrooms equipped for technology, there needs to be a common expectation as to the look and feel of the desktop and the ability to flexibly use documents and applications for classroom presentation. The following recommendations are made in an attempt to better standardize the desktops across campus in teaching environments:

1. Avoid using the MS Office Tool bar, due to memory requirements, the ease with which users can change the settings for others, and the requirements as far as space on the desktop. Further, MS Outlook should not be loaded on the computers, and not be available on the Desktop.
2. All classroom computers should be updated on a daily basis for AntiVirus software. Because one cannot predict when a system will be on, this will insure that the anti-virus software is updated, at a minimum, at least once a week using the automated update features.
3. Use of an Illinois State theme background for all systems on campus with the addition of the contact number to reach support for that system. Although this would not solve the problems of users who do not know how to start the system, it would be of great assistance in supporting software and connectivity questions.
4. Manual Logon gives users greater access to their personal resources either through the local domain or through an ISUNET drive.
5. In addition to the standard Icons for My Computer, Recycle Bin and Network Neighborhood being on the desktop, add the following icons and software:
  - Word
  - PowerPoint
  - Excel
  - Access
  - Front Page Editor
  - SPSS
  - Minitab
  - Microsoft Explorer
  - Netscape
  - I-Tools Folder (The standard I-Tools Package Folder from the START, PROGRAMS Menu place on the desktop)
  - Virus Scan Floppy

## III. Scheduling And Room Assignments

Scheduling of classrooms equipped with technology and classification in terms of ownership and supervision is another issues that effects support and effective use of technology-enhanced classrooms on campus. From meetings with Roberta Thomas of the Scheduling office, the following issues were reviewed that influence how successfully the campus schedules technology-enhanced classrooms:

- 1) The definition of a "high tech" classroom: faculty and department chairs are often unclear about what constitutes a technology classroom and what equipment might be available. To some, high-tech means a TV/VCR; to others, it means a full computer classroom; and to still others, it means something in between.

rooms and which rooms were “departmental rooms” (the 210 rooms). Roberta Thomas has one list, Aubry McCannell another, and Jerry Fitzgerald yet a third list. All of these lists have inconsistencies in how rooms are administered, what technology is assigned to the room, and who has primary responsibility for the classroom. The committee further recommended that the Scheduling Office increase its awareness of the technology in the classrooms and that its staff and budget be increased to track and update the scheduling database to reflect changes in room technology.

#### **IV. Hardware Standardization**

There are many variables to consider when attempting to design a few technology units for campus classrooms that are simple in design, cost effective, and standardized across campus. Assigning costs, matching equipment to rooms and needs, and considering wiring and projection needs are but a few of the factors to be evaluated. Having said that, however, the committee feels the need to specify a limited set of hardware designs that are commonly implemented in all campus classrooms. Especially needed is a low-cost replacement for the “tech tower” design that was based on a Gateway computer system that is no longer produced with a 36 inch viewable monitor. Here are some of the factors evaluated by the committee:

- a) Room size. This will affect the type of display device. Focal length of an LCD projector is different for different manufacturer models. Size of image will determine focal length and projector type as well as projector cost. Larger rooms require a larger image. Considerations must also be made for sound, cabling and cabinet styles.
- b) Renovation costs. Determining factors for room renovation include projection screen installation, white boards, asbestos abatement, power, and wiring considerations. Ceiling mounted projectors require power and conduit as well as projector brackets.
- c) Electrical/Networking. Both may require additional work to either run power to the data projector location, or network cable to the computer location. Cost for lighting changes will effect the total room cost as well.
- d) Room configuration. The teaching configuration of the room will influence projector and cabinet placement.
- e) Human-factors design. See Topic I above.

- f) Planned maintenance and upgrading of equipment. Equipment will need to be put on a rotational replacement plan. CPU's become obsolete because of speed and memory requirements, projectors/monitors will at some point not be able to handle the computer resolution. These devices can impact cost considerations for these rooms. Planning should be made to replace these items every two- three years.

*Basic smart technology unit.* The committee proposed the following as a low-cost, *basic smart technology unit* that could be placed in as many classrooms as possible that seated 25-40 students.

- 1) There will be a display device, laptop computer port, an installed desktop computer (optional if laptop-only design preferred), a VCR, and a powered speaker.
- 2) The display device can be either a large screen monitor or an LCD projector mounted on the back wall or in a mirror type of cabinet that reflects the image onto a projection screen.
- 3) The unit will be connected to the Internet.
- 4) The unit will have the full complement of software licensed for campus-wide use.
- 5) A simple cart will be designed to secure this equipment, one that is well human-engineered to offer easy access and operation by the instructor. The cart will facilitate the support of a laptop from the laptop-docking panel.
- 6) The least expensive implementation of this unit would be \$8000. This estimate will increase depending upon projection system needs (given room size) and wiring needs for networking and electrical support (possibly as high as \$18,000).

See Appendix A for cost breakdown.

## V. Classroom Support and Classroom Technology List

One of the more confusing aspects of having technology in the classroom is who supports the instructor, who provides maintenance to the equipment and who purchases and installs the technology.

*Classroom census.* To determine the answer to those questions, it is necessary to know if the room is designated as general use or departmental. As was discussed previously under "Scheduling and Room Assignments" this is not always clearly defined. The committee is conducting a classroom census and the data collection instrument has been sent to all of the department heads and Associate Deans. The initial database or list was made from information provided from both the Scheduling Office and Facilities Services. Their lists identified rooms they list as general use. The database included the building, room and technology installed as well as Internet connection. The Chairs and Associate Deans are being asked to edit/add/delete rooms that were departmental or general use to their knowledge, to revise our current information as to technology installed in classroom, and to project what classrooms might best benefit from enhanced technology over the next few years. That information is being collated as it is received.

*Classroom technology support.* Three levels of support are possible on campus: university level, college level, and unit level.

- University-level support would be the Campus Technology Support Group, primarily Classroom Technology Support Services but may include other support service groups.
- College-level support would be technology support services funded by any of the six college offices on campus and Milner Library.

- Unit-level support would be units created and funded by specific departments or service units on campus.

Eleven key tasks were delineated by the committee in terms of support services needed to maintain technology-enhanced classrooms. Those tasks are:

- classroom design (college, unit, and university level),
- hardware purchase—any multimedia equipment including computers, audio and video equipment (needs further discussion),
- software purchases (college, unit, and university level),
- hardware installation (units/university level),
- software installation (units),
- network connectivity (needs further discussion),
- hardware maintenance (units/university level),
- software maintenance (units),
- infrastructure maintenance (university level),
- computer repair (units),
- recapitalization (needs further discussion).

Addressed also were issues dealing with scheduling, use ratios and disability concerns. Preliminary recommendations were:

- Scheduling should remain the responsibility of the university. It was recommended that a formal mechanism be created where information regarding the type/extent of use in specific classroom facilities be provided at the unit level.
- Use of Advanced Technology Classrooms should be computed at the college level, compared across departments and within specific buildings to determine the priority for future classroom installations and upgrade of existing classrooms .
- Disability Concerns should be important to all , but ultimately is the responsibility of Illinois State University.
- The flow of dollars for new classrooms and recapitalization should be discussed at a higher level and implemented using recommendations from the Classroom Technology Advisory Committee.
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### **Recommendations for Academic Year FY01**

The committee offers the following recommendations for enhancing technology in all campus classrooms with funding available for FY01:

- 1) General-use classrooms. Funds should be used to update and bring as many general-use classrooms as possible online as technology-enhanced classrooms.
- 2) Basic smart technology unit. The committee’s proposed “basic smart technology unit” should be installed in any new general-use classrooms where technology is being added. Consideration needs to be given to display projection and wiring needs.
- 3) Laptop panels. To promote mobile computing and laptop use, as many smart classrooms as possible should be a campus-designed laptop panel added to the existing design.
- 4) Schroeder Hall Renovation. Smart classrooms in Schroeder Hall may have technology upgraded or added providing no remodeling is required for wiring and projection.
- 5) Improved projection. Several of the Tech Tower units currently in use do not provide adequate display for viewing the computer screen. Where possible, displays should be swapped as new rooms are brought planned to make the best use of the campus inventory of projection devices.
- 6) Classroom Technology Census. The results of the census should be compiled and reviewed by the committee with the goal of creating the best database possible for documenting classroom support and technology roles. This database should be put online for easy access by all campus constituents. The database should be the primary document used for planning classroom upgrades and new installations for FY01. *(Note, the census was completed and the data reviewed. The spreadsheet of results is attached.)*

- 7) Emergency support. Each classroom should have the ability to contact support staff by means of phone or other mechanisms.
- 8) New buildings. New building planning should include technology infrastructure. This ensures that as funds for technology become available, the conduit and wiring is already in place.

### **Proposed FY01 Classrooms for Smart Technology Upgrades**

Prior to the classroom census, the Committee drafted a list of potential rooms that could be upgraded from FY01 funds. The classroom census data were then studied and the recommended list revised. The following upgrades and new rooms are proposed for FY01:

Priority 1. Funds should be used to upgrade all existing General-Use smart classroom computers to compliancy with Office and Windows 2000 as follows:

- Zip drive storage available
- Sufficient RAM memory
- Sufficient hard drive storage
- Under-performing CPU (Below 166 mHz Pentium spec for Windows 2000)

Priority 2. Funds should be used for the addition of smart technology (the *basic smart technology* configuration noted above) in the following General-Use rooms .

- Fell Hall: Three General-Use classrooms from the list provided in the census (Fell 123, 125, 148, 152, 158, 162, 176, and 180) where older video projection and no computer support is provided
- Stevenson 232, 434, and at least one Foreign Language classroom
- DeGarmo: 406
- Schroeder Hall: Fill in the 3<sup>rd</sup> floor by completing 310, 312, 314, and 316 (upgrades that could be done without waiting on the Schroeder Hall remodeling)

Priority 3. Funds should be used for improving projection systems in the following General-Use classrooms :

- Turner 208
- DeGarmo 306 (Too long a room for a destination system)
- Fairchild 203 and 311 (upgrade LCDs to projectors)
- Fairchild 231 to upgrade projector and mount on ceiling

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