The Multi-Purpose Library Computer Lab: Tips and Techniques for Successful Operation and Management

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ABSTRACT. Within today's academic libraries, computer labs are designed and built to satisfy multiple needs, such as an open lab, instructional facility, and staff development center. To accomplish this, it is necessary...
to focus on issues concerning staffing, scheduling, security, and maintenance, as well as address the conflicts that often arise among them. Learn how Rider University has successfully operated and managed a multi-purpose lab at Moore Library. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <getinfo@haworthpressinc.com> Website: <http://www.HaworthPress.com> © 2001 by The Haworth Press, Inc. All rights reserved.]

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INTRODUCTION

Background on Rider University and the Franklin F. Moore Library

Rider University, an independent, coeducational, nonsectarian institution of higher learning, was founded in 1865. The Lawrenceville campus is situated on 353 acres midway between Princeton and Trenton, and the Princeton campus is on 23 acres located in the heart of Princeton, both within easy reach of New York City and Philadelphia.

Rider's enrollment of 5,379 consists of 3,368 full-time undergraduate, 918 part-time undergraduate, and 1,093 graduate students studying on both campuses (Alexander 2000). The vast majority of these students attend classes on the Lawrenceville campus and utilize the resources and information services available at the Franklin F. Moore Library, named in honor of Rider University's third president. The Moore Library first began operating the new Computer Lab/E-Classroom in January 1999, after "what turned out to be a project six years in the making" (Warner, Buschman, and Lackie 1999, 536).

In 1998, Artemis Kirk, with Information Services Consulting in Boston, completed a study of the Moore Library, which indicated a space problem, with usable space nearing its limit. Therefore, the new lab/e-classroom had to be built within already-heavy used space. Services and collections were squeezed into other areas and in-house labor was used to modify the vacated space (Warner, Buschman, and Lackie 1999, 536). The new room was to be a multi-purpose facility, functioning as an open lab for students, a second facility for library instruction, and a library staff development center. Up until that time, the Moore Library staff's experience with managing and operating a multi-purpose
computer lab such as this in an academic setting was minimal. Fortunately, the location and design of the room played a great role in helping the staff properly begin learning to operate and manage a high-use computer lab/e-classroom.

**BUILDING THE LAB/E-CLASSROOM**

*Location, Development, and Total Cost of Lab/E-Classroom*

The location for the new Lab/E-Classroom was carved out of existing space. The two rooms located directly behind the Information Desk in the Reference Room, with the wall between them removed, were the ideal location for a lab because it could be easily monitored by the reference librarian on duty and by the periodical staff members from their office right across the hall. Of the two existing rooms, one was previously used as an additional office for periodical staff members, and one as a storage facility for microfiche filing cabinets. The staff members were relocated to the other periodical office, and the cabinets were moved to the periodical room.

At a cost of approximately $5,000, the renovation included removing the non-load-bearing wall between the two rooms, installing the drop ceiling, lighting, electrical wiring, new carpeting, painting the cinderblock walls, constructing the furniture, and putting in new glass doors. Fortunately, the Facilities Department absorbed this cost since they used materials already in stock, and the work was done as qualified workers became available for each of the tasks.

Funding from the New Jersey Higher Education Infrastructure Act provided funds for computers, a printer, presentation equipment, and wiring. With these funds ($43,700), the Library purchased twelve Dell Pentium II computers with CD-ROM drives, a Hewlett Packard high-volume, duplex laser printer, a Sharp data/video projector, an Elmo video presenter, a six-foot white presentation screen, and the necessary wiring and network/data hub.

The only Library expenditure was approximately $7,400 for the furniture. The Library purchased three rows of countertop desks with eleven recessed computer kits, 23 adjustable-height standard office chairs on rollers (22 in the rows and one for the instructor), and a Nova Systems instructor’s station that Facilities modified to add tabletop space on which to place the Elmo. The total cost of the Lab came to
$56,100, including the Library’s sole expenditure for the furniture (see Lab Configuration, Figure 1).

**Configuration of the Moore Library Computer Lab/E-Classroom**

As seen from the Lab design and configuration, there are two chairs per computer workstation, and the computers and monitors are recessed, allowing direct line of sight to the instructor and screen at the front of the room, as well as plenty of tabletop space (26" × 42") for the students. The two glass doors and windows allow reference staff to easily monitor activities within the lab from various locations in the Reference Room.

**Software Installed**

A multi-purpose facility requires the installation of a variety of software. The Lab computers originally had Windows 95, Microsoft Office 97, Netscape Navigator (and various plug-ins including Adobe Acrobat Reader), and licensed stand-alone database software, such as Human Evolution and Choices II, for hands-on learning during library instruction sessions and for student use during open lab times. The computers were also networked and configured to offer access to databases on the CD-LAN and to a network printer. The computers have since been upgraded to run Microsoft Office 2000, and some of the other software packages, including Netscape Navigator, have been upgraded to more recent versions, as well.

Virus protection and security software are crucial components of any computer lab. The University already had a campus-wide license agreement in place for McAfee VirusScan. VirusScan works very well in the Lab and elsewhere in the Library. After evaluating a number of different hardware- and software-based computer security options, the Library selected Centurion Technologies’ Centurion Guard hard drive protection device. Centurion Guard protects computers at the hardware level by write protecting the hard drive. Therefore, when an application needs to write to the hard drive, Centurion Guard automatically redirects it to a separate non-write protected area on the hard drive. Any changes that were made to DOS or Windows are erased when the computer is rebooted, resetting the computer’s default configuration. Currently, Centurion Technologies is the sole manufacturer and supplier of
the Centurion Guard kit, and it is being used in colleges, libraries, corporations, and schools around the world (Centurion 1999).

In addition to VirusScan and Centurion Guard, the Library also chose to use the Windows Policy Editor that is a part of Windows 95 for additional security. Another piece of software, Tweak UI, is utilized to hide network drives and to automatically log the computers onto the network when they are turned on. Tweak UI is part of the Windows 95 Power Toys Set that is a free download provided by Microsoft. More detailed information on physical (hardware) security will be provided later in the Security of Equipment section.

With the room completed, the design followed, and the appropriate software loaded, the next immediate areas of concern for the Library with the Spring 1999 Semester approaching were that of scheduling, staffing, hardware security, and maintenance of the new Lab.

**SCHEDULING TO SATISFY MULTIPLE NEEDS IN THE LAB/E-CLASSROOM**

**Open Lab**

The Computer Lab/E-Classroom is open for use as a computer lab from the time that the Moore Library is opened in the morning (8:00 AM, Mon.-Fri.; 10:00 AM on Sat.; and Noon on Sun.) until thirty minutes before the Library is closed (Midnight, Mon.-Thurs.; 10:00 PM on Fri.; 7:00 PM on Sat; and 11:00 PM on Sun.), except when it is being used for library instruction or staff development training. The Lab closes thirty minutes early to insure that everyone leaves the Lab so that all of the equipment can be shut down before the Library is closed. Go to the Moore Library Computer Lab/E-Classroom Calendar on the Library Web page at [http://phoebe.rider.edu/lab](http://phoebe.rider.edu/lab) to take a look at the current month of scheduled events. Other exceptions to the open lab times are the various maintenance and upgrades, scheduled and unscheduled.

**Maintenance/Upgrades**

One of the key ingredients to running a successful lab/e-classroom is to ensure that the computers are well maintained, functioning properly, and upgraded in an orderly fashion. There are three types of mainte-
nance and upgrades—periodical scheduled maintenance, other scheduled maintenance, and unscheduled service. Scheduled maintenance is planned for low-use times to avoid inconveniencing students.

Periodical scheduled maintenance is any type of maintenance that is performed on a regular basis. This includes activities such as updating virus definition files, removing temporary files, and clearing out the Web browser cache files. During the Spring 2000 Semester, an hour a week was spent on these activities. Since the installation of the Centurion Guard hard drive protection device, however, periodical maintenance is needed less often.

Other scheduled maintenance includes one-time tasks or tasks that need to be performed on an irregular basis that can be scheduled in advance. The most common of these tasks are hardware upgrades, software upgrades, installation of new permanent applications, and the installation and removal of temporary software that is required to support library instruction and staff development sessions.

On occasion, it is necessary to perform unscheduled, or emergency, service on the computers in the Lab. Examples of unscheduled service include clearing virus infections, computer software-related problems, and hardware failures. Since most cases occur in only one or two computers at a time, the rest of the Lab remains open while the problems are rectified. To help minimize the inconvenience caused by these types of issues, two used computers that are similar to the ones in the Lab were acquired from elsewhere in the Library and used as spares for any computer that is malfunctioning. This alleviates down time when the problem is hardware-related and replacement parts must arrive from an out-of-state vendor.

**Library Instruction Program Facility**

One of the primary uses of the new facility is that of library instruction. The librarians needed a place to provide hands-on assistance to individuals and groups in developing research and critical thinking skills, and they did not wish to have to "fight" teaching faculty on campus for its availability and use. Therefore, no "booking" of the Lab is allowed by faculty outside of the Library. The policy states that "The Moore Computer Lab/E-Classroom will serve as a computer lab for Rider students, faculty, and staff when it is not being used for library instruction. Users of the Lab will be informed by a posted schedule and an announcement before classes are to take place. The amount of time needed in advance of the class will be at the discretion of the librarians. The
Moore Library Computer Lab/E-Classroom is for the Library Instruction Program use only” (Warner 2001).

The new Lab allows the Library to help fulfill what the Library Instruction Program is designed to do. By demonstrating the research process in the online catalog and databases and providing immediate hands-on learning experiences for the students with guidance on the spot, the Library Instruction Program can now better enable students to become independent information users. The facility is an open lab for the students after the instruction session, with reference librarians and student lab assistants normally on duty to provide additional assistance as needed.

**Scheduling Software**

A multi-purpose facility such as this requires the managers to be vigilant in monitoring the scheduling of its use. The top priority for the Lab in the Moore Library is instruction, but it is also utilized as an additional student computer lab on campus during most of its operating time. It is used as a library staff development facility infrequently and only if it requires hands-on activities. Otherwise, the Library Presentation Center (LPC) is available (which has no student workstations) to do staff development training.

Since the booking of the Lab can only be done by the co-coordinators of the Library Instruction Program, no double booking can take place. The co-coordinators use one Web calendar, accessible only to them, to keep track of sessions in the Lab and LPC for all librarians. A Web calendar for the Lab and a separate one for the LPC is accessible by anyone through the Moore Library Information Page (http://library.rider.edu/information.htm). The calendar software has greatly increased efficiency in scheduling.

The calendar software chosen to help manage the Lab is called iCal, a Web calendar server designed for the Windows 2000/NT/98/95 environment, provided by Brown Bear Software, a software development and research company based in Anchorage, Alaska. According to Brown Bear, iCal is "an event calendar that can be used for scheduling meetings, events, vacations, menus, or just about anything else. This calendar can be for personal use . . . or for sharing on your Intranet or Internet. iCal has a Web Browser Interface that allows dynamic updating of the calendar events, [and] since iCal comes with a built in Web Server, an existing Web Server environment is not required” (Brown Bear 2001).
The iCal calendars are essential for scheduling and keeping track of Lab and LPC availability. Because the calendars are interactive and available to users over the Web, the Library uses iCal for many other purposes, such as to keep track of lab assistant availability and Library Information Desk assignments. iCal is easy and flexible enough to allow all Library staff the opportunity to set up their own personal calendars, especially since iCal provides the ability to create an unlimited number of calendars. Brown Bear also provides full, unlimited technical support, and access to custom patches and modifications.

Demonstrations of the new iCal version 3.5, as well as their Calcium version 3.5, which is targeted to Unix platforms, are available at the Brown Bear Software Web site. Because the Calcium server “runs on any machine, comes with Perl source code, and offers per user security” (Brown Bear 2001), and since the Library needs to free up for other uses the Windows NT computer on which iCal runs (all the other applications that were on the computer have already been migrated to other platforms), the Library will investigate changing from iCal to Calcium, although no problems with iCal have been encountered. Both iCal and Calcium would work well for many libraries.

Staff Development Facility

There is more to consider than room availability when the Lab is used as a staff development facility. For instance, the new Lab cannot be booked for staff development purposes during high use times. Time of day and point in the semester, or in the year, must be considered. For example, mid-afternoon on a Monday or Wednesday during the ninth week of the Fall Semester would be a very bad time to book a staff development session because of the high number of instruction sessions being taught and the number of students needing the Lab at that time. Even when that requirement is met, this is not enough. It must also be beneficial to two or more Rider University Libraries’ personnel, or it will not be taken off the schedule as an open lab for students. The Library Department Chair made an agreement with the University administration that the Lab be available to the students as an open lab unless being used as a library instruction facility or a staff development facility. This arrangement is recommended for other academic libraries. Booking authorization outside of the guidelines must come directly from the Library Department Chair.
STAFFING OF THE LIBRARY COMPUTER
LAB/E-CLASSROOM

Since the Lab’s inception, the Library has had no difficulties finding qualified, interested workstudy students to fill the numerous Lab assistant positions, even for weekend shifts. Lab assistants are paid at a slightly higher rate per hour because more is required of them than regular Library workstudy students. Careful consideration and selection of students is recommended.

Who: Qualified Students

In The Journal of Academic Librarianship, Kathman and Kathman give some very pertinent advice on hiring student employees. They stated that an “interview, conducted by the immediate supervisor, is an essential part of the pre-employment process” (2000, 178). The hiring process at Moore Library is fairly simple: interested students can apply through a staff member at the Library Circulation Desk. Those that have recommendations from staff or faculty, or previous or current Lab assistants, are considered first. Library staff especially look for knowledge of computer applications, proof of reliability, a service orientation, and flexible availability. Those that meet these standards are recommended to the Library Systems Manager, who is the immediate supervisor of all Lab assistants. He interviews the candidate, shows him or her the facility, and reviews the duties and requirements of the job. If possible, the candidate is screened by at least one of the co-coordinators of library instruction for their feedback, as well.

If the candidate meets with approval thus far, then the student is given a handout explaining the duties, policies, and procedures of Lab assistants and the consequences of violating these rules. Kathman and Kathman offer good advice when they write that “communicating expectations may be necessary for students who have not worked before or are not familiar with the work ethic. Such education can be a powerful tool in motivating students to accept responsibility for the job they are about to undertake” (2000, 178). Each Lab assistant signs a form indicating his or her understanding of and willingness to follow the rules and policies of the Library and Lab. Initially, the Library did not have these written out or require students to sign a form regarding them. After the first semester that the Lab was in operation, the staff found that it was
necessary. This change really did enable staff and student workers to be on the same wavelength as to work needing to be accomplished. It also provides grounds to perform disciplinary action as required. More detailed information on the duties, policies, and procedures of Lab assistants appear in Appendix B.

When: Priority Days and Hours to Be Staffed

The Lab is open seven days a week. Priority days and hours for staffing the Lab are Friday evenings through Sunday evenings, closing times during the weekdays, and mid-afternoons through early evenings every day. The Lab must be staffed by Lab assistants during the late evenings and weekends because of the shortage of full-time staff working in the Library at these times when compared to the number of full-time staff available during the day, Monday-Friday. It is also important that Lab assistants work mid-afternoons through early evenings during the weekdays because of the high use of the Lab by students then. The two charts below indicate detailed Lab usage in terms of the average number of users in the Lab at any given time by the day of week and time of day, and the average number of Lab users at any given time during each week of the semester. Statistics were gathered by Lab assistants and compiled by the Library Systems Manager during the Fall 2000 Semester (see figure 2 and figure 3).

SECURITY ISSUES

Sign-In and ID Card Check (Lab Assistant)

A policy requiring all people using the Lab for longer than five minutes to sign-in is in place. This policy is in effect at all times that the Lab is operating as an open lab, even when no Lab assistants are on duty. When Lab assistants are on duty, they also check student ID cards to make sure that the people using the Lab are affiliated with the University. They also scan any floppy disks that people plan on using in the Lab for viruses. If no Lab assistants are on duty, the “honor system” for signing into the Lab is in use.
FIGURE 2. Average Number of Users in Lab by Day of Week During the Fall 2000 Semester

FIGURE 3. Average Number of Users at Any Given Time in Lab/E-Classroom by Week During the Fall 2000 Semester
Security of Equipment

As noted earlier, the physical location of the Lab, with its centralized location in the Reference Room behind the Information Desk, and with its glass doors and many windows, provides high visibility of equipment and people. This provides added security for the Lab equipment.

Physical security of equipment is further aided by the design of the furniture. The computers are strapped into the recessed computer racks. Their removal would be very difficult without detection by a staff member. The keyboards and mice are also strapped to the racks with a heavy-duty plastic tie that must be cut in order to be removed. While these measures make it slightly more time-consuming and difficult for staff to replace equipment, it has been successful in insuring that keyboards and mice do not "walk away."

In addition to the above arrangements, the instructor's station is restricted to lab assistants and librarians only. If the "Staff Use Only" sign does not deter someone, the password protection will. The Basic Input/Output System (BIOS), which is the program that a personal computer's microprocessor uses to get the computer system started, and the screen saver are password protected. Therefore, when the instruction computer is inadvertently left on when not in use, the screen saver is automatically activated after five minutes, and a password must be entered to regain access to the desktop. If the computer is restarted in an attempt to bypass this security, the BIOS will prompt the user for the password again and will not allow the computer to fully boot without it. This added protection for the instructor's station is quite effective and useful in keeping this particular computer in proper working order at all times for library instruction and staff development training sessions throughout the year.

Security Policies/Violations

It is beneficial to have a written security policy and to have a plan of action to address any violations. In addition to the University-wide computing policy, the Lab is protected by policies specifically written for it. The key aspects of the Lab-specific computer policies include the following: no food or drinks, all diskettes must be scanned before being used in the Lab, patrons must sign-in if they are using a computer or staying more than five minutes, no copying software on or off of the computers in the Lab, no saving information on the hard drive, and no loud or disruptive behavior allowed. There have not been a significant
number of violations of any Lab policies, but having the policies in effect—and posted—assists the Lab assistants to enforce policies when students disregard them.

If a serious infraction occurs or if someone refuses to listen to a staff member or the Lab assistant on duty, the patron is asked to leave the Lab. If necessary, campus security is notified in order to escort the person in question from the Library. If a person repeatedly violates Lab policies, he will be banned from using the Lab, either temporarily or on a permanent basis, depending on the nature of the infraction, and a note to this effect is made on the person’s online library account.

COMPUTER MAINTENANCE/UPGRADE

The Library Systems Manager has the primary responsibility for all technological aspects of the Lab. In the event that he is unavailable, the Systems Librarian is then in charge. In the unlikely event that both are unavailable, the third layer of support is the University’s Office of Information Technology (OIT). All maintenance and upgrades are performed by, or under the direct supervision of, the Library Systems Manager or the Systems Librarian. It is not uncommon, especially with scheduled maintenance, for a Lab assistant to assist with the maintenance, or even perform the actual work, under the supervision of either the Library Systems Manager or the Systems Librarian. Occasionally, especially with hardware-related issues, OIT personnel will also perform or assist with maintenance and repairs.

MAJOR CONFLICTS AND RESOLUTIONS

In the two years of operation and management of the Lab, the location in the reference area and the overall design has proved successful. However, it hasn’t been all smooth sailing. Some conflicts arose regarding Lab staffing, shared responsibilities between Lab assistants and Library staff, multiple printing failures, Lab budget problems, faculty demands, and environmental problems.

Staffing of Lab

A conflict that often comes up across campuses when relying on student workers is that they are, on occasion, unreliable. The Lab in Moore Library is no exception to this. With higher requirements, standards, and pay rate for Lab assistants, the Lab has, for the most part, attracted more reliable
workers than other places on campus. Even so, problems concerning unreliable student workers arise. Issues involving Lab assistants coming in late, not following staff members’ directions, and even not showing up for work have all occurred. Kathman and Kathman believe that there “should be a written description of everything that the student employee needs to know to do his or her job in all applicable library policies in a format that is easy to consult” (2000, 180). This is sound advice. When a Lab assistant violates one or more of the Moore Library or Lab policies, he or she is referred to the written policies that are easily accessible on the Library Web site and from other areas of the Library. If this is a first-time infraction, the Lab assistant is given either an oral or written warning, depending on the nature of the offense. Subsequent violations are handled with additional warnings, a temporary suspension from working in the Lab, or dismissal.

Shared Responsibilities

During the first semester that the Lab was open, there were differences of opinions on whether a staff member or a Lab assistant was supposed to do certain tasks. This conflict arose from the lack of a clearly defined set of guidelines that stipulate responsibilities. This problem has been rectified by the creation of a set of rules and responsibilities for Lab assistants and by communicating what these rules are to the full-time employees. These guidelines were created through trial and error during the first two semesters of operation. If something not covered by the guidelines arises, the Library Systems Manager and the Support Staff Manager decide who should be responsible and adjust the guidelines as needed. See Appendix A for the Moore Library Computer Lab/E-Classroom Assistant Guidelines.

Another unexpected conflict between full-time staff and Lab assistants arose early during the operation of the Lab. On a regular basis, a couple of Lab assistants visited the Lab while not on duty. Full-time employees would think that these assistants were at work and would either ask the off-duty assistants to do something or complain to the Library Systems Manager that they were not doing their job. The Lab assistants were, understandably, not happy to be accused of any wrong doing when they were just using the Lab as students and not doing anything wrong. In order to address this issue, the Library Systems Manager created an online schedule that all staff could access so that they could check to see who was supposed to be working when. Since the creation of the calendar, tensions between the staff and Lab assistants have reduced significantly.
Print Failures

The computers in the Lab occasionally lose connections to the network print queue, resulting in a failure to send print jobs to the printer. While the lost connections are easily reestablished by rebooting the computers, this is highly inconvenient for people using the Lab. This problem has been significantly reduced by upgrading the network operating system and the network client software. The use of a Linux print server running Samba (an open source software suite that provides seamless file and print services) is under consideration to see if migrating to that platform from Novell NetWare will address the problem. While not certain to solve the problem, a staff member’s computer that has had the same problem has not lost the connection to the network printer since it was configured to use a Samba-based print server.

Budget Conflicts

While the benefits of adding a lab/e-classroom to an academic library are many, cost cutting is not one of them. In fact, adding a lab will more than likely considerably raise maintenance, paper, and toner costs. Because the Lab was heavily used by librarians and students continuously throughout the week and all year long, the paper and toner usage well exceeded that of other labs on campus. The cost was so much higher than other labs on campus that the administration decided to remove the printer.

The ruckus among students, librarians, and teaching faculty that ensued led to a compromise. The printer was brought back, but printing was limited to double-sided only to save on paper costs, and some funds earmarked for other labs on campus were transferred to the Library to help defray the costs of toner. Previously, all of the costs of printing were funded out of the Library’s general operating budget. It was required that the Library keep strict records of toner and paper replacement to better budget for this in the future. It is recommended that the Library and University administration be informed about the possible cost factors associated with managing and operating a lab in a library so as to budget accordingly. Keeping good records of its use is also important.

Faculty Demands

Even though the Moore Library Computer Lab/E-Classroom is for the Library Instruction Program use only, more and more faculty teaching with hands-on technologies attempt to book the Lab regularly for their classes. These requests were curbed by placing the use policy on the Web page
where the link to the Lab is located. Also, no one other than the co-coordinators of library instruction (and the Library Systems Manager for maintenance/upgrade purposes) can make adjustments to the Lab schedule. The calendar is password protected. Faculty members are redirected to other locations where they can regularly conduct sessions involving the use of technologies. Faculty and staff on campus are allowed to book the non-hands-on e-classroom—the Library Presentation Center (LPC)—but it has restrictions, as well. The LPC Web site details its policy (Warner 2000).

Facilities are available elsewhere on campus that faculty can reserve. If bookings by teaching faculty were allowed, the Lab would not be available for library instruction sessions or as an open lab for students. That would defeat the purpose of having it built and housed in the Library. The Library Department Chair promised the University administration that the Library would not allow this facility to be used and booked as a regular classroom. It is nice to fall back on this policy agreement when dealing with faculty in their attempts to circumvent it.

Environmental Issues

As you can imagine, turning a room not originally designed to house a lot of technological equipment into a computer lab can significantly affect its ventilation/air-conditioning requirements. During the planning stages, the Library did some research on cooling needs to try to head off conflicts in this area.

C. William Day, in his 1997 American School & University article, commented on the need for planning when retrofitting older buildings with technology. One particular physical problem he mentioned was that regarding environmental issues. According to Day, “Five computers can raise cooling needs by 25 percent, and 20 computers can double cooling needs” (54). The Lab’s twelve computers, high-volume printer, and presentation equipment would significantly increase the room temperature. To help remedy this, the two doorways from the original two rooms were retained so that cross-ventilation could occur. The large duplex printer was placed just outside of one of those doors.

Even with these allowances, some complaints are heard from students and faculty about the temperature and/or general stuffiness of the room. The air-conditioning system in the Library is old and could stand to be replaced, but these temporary solutions must suffice for the time being. To help further ventilate the Lab, a fan near one door and facing the other door, assists in airflow. The air passes over a dehumidifier, which removes the moisture from the air, making the room even more
comfortable. Every available air duct was utilized for the new room. This really helped, but the temperature in the room evens out with the surrounding building while the doors are open (Warner, Buschman, and Lackie 1999, 539). An air-return duct to force air in and out of the room is planned. This will provide some air return for circulation in and out of the room, with or without the doors closed, until the entire building receives a new air conditioning system.

NEW DEVELOPMENTS AND FUTURE CONSIDERATIONS

In the beginning of the Fall 2000 Semester, the Office of Information Technology initiated a University-wide login account called EasyPass. EasyPass is used by faculty, staff, and students to gain access to various University resources and services that require authentication. Some of these include off-campus access to databases and reporting computer-related problems. The Library is planning to require everyone using the Lab to log on to the computers with their EasyPass account before they will be granted access to the desktop. This will insure that only people affiliated with the University are using the Lab when no Lab assistant is on duty.

To help better manage and operate the Lab, a message board and electronic forms were recently created for librarians, Library staff, and Lab assistants to communicate effectively and efficiently all usage, problems, and questions associated with the Lab. The message board utilizes software called WWWBoard, and the electronic forms utilize FormMail—both available for free from Matt’s Script Archive, Inc.

WWWBoard is a Web discussion forum and message board, “which allows users to post new messages, follow-up to existing ones, and more. The current release ... comes with a WWWAdmin program ... [to help] you maintain the WWWBoard.” The Readme files are helpful in that they provide “configuration and usage instructions, which take you step by step from putting the scripts on your system to using them in your Web pages” (Wright 1998). WWWBoard was last updated on 7 January 2000.

FormMail is a “generic WWW form to e-mail gateway, which will parse the results of any form and send them to the specified user. This script has many formatting and operational options, most of which can be specified through the form, meaning you don’t need any programming knowledge or multiple scripts for multiple forms” (Wright 1998). FormMail is successful in allowing Lab assistants to submit standard
forms electronically to the Lab Systems Manager. It is used in the Lab for hourly usage counts and for accurately reporting computer-related problems. Elsewhere in the Library, FormMail is used to generate inter-library loan, new material purchase, and electronic reference requests. This free CGI script, written in Perl, fits the Moore Library and probably will for many other academic libraries, too.

In addition to the message board and electronic forms, the Library hopes to create an electronic mailing list for the general public to use, too. Until that occurs, messages are posted on the Web in a Frequently Asked Questions page, along with the other Lab/E-Classroom Web pages (Corrado 2001).

A recent inquiry on a regional academic library electronic mailing list indicated that a large percentage of academic libraries in the Philadelphia area still do not charge for printing, but many are beginning to charge $0.10 a page. The students at Rider pay a technology fee that, among other things, partially covers the costs of toner and paper for all computer lab printers across campus. However, a large percentage of the costs of printing in the Library Lab is not covered by this fee. For now, Moore Library has decided to not charge for printing, choosing instead to absorb the costs not covered by the technology fee into the Library’s general operating budget. This arrangement may not last for long. If costs continue to rise, Moore Library will need to consider other options, such as offsetting the costs with additional University funding, outsourcing printing with a company like COPICO, or charging for printing using a debit system similar to UniPrint (available through Pharos Software). Whatever Moore Library decides in the future concerning printing, the librarians believe that student service should prevail over campus politics regarding toner, paper, and other costs associated with printing.

Lastly, the Lab needs an air-return duct to force air in and out of the room to equalize it with the rooms surrounding it, as described in the section on environmental issues.

CONCLUSION

While not necessarily the perfect model for all academic libraries to follow, the Moore Library’s experiences and insights can help others who may be contemplating how to best operate and manage a multi-purpose facility. Critical to the successful operation and management of this Lab were the (1) configuration and the location in the Reference Room; (2) the various software loaded on the computers for student use and security purposes;
(3) the scheduling process and Web-based calendars used; (4) the written policies and their enforcement; (5) the hiring and training process for Lab assistants; (6) the support of the Library and University administration; and (7) the ongoing communication between Lab assistants and Library personnel, both through traditional means and electronic methods.

Evidence has shown that the Library Lab is one of the most highly used labs on campus. Because of its location in the Library, students frequently visit it to do research and to write papers, knowing that expert help from librarians is available nearby. Another reason for the Lab's high usage by students is that it is open when other labs on campus are closed.

The Lab, providing a place within the Library to provide hands-on assistance to individuals and groups in developing research and critical thinking skills, has changed considerably the way that librarians conduct library instruction sessions. In addition, it has enabled librarians to conduct staff development workshops that require separate computers for each workshop participant.

As an added bonus, the Lab provides excellent opportunities for Lab assistants to gain meaningful work experience in a computerized work environment. In fact, several education majors who have worked in the Lab have remarked about how valuable this experience has been for them since they will be expected to teach in an electronic classroom environment.

It is hoped that Moore Library's successful experience managing and operating a multi-purpose library computer lab will enable other libraries to do the same. At Rider University, it really has been a win-win situation for all concerned.

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REFERENCES


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APPENDIX A

MOORE LIBRARY COMPUTER LAB/E-CLASSROOM ASSISTANT GUIDELINES

I. Procedures to follow when opening the Lab or when first coming on duty:
   A. Sign in at Circulation Desk
   B. Make sure all computers are turned on and functioning properly
   C. Check Lab printer (make sure it is operating correctly and has paper, etc.)
   D. Check to see if instruction sessions are scheduled while you are on duty. If so, make sure you fill out and post a notice on the Lab doors with the beginning and end times, and notify patrons in Lab before the class begins (Approximately fifteen minutes before)
   E. Read any new entries in logbook
   F. Fill out Moore Library Computer Lab/E-Classroom Usage Web Form

II. Procedures to follow when on duty in Lab:
   A. Sit at the Instructor Workstation/Help Desk when possible so that patrons know where to find you when they need assistance
   B. Ensure that all patrons in the Lab sign in on log sheet. In addition to name, include barcode number on Rider ID, University status (i.e., faculty, staff, undergraduate, graduate, etc.), and time of arrival
   C. Ensure that all patrons using disks have them scanned for viruses prior to use in Lab
   D. Assist all Lab patrons when possible, ensuring that you forward any reference questions to the Reference librarian on duty as needed
   E. Assist librarians as needed in all Lab instruction sessions
   F. Write any problems, comments, or questions in logbook and forward to the Library Systems Manager as needed
   G. For any computer related problems, fill out the Moore Library Computer Lab/E-Classroom Problem Web Form
   H. Food and drink are not allowed anywhere in the Library, especially in the Lab. If you see anyone with food or drink, instruct them to take it out of the Library
   I. Fill out Lab Usage Web Form every hour on the hour (also when first reporting and just before you finish your shift)

III. Procedures to follow when going off duty:
   A. Make sure all computers are functioning properly
   B. Check Lab printer (make sure it is operating correctly and has paper, etc.)
C. Fill out Lab Usage Web Form
D. Sign out at Circulation Desk

IV. Closing procedures:
   A. Notify patrons about Lab closing fifteen minutes prior to closing
   B. Ensure all patrons exit the Lab at Lab closing time
   C. Close Lab and shut down computers/equipment thirty minutes prior to Library closing
   D. Assist Library staff with Library closing

V. Complete other duties as assigned by Library faculty and staff

APPENDIX B

DUTIES AND POLICIES OF THE MOORE LIBRARY COMPUTER LAB/E-CLASSROOM ASSISTANT

Lab/E-Classroom assistants are responsible for everything that goes on within the walls of the Computer Lab. Below is a list of responsibilities that an assistant is expected to fulfill. Not all of these items will occur everyday, but when they do occur, the assistant will be responsible for carrying out the task.

Duties:

I. Be kind and courteous to all people using the Lab

II. Help students when you see them having trouble—go out of your way to help solve a problem before it happens

III. When asked a question, no matter how easy the answer, give a personal response by going over to the person and making sure they understand your directions

IV. Ask people to leave (politely) when they are being loud or disruptive

V. No copying personal files or installing programs onto the hard drive. If a student does not have a disk to save the information, then the student will not be allowed to save the information

VI. Remind people to keep the area clean
VII. Make sure that there is a new sign-in sheet everyday (and that it is dated)

VIII. There is no eating or drinking within Lab walls—no exceptions

IX. Prompt arrival to work is required

X. Dress appropriately—no hats, ripped jeans, or T-shirts

XI. No headphones or radios

XII. Cooperate with other Lab/E-Classroom assistants and Library personnel

XIII. Knowledge of the following:

A. How to get in and out of each program that is offered in the labs
B. How to print from each software package
C. How to format disks
D. How to use virus scanners
E. How to fill the printer with paper and clear paper jams.

XIV. Assist librarians as needed in all Lab instruction sessions

Policies:

This section is to inform Lab/E-Classroom assistants of the policies of the Lab and the penalties of not following the duties and guidelines (mentioned above). These policies will help keep the Computer Lab/E-Classroom in smooth working order and will not lay the responsibility on any one worker.

I. Machines and students:

A. Any physical work done on any machine to to be documented—software and/or hardware
B. Anything that goes wrong with either the software or hardware should be documented as clearly as possible in the logbook. Also, fill out and submit the Computer Lab/E-Classroom Problem Web Form
C. Document your activity with students who give you a hard time. This will help you remember the incident later and will serve as a hard copy of the situation for the Library Systems Manager

II. Computer Lab/E-Classroom Assistants
A. Everything must be given in writing to the Library Systems Manager in advance, including:

1. Changing times with other workers
2. Not being able to show up for work
3. Being late
4. Having to leave early
5. Any mistakes in the schedules
6. Any changes in the schedules

B. Not showing up for any shift, without prior notice, will result in dismissal

C. Late policy:

First time, reminder
Second time, written warning
Third time, dismissal

Be on time. Others are depending on your punctuality. Anything over five minutes is considered late.

D. No exceptions, except if the Library is notified in advance. If the schedule is a problem, please contact the Library Systems Manager to work out a new arrangement

E. There will be no copying of personal software

F. You will be responsible for the cleanliness of the room. If you do not get people to clean up after themselves, you are responsible to clean it up

G. When you know in advance that you will be late or cannot show up for work, use the logbook to find somebody else to fill in for you. Please inform the Library Systems Manager of any changes

H. If you cannot make it to work or are going to be late because of an emergency, and the Library Systems Manager is unavailable, notify the staff member on duty at the Library Circulation Desk

There is no excuse for not following the duties, policies, and procedures located within these two sections. Ignorance of the rules will not be an excuse. Violation of any of these rules may result in oral and/or written warnings, suspension, or dismissal.