

Configuring Computer Labs

Training Needs Dictate Computer Lab Design

by Ted Potter



Remember the group typing lesson? Typewriters were lined up in a classroom as the teacher shouted the letters to help students create brain-to-muscle memory to learn the QWERTY typing method. The typewriters in some typing classrooms were lined up in rows, while others were arranged in any number of configurations, depending on the space available.

Although the computer has replaced the typewriter, the design of a computer lab is still somewhat reminiscent of the typing classroom of yesteryear. Like a room full of typewriters, computer labs come in all sizes and configurations. But unlike the interior of a typing classroom, space and technology are only some of the considerations when designing a computer lab. Meeting the needs of group and individual training largely drives the design of computer labs today.

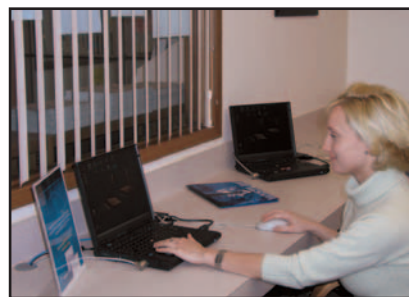
Different Users, Different Training Methods

Despite the increase in savvy computer users and technical advances in information retrieval, group training and hands-on training remain the most efficient and effective ways for patrons to learn how to use online resources, according to respondents on the Computing Services Special Interest Section and Teknoids listservs, as well as librarians who recently renovated computer labs. The skill levels and learning styles of law library patrons are widely disparate; training methods that work for one patron may not work for another. Even as the search capabilities of the free search engines improve, some users do not refer to help screens and do not research terms and concepts before engaging in online research. As long as these tendencies persist, group training remains important, according to most law librarians who train users in online research.

Most law schools deem group training a necessity when teaching law students about online legal research. Although entering law students are very familiar with computers and Internet search engines, their online research skills are often underdeveloped and unsophisticated, says Don Arndt, associate director of the University of Toledo law library and chair of the CS SIS. New law students are used to searching the Internet using bound phrases, where a search engine, like Google, searches a group of key words placed in quotation marks. Such a search technique is often ineffective because it either produces an inordinate amount of irrelevant information or very few meaningful search results. First-year law students are often unfamiliar with more sophisticated search techniques, including Boolean operators and proximity connectors, which yield a higher retrieval rate. “[Searching by bound phrase] is something they have to be deprogrammed out of in order to grasp much more powerful databases like LexisNexis™ and Westlaw, because their first knee-jerk way of searching is always with a bound phrase like you would do in a Google search,” Arndt says. “I think students are increasingly having a very difficult time getting out of that Google mindset.”

To help law students develop more sophisticated research skills, the computer lab at the University of Toledo law library is designed to accommodate group and hands-on training. The lab is hardwired with 20 desktop computers in an open space — not confined within four walls — in the law library. Although the lab does not contain an anchored instructor workstation, one can be wheeled into the lab on a cart equipped with a computer hooked up to a projector and screen. The lab’s configuration allows for a variety of delivery methods, including lectures, discussions and hands-on activities. Its design also promotes student-to-student interaction as well teacher-student discussions.

The law library’s computer lab has allowed Arndt to experiment with three methods of group training over the last three years. He has taught online legal research in a large classroom with hundreds of students using a show-and-tell demonstration and



The computer lab at the San Diego County Public Law Library includes eight laptop computers, three laser printers, four local-area network drops and a hub.

lecture. Last year, he worked with 20 students in his law library's computer lab. Arndt began the class with a lecture and demonstration. He then guided the students through hands-on exercises. This year Arndt's legal research class focused on active, hands-on learning. Limiting his class size to six to 10 students, Arndt instructed his students to complete an

In a public law library, the need for group training is even more pronounced because its patron base encompasses users from various educational and socioeconomic backgrounds, such as pro se users and attorneys, says Charles Dyer, director of libraries for the San Diego County Public Law Library. "Although San Diego County has a high percentage of

"Even after attending my class, patrons will use broad terms like divorce, when what they really need is information on child custody," says Amy Hale Jancke, a reference librarian at the San Diego County Public Law Library, who teaches a basic legal research course once a month. "They need assistance targeting their searches and help determining the best sources."



Julie Tessmer (standing), director of collection management at the Wisconsin State Law Library in Madison, Wis., teaches an introductory class on the Wisconsin State Law Library's Web site.



online research exercise at every class session, while he circulated around the classroom to monitor the students' progress and to address their questions or problems. "[For this class, there was] a lot more heavy emphasis on the hands-on activities and the student doing the thinking and the discovery, with me just sort of being a coach," he says.

Arndt is conducting a survey to determine which teaching method the students preferred. With less than 25 percent of the survey instruments currently in, the initial results are mixed. Many first-year students favor the show-and-tell approach combined with a hands-on component. However, upperclassmen tend to prefer the small class size where the teacher floats around the room coaching the students one-on-one as the students engage in hands-on exercises in online legal research. While various conclusions could explain this, one possibility is that the upperclassmen have a greater perspective on the training they received, perhaps as a result of their experiences clerking in law firms, Arndt says. The final survey results will be completed by late April.

computer use, many of our patrons are poorer and do not have good access. Also many lay users think they have good computer skills when they actually do not, especially when it comes to search strategy," Dyer says.

To accommodate the varying online training needs of its diverse users, the San Diego County Public Law Library set up a small computer lab in September 2001 in its main library and one in its North County branch library. The labs consist of eight laptop computers, three laser printers, four local-area network drops and a hub. Although the labs are small, they have proven to be the right size and configuration for basic legal research and online classes, particularly those aimed at self-represented litigants as well as older, technophobe attorneys. It allows instructors to teach the group as a whole but still attend to the individual needs of each participant.

Personalized Learning

Experts in e-learning and training recommend blending training methods and adapting them based on the learning styles that users are comfortable with and the desired learning outcomes. For example, Bob Schwieterman, director of corporate training and development for LexisNexis™, maintains that leadership training for upper-level executives may need to be more personal and hands-on to optimize that student's time and for him or her to extract the most important lessons from the material. However, broad policy training is more appropriate for midlevel managers, who perhaps learn better with a combination of tutorials; pre-training reading; and instructor-led, hands-on training. The emphasis in e-learning should be on the learning outcomes and learning styles, not necessarily on the one-size-fits-all type of training, Schwieterman says.

Rick Sellers, director of internal training and development at LexisNexis, predicts that learning platforms will adapt to the learning styles that individual users prefer in the next three to five years. As companies coordinate their training sessions and resources, they will create training modules that allow for learning at the pace and in the style that suits the learner. Some software will provide a virtual trainer that reacts to the responses of the learner, creating a real-time and personalized learning environment — similar to books in which the reader chooses the ending he or she prefers. In this case, the trainee's answers determine the path of learning. For some training modules, people will be able to use several devices to allow them to access learning

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opportunities at any time and from any place via Internet and wireless technologies, such as logging on to a training session using a laptop on a train or via a handheld computer or palmtop at the airport.

Training Needs Top List

Incorporating new technology can be exciting and sexy, but it is not the defining factor for computer lab design. From a room of 48 computers in a general-purpose lab at Loyola Law School in Los Angeles to a four-workstation lab at the law firm of Godfrey and Kahn in Milwaukee, the configurations of computer labs vary among libraries based on users' training needs.

Some academic law libraries have more than one lab to accommodate differing uses. One large lab is for drop-in users to carry out various personal computer and Internet-related tasks, such as writing term papers and surfing the Web. A second lab might consist of eight to 16 workstations typically configured and used for group training. These training labs often have rows of student workstations and a trainer's workstation or podium that is connected to a ceiling-mounted projector for group-training demonstration purposes. For example, at Marquette University's law library, the training lab has three rows of four computer workstations and a podium that holds a PC, a videocassette recorder and a document camera, all hooked up to a projection unit in the ceiling. The room can be used for small seminars that require multimedia presentations or for the more typical computer-assisted legal research instruction for first-year law students.

Unlike years ago when computer labs were created out of "the only available space," today the computer lab, particularly at academic law libraries, is designed as a high-profile, frequented facility. "A large percentage of our students make the law building the focal point of not only their classroom activities but also their study and social connections," says Dan Manier, director of technology at Notre Dame Law School Kresge Library. "So the computer lab area is heavily used throughout most days."

Many computer labs at state, court and county law libraries are modeled after the classroom-style computer labs of academic law libraries — but on a smaller scale. In January 2002, the Wisconsin State Law Library moved into a new building with a new computer lab of eight workstations and a podium with a computer workstation for the trainer. The law library offers a variety of online training classes, such as Wisconsin legal research, state and federal materials on the Internet, and an introduction to the law library's Web site. Because the law library encounters users with varying levels of computer and research skills, its computer lab was designed primarily to provide hands-on training to about eight to nine users at a time. In this group setting, the instructors can still adequately address the individual training needs of their users, which include lawyers, paralegals, court staff and paraprofessionals.



The Wisconsin State Law Library also plans to rent out its computer lab for only \$40 an hour to private law firms and state government agencies that don't have in-house computer labs at their facilities. "This is a side benefit," says Jane Colwin, co-state law librarian at the Wisconsin State Law Library. "We've actually had several inquiries, but we haven't rented it yet."

A computer lab at a law firm library may consist of six or fewer computers or may have no dedicated training space in the library at all. Many law firms don't invest heavily in training facilities because

of the high rent for floor space, while others provide state-of-the-art training space outside of the library and allow the library to use it when necessary. In addition, law firm librarians usually provide individual training to attorneys on complicated search methods and legal topics. "Training for attorneys often involves teaching more sophisticated search techniques on a one-on-one basis, and it's often geared toward a specific topical area of law or a particular product, such as BNA Online," says Mary Koshollek, director of library services at the law firm of Godfrey and Kahn in Milwaukee. Under these circumstances, a law firm rarely justifies a larger training facility within its library.

Going Wireless

For now, technology is incorporated in law libraries as it arises, but its impact on design could be felt sooner rather than later.

Many law librarians predict that wireless technology will affect computer lab design in the near future. However, many law libraries have currently held back from implementing wireless solutions because of the technology's instability, such as slow response time and inconsistent access, and high cost. Despite the media's frequent promotion of wireless



Don Arndt (standing), associate director and head of public services at the University of Toledo College of Law Library, teaches legal research in a small group setting to first-year law students at the University of Toledo.

access to the Internet and to vendors' Web content, many computing services librarians will not recommend the use of wireless technology until it becomes more stable and cost effective.

However, some schools are having success with wireless technology. The wireless environment at the Marquette University Law Library has worked well

for students and faculty, according to Steve Nelson, computer services librarian at the Marquette University Law Library. In fact, the law library supports several dozen simultaneous users on its wireless network. Because Marquette's wireless technology is platform neutral, access to the Web is possible from any type of laptop almost anywhere in the building.

While wireless technology has come into its own at Marquette this year, it was not without its share of initial problems when it was first implemented. "The network used to bog down with the numbers of simultaneous users, but with some tweaking of the software, and a lot of patience, the reliability of network speed has stabilized to an acceptable level," Nelson says.

Design Follows Function

Ultimately the design of future computer training facilities will follow function. The setting and purpose of the space, technology, and the learning outcomes anticipated will determine the configuration of new computer labs in law libraries.

As the number of patrons continues to increase, the training spaces of public law libraries will be geared to the various research-skill levels of patrons seeking help with how to represent themselves in court, from users with physical limitations to those with limited intellectual or verbal skills to patrons without any disabilities. Yet the technology at some future computer labs in public law libraries may not be as cutting edge as academic or firm libraries, due to public law libraries' small technology budgets and the need to comply with the *Americans with Disabilities Act*. The shrinking budgets in all states will compel public law libraries to tap other sources of revenue, such as grants from foundations and "friends of the library" groups, to provide adequate space for wheelchairs and walkers, larger monitors for the vision-impaired and other necessary accommodations for disabled users. In any case, room for individual as well as group training continues to work best for that environment.

But computer training facilities of the future in public law libraries will not be characterized as much by its technology

and space as it will by its instructors, Colwin says. "I don't know the configuration or what [computer labs] are going to look like is as important as whether or not they're going to exist," she says, "because I think what we're seeing is that our roles as public law librarians are shifting from just being reference and document delivery and providing case law and access to materials. We are asked more and more to be the teachers.

"I think our roles as teachers are increasing," Colwin continues. "I would think that law librarians — especially people in public libraries — will do more



In addition to classroom instruction, University of Toledo law students also use the law library's computer lab daily for personal tasks, such as e-mail and writing papers.

in terms of training opportunities, whether it's hands-on classes, handouts or brief demonstration-type classes. That's where we will be spending more of our energy."

Future computer labs in law firms will require very flexible, multipurpose spaces given the small physical areas and budgets currently allotted to law firm libraries. The lab should be equipped to train several people at once using standard hardware, such as PCs and laptops. In addition, the lab should allow law librarians to provide more individualized training to those attorneys using high-tech gadgets to take advantage of wireless Internet access, such as handheld computers, minicomputers with wireless technology and cell phones that have multiple functions.

Computer training facilities of the future in academic law libraries will have several versatile options and considerations. A physical space for a computer lab will not be necessary for a law school outfitted with wireless access that requires its students to use laptop computers. But a physical space might still be desirable

for logistical reasons, such as having a designated space for classroom training as well as print delivery.

If there is no laptop requirement but the students have sophisticated computer skills, a modular training space will be flexible enough to provide different types of training. The space could easily and quickly be reconfigured to accommodate large and small group sessions, as well as more individualized training. For example, two-person tables may be lined up in rows for one type of training, then rearranged in a U-shape for a different training session without any difficulty.

Academic computer labs in the future may also address more than just training needs. Some computer labs in academic law libraries now serve as gathering places for students to socialize as well as learn. "Let's say you're only occupying half the lab with your students, and other students are using it for e-mail or doing their research or writing their papers," Arndt explains. "There can be some friction between the two groups of students

because of the close proximity, and they're being distracted by each other." Therefore, some academic law librarians suggest a law school build more than one computer lab in the future: one for training and another for social interactions among students.

Flexibility by Design

That teacher's voice is still echoing. While the QWERTY typing method has now given way to the cry of "click here" and "click there" in computer labs across the country, it appears that computer group training facilities will be around as long as technology continues to advance at a rapid pace. Computer labs of the future in academic, firm and public law libraries will differ according to their patrons' training needs, but flexibility in design and training will determine the viability of their facilities.

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