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IV JORNADAS CRAI: Experiencias en el ámbito de la organización y convergencia de servicios

Learning Commons: The University of Michigan Experience

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In the Beginning

The Duderstadt Center, originally known as the Media Union[i], was opened in 1996. It is named for the former president of the university whose ideas are reflected in our programs. Ten years before the building was begun Dr. James Duderstadt clearly saw the convergence of technologies and resources that was on the horizon. As an engineer he wanted to create opportunities for students that involved active learning. He also trusted that if we provided the resources, our students would make good use of them.

When the time came to build a library to support the University of Michigan's North Campus, Dr. Duderstadt was the one who said that the building needed to bring together information resources, information technology, and the facilities to create new forms of information; it had to be more than a traditional library. It would also require the close cooperation of information technology and library staffs, a reflection of the convergence that he foresaw.

The project was not begun as an "Information Commons" or a "Learning Commons"; those terms were not in use back then. Even now if you were at Michigan and asked directions to the "Learning Commons" people would not know what you were talking about.

What are the characteristics of a Commons? Dr. D. Russell Bailey of the University of North Carolina has developed a list of typical Commons characteristics:

Information Commons

- Physically located in a library
- Access to traditional library services
- Technology rich environment
- Integrated into traditional library services
- Access to full range of software
- Collaborative learning and workspaces[ii]

Some of the original Information Commons were a straightforward acknowledgement of the inroads digital information had made in the library. A few Commons involved little more than the introduction of computers in proximity to the Reference Desk and access to digital information. But Information Commons were most successful when there was a partnership with an Information Technology (IT) unit and a more proactive approach to providing productivity software. Librarians became engaged in "information literacy" efforts and user energy was created around these elements.[iii]

The Commons idea has evolved considerably since the mid-1990's. The more recent term "Learning Commons" implies a broadening of the concept of engagement to involve active participation by other campus units and better use of technology.

Dr. Bailey's description of a Learning Commons includes the following:

Learning Commons

- Includes all aspects of Information Commons
- Explicitly aligned with the institution-wide vision
- Non-library centric involving other campus units
- More seamlessly integrated in broader library mission
- More and varied collaborative workspaces
- More emphasis on the creation of knowledge[iv]

The Learning Commons concept also acknowledges the widespread practice of students to participate in study groups and project teams, and their pervasive use of technology. The Learning Commons tries to create a more collaborative environment to support these groups and provide easy access to display technology, white boards, and the campus network. It should be acknowledged, however, that the Learning Commons concept is very broad, evolving, and that there is much room for local variation and innovation.

> "The most important contribution that library space might make to the educational mission of colleges and universities would flow from a better understanding of how students learn and how faculty teach, and from designs consciously meant to support those activities."[v]

While libraries are ideally suited to host a Learning Commons, the popularity of the concept has demonstrated that many odd corners of academic buildings can lend themselves to becoming "learning spaces". If certain basic requirements of user comfort and easy access to technology are satisfied then new spaces can come online to support learning.[vi]

The underlying theme to the Commons approach is the partnership of libraries and IT groups. Ten years ago at conferences like American Library Association and EDUCAUSE the cultural differences between the two groups was often a topic for presentations. By focusing on the differences many people missed the fact that the skill sets of the two groups are complementary and that their goals are closely aligned. When the groups collaborate it is the faculty and students who gain. Basic to a Commons structure is collaboration toward shared goals in support of teaching and learning. After the faculty, librarians and IT staff represent the largest investment by a university in the success of its students.

In trying to plan the Duderstadt Center most of this was unknown. We were guided by Dr. Duderstadt's vision but he left the details to us to figure out.

The Duderstadt Center

The North Campus of the University of Michigan is home to the College of Engineering (8000 students), The School of Music, Theatre and Dance (1200 students), the College of Architecture and Urban Planning (600 students), and the School of Art and Design (500 students). The North Campus is about a mile away from the main part of campus in the city of Ann Arbor. Some student dormitories, graduate and family housing, and recreational facilities are also located on North Campus.

Since development of the North Campus was not begun until the mid-1960s, it was at first missing some key facilities such as permanent library space. Therefore when it was finally time to start planning our facility in the late 1980s there were several goals for the building:

1. It needed to bring together both the Engineering and the Art and Architecture libraries.
2. It had to provide access to a large number of computers for students.
3. It needed to provide new media production studios, special laboratories and a performance venue.
4. Since there were also far fewer amenities on this part campus, it needed to be a gathering place for students, supporting their needs for long hours.

The planning process for the building was highly collaborative. At one point there were as many as 20 faculty and student groups meeting to express their needs and offer advice about desired programs and space. The planning process for a building can be long and contentious, and trying to resolve competing interests while staying within budget can be difficult. The finished result, however, reflects the many creative suggestions put forth by our faculty, staff, students, and architects.

The Duderstadt Center is a 250,000 sq. foot (23,000 sq. meters) facility on four levels. It houses one of the larger libraries (600,000 vols.) and approximately 500 computers for student use, making it the largest computing center on campus. In addition there is a video/performance studio, an audio production studio, two electronic music studios, a 3D/virtual reality lab, multimedia production suites, a student projects lab (*GROCS*), a media conversion lab (*Groundworks*), and a gallery. We also have a coffee shop because the building is open 24 hours a day, 7 days a week.

The Duderstadt Center is a mixed-use academic building. That is, it is not "owned" by one particular group but rather shared by several. The three primary groups are:

- The **Art, Architecture and Engineering Library** (AAEL)
- The **Computer Aided Engineering Network** (CAEN)
- The **Digital Media Commons** (DMC)

In addition, the Duderstadt Center is home to:

- The **Millennium Institute**, President Emeritus James Duderstadt's project on the future of higher education
- The **Center for Advanced Computation**, a high performance computing project of the College of Engineering

Art, Architecture and Engineering Library

AAEL is one of 24 libraries that support the U-M campus. It is the second largest library in the University Library system.

AAEL has about 30 regular staff and a large numbers of student workers. This number includes four engineering librarians, one architecture librarian, and one art librarian. The librarians all perform the standard duties of selection, reference, library instruction, and liaison to their assigned departments. Most librarians have advanced degrees in their subject specialty and are proficient in computing and other academic technologies.

The library acquires titles and supports scholars in the disciplines of art, architecture, design, urban planning, and all areas of engineering. The total collection is about 600,000 volumes in print mostly in engineering. We are one of the largest engineering libraries in the United States. We receive about 1400 engineering journals about 80% of which are available electronically including substantial back runs. About 25% of the arts journals are electronic.

In addition to the text collections, we have a *Visual Resources Center* (VRC) that provides access to a slide collection of 100,000 images primarily of architecture and art. An important role for staff in this area is acquiring new images in digital form and scanning old images to expand the digital collection. We maintain a database of about 67,000 digital images accessible over the web. The VRC is also the access point for a video collection of about 1,500 titles.

AAEL also has a small *Special Collection*. The materials here are mostly rare or unusual books and papers primarily in the areas of art and architecture. For example, we have a small but growing collection of artists' books; not books about artists but art works that resemble books. We have a sizeable collection of historic lanternslides mostly of architectural subjects that we are currently cleaning, scanning and cataloging. Some of these are already becoming available on the web. We also have a sizeable collection of 19th century European architectural postcards that we will eventually scan.

One interesting program of the library is called *Arts Videography*. We employ one videographer who organizes and trains student video production teams. The purpose of the program is to attempt to capture the process of creativity as it happens in the studios of the School of Art and Design, and the College of Architecture. The entire guest lecturer series is recorded each year, edited and burned to DVD to become part of the library collection. Both audio and video versions of the series are available as podcasts within days.

As part of our collaboration with our partner groups, the library has the lead role for providing security and access. A few of the services that the library performs that would be considered part of this collaborative effort are:

- First response for building or technology emergencies.
- Providing personal security at night during the months of 24-hour service.
- Key access for the many labs and production spaces mostly at night and weekends. (10,000 loans annually)
- Opening and closing the building on holidays and during the summer months.
- Sales of blank media to support student productions.
- Librarian consulting support for the GROCS student lab.

Computer Aided Engineering Network

CAEN is an information technology (IT) group that consists of about 50 programmers, network administrators, and technologists whose primary mission is to support the College of Engineering. CAEN provides a comprehensive set of computing and networking technologies and services in support of the instructional, research, and administrative missions of the College of Engineering. CAEN supports an up-to-date high capacity backbone, 90 building networks, 20 student computer labs, over 10,000 computers, software environments, and customer support services.

Within the Duderstadt Center, CAEN supports the building's networking, machine room, system administration, and general computer support for approximately 500 student workstations. These services are provided on a contract basis through the Digital Media Commons. On the surface it might appear that CAEN's programmatic role in the Duderstadt Center is more limited but support for such a large computing environment may be the largest and most actively used service in the building. CAEN is absolutely essential in creating a computing infrastructure and environment that allows the other partners to do their work.

One example of library collaboration with CAEN involves a project to redesign our reference desk. We wanted to make it more welcoming to students and put it in a better location. Rather than do this on our own we invited the CAEN technical support staff to co-locate their "Help Desk" with us. This has been an easy transition and as a result we expect both groups to learn more about each other's business. For students, it should make finding help that much faster and simpler.

Digital Media Commons

The Digital Media Commons (DMC) is the primary academic technology support group at the University of Michigan. DMC staff support the Duderstadt Center as a student facility with specially trained staff, the latest digital tools, and unique resources to enable the exploration of rich digital media for teaching and learning experiences, collaboration and creative expression. Media consultants and instructional technologists work closely

with students and faculty by training them in the use of digital tools, collaborating on projects, or providing direction to appropriate resources. DMC also undertakes special technology projects that benefit students and faculty campus-wide.

DMC supports two electronic music studios, an audio recording studio, two teleconferencing suites, meeting spaces, and a video production studio. The video studio also serves as a black box theater. They also facilitate art and technology exhibits in the Gallery.

Some special DMC projects include:
The *3D Lab* provides the U-M community with access to high-end technologies for computer modeling and visualization of multi-dimensional environments. The Lab's Virtual Reality CAVE, Stereoscopic Geowall, 3D Render Farm, and Access Grid are available for students, faculty, and staff interested in the exploration of innovative ways for the communication of information, the visualization of complex worlds and processes, and the creative expression of ideas.

The *GROCS* (GRant Opportunities Collaborative Spaces) Lab is a student-centered space that supports research projects on the use of rich media in collaborative learning. Selected student projects gain access to the GROCS Lab, expert technical and instructional design advice, and technology. Project teams and faculty advisors also receive a small stipend to help accomplish the project goals. Librarians are part of the review process for selecting projects, advise students in preparing proposals, and act as research consultants throughout the life of the project.

GroundWorks is a facility supporting the production, conversion, and editing of digital and analog media. It is open 24/7 and has a consultant staff during the most popular hours of use.

The goal of the *Usability Support and Evaluation Lab* is to assist faculty to apply technology for innovative teaching and learning. Instructional technologists help faculty to effectively integrate electronic tools into their teaching by providing assistance for a long-term project or short-term technical support. Usability specialists in the Usability Lab employ a variety of methods to evaluate websites, web-based tools, and software.

DMC also develops projects of campus significance. Probably the most important of these are *CTools* and *Blue Stream*.

CTools is an advanced web-based course and collaboration environment often referred to as a Learning Management System. CTools is a set of tools designed to help instructors, researchers and students create sites on the web. It includes features to facilitate discussions, gather library resources, share class schedules and syllabus, hold real time chat sessions, post news, and many more features. *Saiki* is an open source version of CTools currently being developed by Michigan in collaboration with MIT, Stanford and Indiana.

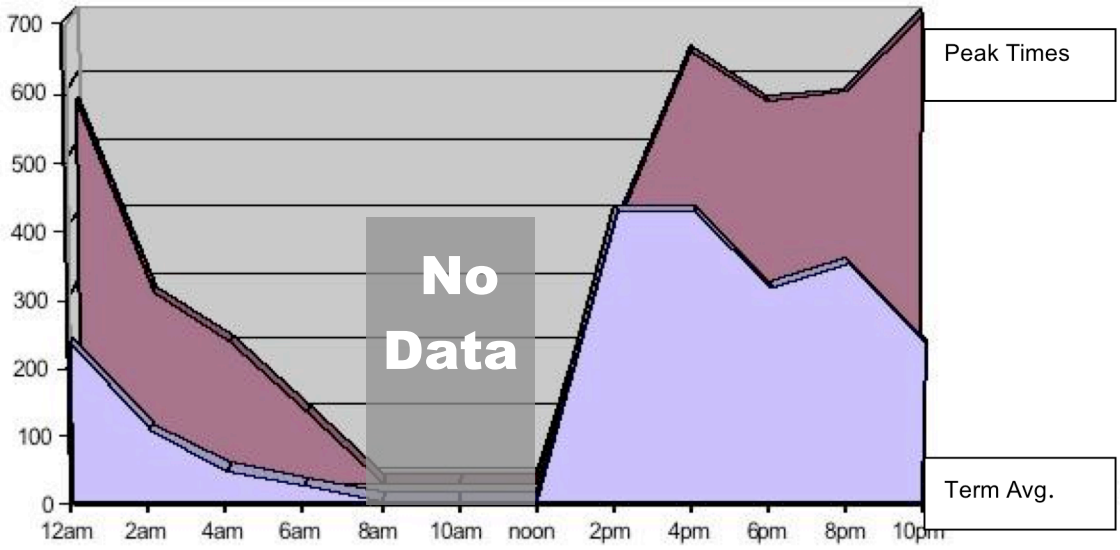
Blue Stream is a digital asset management system developed with IBM and their business partners. The purpose of the technology is to provide a campus infrastructure to support faculty and students in the distributed production of media rich projects.

The DMC is highly collaborative with the library and CAEN. They work with both groups to create an environment that is supportive of learning. Their part of our collaboration is to take the lead in maintaining and rejuvenating the physical spaces of the building. This includes furniture replacement and plant upkeep and can constitute one the most expensive responsibilities. The library and DMC collaborate on space redesign, user assessment, setting the desktop environment, and more.

As mentioned earlier, the library supports DMC activities in a number of ways that allows the DMC to focus better on support of the learning environment. The DMC credits their success to sharing the Duderstadt Center with the library. They feel that the presence of the library creates a seriousness of purpose that sets a tone for other activities as well.

User Profile

The Duderstadt Center is an active user environment. Mornings start slowly but as classes get out large numbers of students can gather in the building. By 2pm on a typical

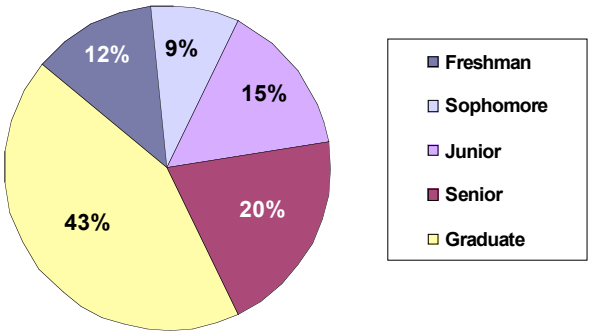


weekday there will be 400 or more students working on computers, participating in group projects, using labs and doing research. It is the afternoon period when students make maximum use of services. Statistics show that many students also linger into the evening. At peak times, like mid-terms and final exams, there can be 600-700 students studying and working on projects even though most staff have gone home. The library offers basic

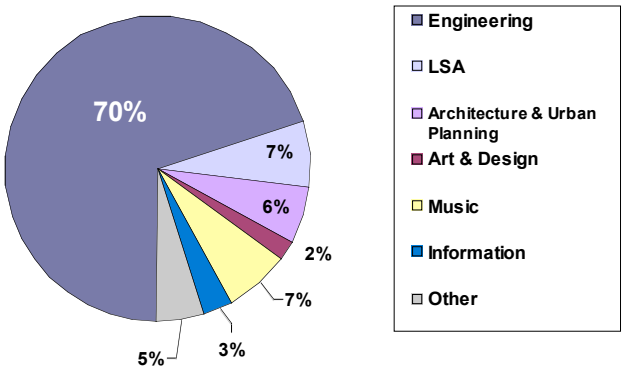
loan services until midnight. There is a separate night staff that provides service and security from midnight to 7am.

The data below comes from the annual user survey[vii] that is conducted via both web form and paper instrument. The paper survey is used to be sure we reach people who use special labs and studios at odd hours of the night. The generalized survey results shows that the typical user of the Duderstadt Center is an Engineering student at an advanced level who visits frequently and stays for a very long time.

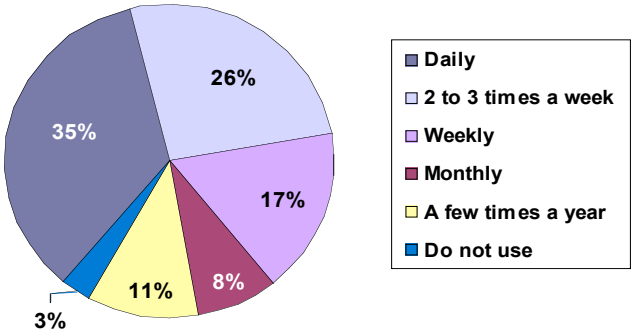
What is your class status?



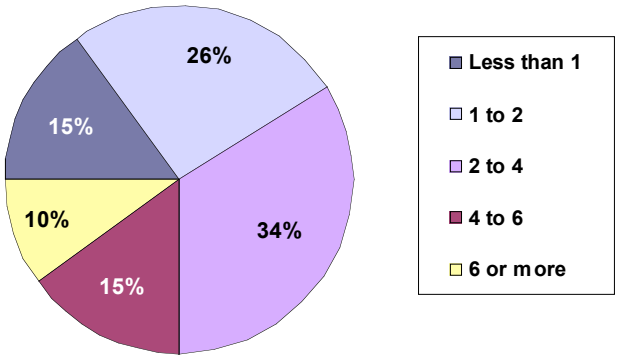
What School or College are you affiliated with?



How often are you currently using the Duderstadt Center?



On average, how many hours per visit do you spend in the Duderstadt Center?



When we first started collecting this data there were impressions we expected to have verified and then there were total surprises. With 80% of the North Campus student population attending the College of Engineering, we did not find it surprising that most of our users were engineers. That they were seniors or graduate students was also not surprising based on what we know about the engineering curriculum. Engineers tend to be taught from a textbook early and move to research projects as they advance. They do tend to use technology consistently regardless of year.

What was very surprising was just how frequently students used our building and how long they stayed. Clearly we were doing something right and it reinforced for us how important it was to consider our physical environment on their behalf. In addition to floor layouts and types of furniture we have also tried to attend to issues such as custodial support for the building. Cleanliness is always important but the lack is noticed even more if you spend long hours in a place. It was also surprising that a significant percentage of students traveled from other parts of campus to use our resources.

The survey offers students the opportunity to express a very wide range of needs such as "more quiet study space" (taken seriously) to "availability of beds" (not taken seriously). "Use of the library" and "use of computers" are ranked very highly. Sorting through such data is a useful exercise with our Student Advisory Committee.

Organizational Structure

You might suppose that the biggest challenge in creating a large-scale, state-of-the-art learning commons environment would be getting the technology right, or creating a physical environment that appeals to students. In fact the biggest challenge has been developing the human systems, the right organizational structure, to reach our goals.

In planning a new, large facility much effort went into seeking student and faculty input about their needs. Staff groups were actively involved in helping to design service points, offices, labs and collection spaces. For a building where staff collaboration was expected to be the norm, the biggest flaw in our planning was not creating a process where the different staffs could come together to learn more about each others services and projects, get to know each other as individuals and explore areas of potential cooperation and support. Because of the importance creating a close working relationship can have on the overall success of the program I will share our organizational history. Over the last ten years we have had three major reorganizations.

When we first opened our doors in 1996 there were only two staff groups in the building – the library and CAEN. In those days, the building was known as the *Media Union* and two co-directors administered the project. Each director had a joint appointment. My appointment was split between the Media Union and the library. My Media Union role was to supervise the media studios and gallery in addition to the library. My co-director held appointments in the Media Union to supervise networking, computing and the high-technology labs and was also the director of CAEN. In our Media Union roles both of us reported to the Vice Provost for Information Technology.

For the first three years of operation, which involved getting all parts of the program operational, this arrangement worked fairly well. Gradually we were adding new people to staff the special labs and studios. Some reported through CAEN, some through the library but none of these new roles had existed prior to opening the building. The new positions were forming a de facto third group without much consideration of the impact on the existing organizational structures or to our long-term growth.

Eventually the Vice Provost left the university and the co-directors therefore no longer shared a common reporting line. Slowly administrative drift set in and the program lost some focus. Eventually a new third director was brought in to assume the primary leadership role within the Media Union and to lead our fundraising efforts.

Perhaps because the new director had not been part of the original planning process, her goals were not always in line with the basic concepts of the original program. The major accomplishment of this time was a large addition of staff and the official formation of the third group now know as the Digital Media Commons with the mission to support educational technology and rich media for the campus. After 18 months the “new” director was gone and it took another 18 months for two key interim positions to be filled before a new structure emerged.

For the past four years each of the three key groups, library, CAEN and Digital Media Commons, has had its own director. All three directors once again share a common reporting line to the Vice Provost for Information Technology. Despite having three different budgets, three different staffs, and three different missions, the partners now work in harmony and find ways to build synergy between programs.

Some of the things we do to promote synergy are quite simple. For example, all three directors and their support staffs share one administrative suite. This creates many informal opportunities to mix and communicate directly on day-to-day issues. Many issues are resolved this way without time-consuming committee meetings. As support staff see the three directors in operation they come to understand the roles of the other groups and this information ripples out to all staff. There is also friendly support across units for people on the go.

We have a very small committee composed of staff from each group that acts to promote staff communication. Several times a year they organize barbeques, golf outings, and other events that bring individual staff closer. It is much easier to get a cross-organizational problem fixed if you know people on a personal level.

Once a semester the directors will hold an "all hands" meeting for the three staffs. This is an opportunity to share building or operational information of interest to all three groups and for individuals to share details of their most recent projects. It is a great way for people throughout the building to know what is going on elsewhere.

One of the most productive committee groups is the Student Advisory Group. Student representatives from various North Campus constituencies meet twice a semester with directors and selected staff to voice concerns and share suggestions. When the group first started meeting there was a backlog of concerns from students. Over time these issues have diminished as students see we take their concerns seriously and report back on progress toward resolution. The feeling of these meetings now is that we are working together and seem to be ahead on most issues. Students take their roles seriously reporting back to their member groups and asking for comments and suggestions from them on a regular basis. They have in effect become an effective communication network with student groups reporting on our programs and services and relaying student issues to us before they reach a crisis.

Our experience has shown that collaboration across units can be a fragile thing. Better advance planning, attention to interpersonal relationships especially at the higher levels, and seeking out small opportunities that help staff understand better the operations of other units pays off.

Lessons Learned

After ten years of operating the Duderstadt Center the following represent some of our best advice for helping others who may want to start a Learning Commons or who are interested in increasing the level of collaboration among campus education support units:

1. Planning a new building or learning commons often ignores the impact on existing organizations. Planning how organizations will communicate and support each other in a new learning commons is as important as the physical environment.

2. Collaboration works best if the people in the leadership roles like and respect each other and care whether each other's programs succeed.

3. If the leadership is in synchronization, the staff will feel they have "permission" to work constructively with each other.

4. Directors who normally report to different units can work well as a team if they share a common reporting line in some way.

5. People who agree on the goals will eventually agree on the details to accomplish the goals.

6. Sharing of skills across units can result in working smarter and better. (e.g., Lessons in usability assessment learned by librarians from the DMC Usability Lab are now applied to create better and clearer library web pages.)

7. The computing environment should be viewed as a totality and from a student perspective. The goal should be consistency across platforms regardless of who owns the equipment.

8. A Commons should provide a variety of learning environments including both active social spaces and quiet thoughtful spaces. Flexibility of design will facilitate changes over time.

9. The knowledge gained from user surveys and assessment is well worth the effort. Student patterns of learning and use of technology are changing rapidly. Ongoing assessment is the best way to anticipate their needs.

10. When budgets are tight, collaborating to make shared resources go further is a natural solution. But when adequate resources are available, it is easy to forget about collaboration as a good thing in itself.

11. Developing a view beyond individual unit goals ensures better support of the needs of faculty and students.

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Endnotes

[i] Miller, Michael D. "Anticipating the Future: The University of Michigan's Media Union." Library HiTech 16:1 (1998) pp. 71ff. Provides a complete description of the Media Union after its second year.

[ii] Bailey, D. Russell. Information Commons Services for Learners and Researchers: Evolution in Patron Needs, Digital Resources and Scholarly Publishing. INFORUM 2005: 11th Conference on Professional Information Resources. Prague, CZ: May 24-26, 2005. Provides a description of Information Commons characteristics and a very complete bibliography. http://www.inforum.cz/inforum2005/english/

[iii] Henning, Joanne. Information Commons: Study Leave. Victoria, BC: March 2005. Provides comprehensive descriptions of the major Information Commons in North America. http://jhenning.law.uvic.ca/

[iv] Bailey, D. Russell. Information Commons to Learning Commons. ACRL 12th National Conference. Minneapolis, MN: April 2005. Contrasts different characteristics of Information Commons and Learning Commons. http://library.uncc.edu/infocommons/conference/minneapolis2005/

[v] Bennett, Scott. Redesigning Libraries for Learning: Executive Summary. Washington, D.C.: Council on Library and Information Resources, November 2003. Executive summary to the CLIR publication *Libraries Designed for Learning* is available at the same site. http://www.clir.org/pubs/execsum/sum122.html

[vi] Acker, Steve R. and Michael D. Miller. Campus Learning Spaces: Investing in How Students Learn. Boulder, CO: EDUCAUSE Center for Applied Research (Research Bulletin), April 12, 2005. Online access available to EDUCAUSE member institutions only. For reprints contact the author.

[vii] For complete results of the Duderstadt Center Annual User Surveys for the last three years visit http://sitemaker.umich.edu/dc.survey.results

Useful URLs

University of Michigan
http://www.umich.edu/

Art, Architecture, and Engineering Library
http://www.lib.umich.edu/aael

CAEN
http://www.engin.umich.edu/caen/

Digital Media Commons
http://www.dc.umich.edu/dmc/