

Appendix H

LEARNING GROUP
of the Ohio State University Libraries

Report on the Renovation of the Thompson Library

September 2004

Learning Group Members:

Miriam Conteh-Morgan, Karen Diaz, Anne Fields, Marty Jamison, Fred Roecker
Rocki Strader, Tom Cetwinski (Co-Facilitator), Linda Gonzalez (Co-Facilitator)
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The Learning Group, with the membership listed above, has been working since March 2004 to develop a strongly and pervasively learner-centered view of the Ohio State University Libraries. It has (1) examined trends in teaching and learning at Ohio State University by interviewing campus administrators, faculty, and staff who are closely involved with academic programs and student life; (2) surveyed recent higher education and library publications concerned with teaching and learning; and (3) learned from the example of other academic libraries.

This report speaks to the renovation of the Thompson Library and addresses the various parties planning that renovation. This report is meant to be useful as the conceptual planning for the Thompson Library is completed and detailed space planning and design begun. Three themes pervade the report, as they did the work and the findings of the Learning Group. These themes are the library as a contributing member of a learning community, learning as an acculturation process, and technology that inspires and supports acculturation.

Concerning the renovation of the Thompson Library, the Learning Group makes a number of general observations and recommendations regarding benchmarking the way space design enhances learning (Recommendation 1), the cultures of library space use and particular attention to undergraduate students (Recommendation 2), types of learning space used by students for independent, self-managed study (Recommendation 3), and priorities in planning for information technology (Recommendation 4). Additional recommendations address movement within the Thompson Library (Recommendation 5), way-finding (Recommendation 6), setting learning as a priority in the probably few instances where the library's learning and services missions are not fully compatible (Recommendation 7), experimentation in the use of space (Recommendation 8), and collaboration with other campus agencies (Recommendation 9). In making its recommendations, the Learning Group takes care to show how its views are rooted in what it learned from Ohio State University colleagues and from the professional literatures of education and librarianship.

The Learning Group makes several more specific recommendations about the entry floors of the Thompson Library, emphasizing four key cognitive characteristics that we know draw people powerfully to space: coherence, legibility, complexity, and mystery (Recommendation 10). In making this recommendation, the Learning Group offers several observations about learning space, the deployment of library staff, celebratory space, meeting and performance space, and services offered on the entry floors. The Learning Group recommends bringing students, faculty, and librarians together in the library (Recommendation 11) and makes

recommendations regarding the way the upper floors of the Thompson Library and its book stack tower might be designed to enhance learning (Recommendations 12 and 13, respectively).

The report concludes with a statement of how the Learning Group might contribute to ongoing work on the renovation of the Thompson Library and how a group might be charged more generally to help keep the library abreast of professional thinking about libraries as learning places, stimulate community-wide thinking about the learning functions of the library, and develop assessment and quality improvement procedures focused on the library as a learning place.

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ACADEMIC LIBRARIES AS PLACES FOR LEARNING

Over the last decade, colleges and universities in the United States have invested almost a half-billion dollars every year in new and renovated academic libraries. At this level of investment and with the long life cycles demanded of such buildings, we need to know what we are doing. While there is much to celebrate in recent library architecture and few stories of design failure, we nonetheless confront a sobering uncertainty:

Because libraries today are in transition, both as institutions and as a building type, every library that embarks on a building program is in a sense on its own. While there is a long tradition to draw on, there is no agreed-on paradigm for the library of the future. Getting to this paradigm is the task before us.¹

Two factors in particular drive the need for a new paradigm. The more obvious of the two is the revolution in information technology that has been gathering speed since the 1960s and took off in 1993 with the debut of the World Wide Web. The second, somewhat quieter but no less profound change is the move in higher education away from a teaching culture and toward a culture of learning.

In its briefest form, the paradigm that has [traditionally] governed our colleges is this: A college is an institution that exists to provide instruction. Subtly but profoundly we are shifting to a new paradigm: A college is an institution that exists to produce learning. This shift changes everything. . . . [W]e are beginning to recognize that our dominant paradigm mistakes a means for an end. It

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¹ Craig W. Hartman, "Memory palace, place of refuge, Coney Island of the mind: The evolving roles of the library in the late 20th century," *Research Strategies*, 17 (2000), 112. Hartman is an architect with Skidmore, Owings, & Merrill.

takes the means or method—called “instruction” or “teaching”—and makes it the college's end or purpose. To say that the purpose of colleges is to provide instruction is like saying that General Motors' business is to operate assembly lines or that the purpose of medical care is to fill hospital beds. We now see that our mission is not instruction but rather that of producing learning with every student by whatever means work best.²

Librarians and library designers need to join faculty in this paradigm shift. We need to understand that the success of the library is best measured not by the frequency and ease of library use but by the learning that results from use. This is a fundamental shift for librarians trained in a service culture, comparable to the shift that faculty are making from a teaching to a learning culture.

The power of the service culture over library space planning is strikingly evident in how library directors describe their planning methods. Speaking of some 240 new construction and renovation projects these directors completed between 1992 and 2001, they reported conducting systematic evaluations of library operations 85% of the time, while doing systematic assessments of student learning and faculty teaching behaviors 41% and 31% of the time, respectively. And there is evidence the figure on the assessment of student learning behaviors is overstated.³ Clearly, our methods for planning and the knowledge we bring to bear on design questions is heavily skewed toward operations and away from learning. We need to right this customary imbalance in library space planning by focusing on learning issues with at least as much intensity and sophistication as we bring to the analysis of operational issues.

In preparing this report, the Learning Group wishes to make the Ohio State University Libraries a strongly and pervasively learner-centered organization.

DESCRIPTION OF THE LEARNING GROUP

Joseph J. Branin, Director of Libraries at Ohio State University, called for volunteers to form the Learning Group in March, 2005. By August, with the membership listed at the head of this report, the Learning Group had:

² Robert B. Barr and John Tagg, “From Teaching to Learning—A New Paradigm for Undergraduate Education,” *Change*, 27 (November/December 1995), 13.

³ Scott Bennett, *Libraries Designed for Learning* (Washington, DC: Council on Library and Information Resources, 2003), pp. 22.

- examined trends in teaching and learning at Ohio State University. It interviewed campus administrators, faculty, and staff who are closely involved with academic programs and student life.⁴
- reviewed recent literature on higher education teaching and learning not directly related to libraries.
- reviewed recent literature on teaching and learning as it relates to academic libraries, particularly with regard to the concepts of the “information commons” and the “learning commons.”
- surveyed Web sites of existing academic library information and learning commons and interviewed library staff who have visited recently renovated libraries.

The Learning Group has prepared a number of working papers, including annotated bibliographies and summary reports of its findings. These documents will soon be publicly available on the Ohio State University Libraries Knowledge Bank.

The following report speaks to the renovation of the Thompson Library and addresses the various parties within the library charged to plan the renovations, the Office of Facility Planning, and the project architects. This report is meant to be useful as the conceptual planning for the Thompson Library is completed and detailed space planning and design begun. In writing this report, the Learning Group has worked closely with Scott Bennett, a consultant who is the Yale University Librarian Emeritus. Dr. Bennett has written the report. The manner of writing and some of the information on which the report builds are identifiably his, but more generally the report represent the convictions of the Learning Group and is the product of a close collaboration between the Learning Group and its consultant.

⁴ The Learning Group interviewed the following Ohio State University staff: Pat Connor, Academic Advisor, Continuing Education, Credit Programs; Mabel Freeman, OSU Assistant Vice President, Undergraduate Admissions; Alan Kalish, Director, Faculty and TA Development; Ron Kochendoerfer, Assistant Director, Undergraduate Residence Life, and several Residence Life Office staff and residence hall directors; Susan Metros, OSU Deputy Chief Information Officer; Phyllis Miller, Director, First Year Experience; Penny Reighart, Assistant Dean, Human Ecology; Carol German, Academic Advisor, Human Ecology, Consumer and Textile Sciences; Randy Smith, OSU Vice-Provost, Curriculum and Institutional Relations; David Stetson, Council of Academic Affairs; Nikki Strader, Academic Advisor for Engineering, Computer Science and Engineering; Bruce Tuckman, Director, Walter E. Dennis Learning Center.

THREE GOVERNING CONCEPTS

Three themes have emerged in the Learning Group's interviews, readings, and discussions: the learning community, acculturation to the universe of knowledge, and technology that inspires and supports acculturation. These concepts inform all of the following report.

Learning community. A learning community is simply a group of any size and composition—students, faculty, staff—that learns together. Sometimes members learn individually, but increasingly they are learning collaboratively. Learning communities are seldom static. Membership varies and increasingly crosses disciplines.

Traditionally, the library has been considered as a meeting place for the entire university community. The concept of the learning community, however, situates the library as a contributing member of the community, rather than as a separate, purely supportive enterprise. This concept can anchor the library as it explores new ways to contribute to learning. Fundamental to this exploration is an acknowledgement—indeed an embrace—of the social dimension of learning.

Acculturation to the universe of knowledge. Educational research indicates that learners (whether they be students or faculty) come to the learning enterprise with their own knowledge bases and their own learning agendas. The learning library should meet learners where they are and help acculturate them to the wider universe of knowledge cultivated by the learning community. Scaffolding is a technique that allows the library to meet learners where they are and move them progressively towards expertise in information seeking, critical thinking, and the discourse of particular disciplines.

Technology that inspires and supports acculturation. Technology not only supports teaching and learning but is also changing the way they are done. Technology can enliven and transform the learning community and promote learners' acculturation. Just as it uses its physical spaces and resources to promote learning, the library can use digital spaces, resources, and services to inspire and scaffold learning. Rather than showcasing ranges of books and journals and banks of computers, the library should highlight the learning uses to which those materials

can be put. Individuals and groups in turn can use physical and virtual spaces and resources to share the products of their intellectual efforts, inspiring others to build new knowledge.⁵

These concepts are treated in this report as if they were readily distinguished one from another. This is not the case, as will be seen in the Learning Group's recommendations. These concepts are closely interwoven one with the other and are best understood, to adopt the language of music, as three voices in a single melody.

THOMPSON LIBRARY RENOVATIONS

1. General observations and recommendations

Benchmarking. Library space must be responsive to learning behaviors. Which learning behaviors should figure prominently in planning for libraries?

One way to answer this question is to invoke the National Survey of Student Engagement, a large-scale effort to understand and benchmark key learning behaviors and their outcomes.⁶ NSSE advances five national benchmarks for effective education practice, with a number of specific topics associated with each. The following four benchmarks and associated topics are especially pertinent to library design:

- Level of academic challenge
 - Hours spent studying

⁵ A voluminous research and professional literature exists for each of these concepts. The bibliographies compiled by the Learning Group offer some guidance to these literatures. For the first two of these concepts, the Group particularly recommends Kenneth A. Bruffee, *Collaborative Learning: Higher Education, Interdependence, and the Authority of Knowledge*, 2nd ed. (Baltimore: Johns Hopkins University Press, 1999).

⁶ See the "2002 Psychometric Framework" for the College Student Report conducted by the National Survey of Student Engagement, <http://www.indiana.edu/~nsse/html/psychometric_framework_2002.htm>. See also the *NSSE 2003 Annual Report*, especially the account of the "Summary Statistics—National Benchmarks of Effective Educational Practice," pp. 32-33, available at <http://www.iub.edu/~nsse/2003_annual_report/pdf/NSSE_2003_Annual_Report.pdf>. George D. Kuh leads NSSE and with Robert M. Gonyea has written an article important for librarians, "The Role of the Academic Library in Promoting Student Engagement in Learning," *College & Research Libraries*, 64 (July 2003), 256-282.

- Working on course content harder than expected
- Active and collaborative learning
 - Collaborative work outside of the classroom
 - Discussion of readings or classes outside of class
- Student-faculty interaction
 - Discussions with faculty outside of class
 - Work on research project with faculty outside of courses
- Enriching education experiences
 - Independent study
 - Culminating senior experience
 - Participation in a learning community

In the remainder of this report, the Learning Group will recommend design options that foster these benchmark behaviors, which are strongly linked to successful learning outcomes for undergraduates. More generally, the Learning Group believes these benchmarks should become key measures of what it means for the Ohio State University Libraries to be learner-centered. Most especially, THE LEARNING GROUP RECOMMENDS (1)

- that these NSSE benchmarks should be considered when making decisions about renovating the Thompson Library;
- that benchmarks for graduate students and faculty should to be identified or developed.

The culture of library space use. Most library planning engages strongly with the service culture of librarians. We must find ways to engage just as strongly with the learning culture of the university.

Two characteristics pervade university culture.⁷ The first of these is one's status in the community as an undergraduate student, graduate student, faculty member, or staff member. Differences in status find expression in every aspect of campus life and architecture. They are pervasive in academic libraries as well, in everything from circulation periods to the provision of study space. The second and equally defining factor in the campus learning culture springs from

⁷ These two are truly the most rudimentary characteristics of the campus learning culture. Faculty members at Sewanee: The University of the South are widely involved in a more sophisticated assessment of their campus learning environment as a preliminary to renovating the library. The assessment is lead by Professor Daniel S. Backlund (Chair of the Theatre Arts Department and a professional designer).

academic disciplines. The university organizes itself around disciplines, and instructively one of the hardest decisions it can make is to end the presence of a given discipline in campus life. Academic libraries commonly respond to this feature of campus culture by organizing at least part of their staff and their departmental libraries to mirror it.

What are the consequences of these two characteristics of campus culture for library space design?

- As regards many *services* (e.g., reference, circulation), library space design centers on service points (often desks), the design of which is generic rather than specific to academic disciplines. That is, the design of a reference desk in a law library differs little from that in an arts library or a general library. Differences are much more likely to reflect differences in library operations (e.g., staffing levels) than anything in the campus culture. Library service space design is generally dominated by internal operating considerations and is largely impervious to distinctive cultures served by the library. (NOTE that the point here relates to the design of physical space; the subject content of a library's service will of course be sensitive to differences in campus culture.)
- As regards *learning space*, considerations of status often find powerful expression in library design. It is not unusual for research libraries to provide significantly different study space for each class of user. Tables and open carrels are most often provided for undergraduates; graduate students are often provided with large carrels that are sometimes enclosed. Faculty studies (the name shift from carrels is significant) are sometimes larger and offer more privacy.

Every survey of library use known to the Learning Group indicates that undergraduate students are by far the most frequent users of academic library space. (NOTE that the emphasis here is on physical library space, not library services and resources.) The Learning Group observes that undergraduate students are the most transient members of the campus community and are sometimes less able, compared with other members of the community, to get their academic needs articulated and met. This fact is no where more strongly evident than in the frequent question, "Why should the library be the place where study space is provided?" This question reflects a preoccupation with library services and resources; it hardly bespeaks a learner-centered view of the library.

THE LEARNING GROUP RECOMMENDS (2) that while the learning space needed by every class of library user must find a proper response in planning for the renovation of Thompson Library,

- special attention should be given to the learning space needs of undergraduates. The Learning Group does not urge that learning spaces designed for undergraduates be “better” than those for other readers. It urges, rather, that library space planning for undergraduates be especially self-conscious and purposeful in ways that it has rarely been in the past.

Types of learning space. An academic library will have many different spaces that can reasonably be described as learning spaces. These range from informal congregating spaces (outdoor benches, lobbies, cafés, etc.) through formal and informal teaching spaces (electronic classrooms, reference rooms, etc.) to individual and group study spaces. Each of these spaces will have its own characteristic design, and that design will do much to announce to readers the intended use of the space.

In some cases, we know a good deal about the design issues of a given type of space. There are, for instance, a substantial body of professional literature and numerous conferences on the design of electronic classrooms. In other cases, the power of traditional thinking may blind us to designs that could foster more effective learning. What would happen, for instance, if the delivery of reference services were designed not around a service desk but around lounge seating? How, in this design context, would referral and queuing operations be handled, and what would be the consequence for learning be if the design elements asserting the librarians authority (e.g., the queue, the desk, the shelves of reference books) were abandoned in favor of design elements (e.g., lounge chairs, computers designed for collaborative use) that suggest the reference librarian is the student’s partner or colleague in the learning enterprise?

Group study rooms are particularly important to undergraduate students. What most distinguishes these spaces is that students themselves govern their use. That is to say, the program for these spaces is not determined by an explicit teaching function (as is the case for electronic classrooms) or a service function (as is the case for reference areas). Rather, students themselves program the space in ways that are ever changing as regards both the number of students involved and their learning tasks.

A visit to almost any academic library will find readers with food and beverages in their hands, in either defiance of or accord with library rules.⁸ Food and beverages are important to readers, in a way parallel to the importance of group study space, in socializing learning. Most academic library construction and renovation projects over the past ten years have recognized this and incorporated food and beverage services of one sort or another. Traditional opposition to food in the library is fading, especially as evidence accumulates that while food may well pose a custodial problem, it rarely poses a measurable threat to library materials or computing equipment.

The LEARNING GROUP RECOMMENDS (3) that special attention be given to learning spaces used by students for independent, self-managed study. Again, our recommendation is not to neglect other kinds of learning spaces. Rather, we believe the design of some learning spaces (especially those for formal instruction) is reasonably well understood and attention is most needed where this is not the case. Giving special attention to these study spaces involves

- systematically studying successful student learning behaviors.
- abandoning dysfunctional prohibitions on food and beverages and instead designing food service and consumption spaces in ways that help build learning communities.
- experimenting with various design responses, especially those involving furniture and information technology, to give learning space the several characteristics students are known to prefer.⁹

Information technology. Over the last two decades, the primary library space design responses to information technology have been an ever-more pervasive provision of high-speed connectivity, computer laboratories, electronic classrooms, and the information commons. The first of these is a design principle of enduring importance (however much the implementing

⁸ Studies indicate a close association between food and beverages and active learning. See, for instance, Scott Bennett, "Righting the Balance," an essay to be published by CLIR early in 2005 that discusses how students are attracted to what one might call domesticated study spaces. The presence of food is one of the markers of such space.

⁹ For more information, consult Professor Richard A. O'Connor Professor of Anthropology and Co-Director of the Center for Learning at Sewanee: University of the South <roconnor@sewanee.edu>. O'Connor has conducted a number of inquiries into student learning behaviors and will report his work in an essay tentatively titled "Seeing the duPont Library within Sewanee and Student Life."

technologies continue to change),¹⁰ while the last represents a programmatic innovation of significant service and instructional value. The middle two responses are beginning to fade in importance; their only enduring advantages derive from computing equipment—the utility of large screens and the ease of key boarding and cursor control—and are likely to change with ongoing innovation in technology. As William J. Mitchell, a professor at MIT’s School of Architecture and Planning, observes:

Technology is going to become simultaneously more sophisticated, less obtrusive, and less visible. It’s going to kind of disappear into the woodwork and into very unobtrusive portable devices. . . . [W]e’ll see spaces becoming more and more simple in a way, human-oriented. . . . I think it’ll be the amazing disappearing technology basically, so it’ll be omnipresent and supporting learning activities in a very flexible kind of way, but it won’t be dominant and it won’t be highly visible.¹¹

A technology environment dominated by change and shaped by less-and-less physically imposing devices allows library planners to return to designing space for people, not machines. Using the words of Professor Mitchell, the LEARNING GROUP RECOMMENDS (4) that technology design for the Thompson Library attend first to “fundamental human needs like comfort, natural light, . . . good social ambience, [a] nice sort of quality, views out the window. All these sorts of things are immensely important, and because people don’t change very much, those things remain important. If you build space around specific technology, it very rapidly becomes obsolete because technology changes very quickly, and it’s also the wrong priority. You really want to build space around the people rather than technology.”¹²

In considering electronic classrooms and where investments in information technology will be most productive, Howard Strauss, an information technologist at Princeton, warns against an infatuation with technology. The real problems before higher education, he says, are

¹⁰ William J. Mitchell, professor of architecture at MIT, addressed choices about technical infrastructure in an interview titled “Designing Space: A Conversation with William J. Mitchell,” in *Syllabus*, 17 (September 2003): “We’re always going to have a combination of wired and wireless infrastructure. . . . What wireless really does is to connect you to the nearest point of fixed infrastructure, and the fixed infrastructure usually takes it from there, so the wired infrastructure in fact doesn’t go away. And wired infrastructure is always going to be more reliable. I think the need to accommodate wired infrastructure and to invest in it and to provide things like wiring closets and conduits and network drops and all of those sorts of things, that’s not going to go away. Wireless is not a substitute for that. What it does is provide flexibility in space use on top of that, to remove some of the rigidities in space use” (p. 13). The ability of wireless technology to turn every space, including library space, into learning space is emphasized by many observers, including Bryan Alexander in “M-Learning: Emergent Pedagogical and Campus Issues in the Mobile Learning Environment,” *ECAR Research Bulletin*, Vol. 2004, Issue 16 (Boulder, CO: EDUCAUSE Center for Applied Research, 2004).

¹¹ *Syllabus*, 17 (September 2003), p. 13.

¹² *Syllabus*, 17 (September 2003), p. 12.

that most teaching and learning does not occur in classrooms, that teachers and learners have no formal training in teaching or learning, that we have not developed and deployed the tools that teachers and students need for teaching, learning, and administration, that we have not used the technology we have—and will have—effectively, and that we have not addressed the fact that individuals learn in very different ways. Building the smart classroom of the future is not just insufficient; it is a wasteful misallocation of scarce university resources. We need smart learners, not smart classrooms; and smart classrooms are not enough to get us there.¹³

The Learning Group believes academic libraries can be important players in addressing the pedagogical and service challenges Strauss identifies, primarily through the way they deploy their staff programmatically. The library space design response to these problems will be found in Information Commons and, just as importantly, in the collaborations with other campus units, such as information technology and student services, that are increasingly being located in libraries in spaces called Learning Commons. The Learning Group comments, below, on the difficulty of identifying library space for these important partnerships.

Some other general design considerations. The Learning Group offers the following general observations:

- Movement within the library. Readers visiting the library must know where they are spatially if the concepts of the learning community and of knowledge acculturation are to have any power. Establishing the conceptual identity of the entry floors is essential to fixing readers' initial sense of place. But the Thompson Library is a large and complex building, in which many spaces beyond those on the entry floors must establish and assert their own conceptual identities. The LEARNING GROUP RECOMMENDS (5) a strongly ordered sense of overall movement throughout the Thompson Library be created to avoid a cacophony of different spaces.¹⁴
- Way-finding. Traditionally, libraries have depended on signs and floor maps as the principal means for directing readers to particular library spaces. These way-finding devices may be thoughtfully designed and prominent, but even so they are often ignored. As important as signs and maps are, way-finding is best understood not simply as a navigational issue but as an issue in finding and building learning communities and in knowledge acculturation. The LEARNING GROUP RECOMMENDS (6) the use of

¹³ "New Learning Spaces: Smart Learners, Not Smart Classrooms," *Syllabus*, 16 (September 2002), p. 13.

¹⁴ The new Seattle Public Library, designed by Rem Koolhaas, particularly succeeds in managing movement through the building in a way that informs readers' understanding. Paul Goldberger describes the building as "the most important new library to be built in a generation, and the most exhilarating." See Goldberger's "High-Tech Bibliophilia," *The New Yorker* (24 May 2004), 90-92.

- natural light, the architectural characterization of space, and thoughtful attention to the ways furniture accommodates readers as especially powerful means of way finding.¹⁵
- Setting learning as a priority. In many situations, as for instance in the design of circulation desks, there will be little conflict between service and learning values and little question that service values should guide decisions. It may sometimes happen, as for instance in the design of reference service spaces, that both service and learning values are important but not fully compatible. In these circumstances, the LEARNING GROUP RECOMMENDS (7) that those making design decisions remain alert to the possibility of such conflicts, that they avoid a reflexive preference for service values, and that learning be preferred in the probably infrequent cases where choices must be made between service and learning values.
 - Experimentation. Craig Hartman guides us well in saying that getting to a new paradigm of libraries is the task before us. Active experimentation will be a key element in getting to the new paradigm, especially as regards libraries as learning spaces. The LEARNING GROUP RECOMMENDS (8) that wherever possible design decisions be made in ways that maximize possibilities for future change (as for instance by driving decisions to the level of furniture rather than to walls or structural elements), thereby enabling experimentation.¹⁶
 - Collaboration. A commitment to experimentation is a commitment to change. The LEARNING GROUP RECOMMENDS (9) that the OSU Libraries adopt methods for ongoing library space planning that assert a collaborative, community-wide ownership of the planning process, that are open to other units on campus deeply involved in

¹⁵ In “Interiors in Detail,” a chapter in *Library Builders* (London: Academy Editions, 1997), Michael Brawne observes that “it is difficult to establish a typology of libraries at the level of the plan and section of the whole building. What makes a building a library is a set of medium- to small-scale decisions which principally involve furniture” (p. 216).

¹⁶ An experimental approach to space design is exemplified by this interview account, with a research university president, about a library project that was driven by the “deep conviction . . . that students would drive the evolution of this facility. . . . [F]or many years, we’d had the philosophy in other parts of the university that you build a very powerful and flexible environment, and then you let the students shape it. So for example, when we first built the place, we kind of built it in the traditional way in which each student would have their own workstation and so forth. And then we began to realize that’s not the way students work these days. They work in teams, you know, where three or four students will kind of gather round, and they have three or four workstations. So we kind of reconfigured all of that, to let the students kind of define how they learned and how they approached their activities. . . . We felt that if we built the space, and did it in a flexible way, the students would define their own learning environment” (*Libraries Designed for Learning*, p. 17). There are, of course substantial forces working against experimentation, as observed by architecture professor William J. Mitchell: “[B]uildings are expensive. People want to minimize risk in construction projects and so may get organized in a very bureaucratic way. It’s risk minimization rather than experimentation. That’s in fact very shortsighted, and it really is important to be more adventurous and experimental” *Syllabus*, 17 (September 2003), p. 13.

enhancing student success in learning, and that are based as much in knowledge of learning and teaching behaviors as in knowledge of service requirements.¹⁷ The Learning Group has attempted to model this process in its own inquiries. In preparing this report, the Learning Group wants readers to hear the voices of its collaborators over the last several months. And in associating these collaborators with specific comments, the Learning Group wants readers to see where and how we have founded our arguments in what we have learned by seeking out people not customarily involved in library planning.

2. Recommendations regarding specific spaces

Entry floors of the Thompson Library

The Thompson Library ranks among the largest academic buildings on the Ohio State University campus, and it occupies one of the most prominent positions on the campus Oval, the single most revered part of the campus. The significance of the library site will be magnified as major campus developments to the west of the library are completed, with the library becoming an axis between the west campus and the Oval.

The most important design responses to these facts of site have been the decisions to have major entrances from both the west and the Oval and to make the transit of the building a major campus thoroughfare. The Learning Group welcomes a high volume of campus traffic but believes it is essential for library design to insist that the building is a place, not a passage. The Learning Group joins **Carol German** and **Nikki Strader** (Academic Advisor for Human Ecology, Consumer and Textile Sciences; and Academic Advisor for Engineering, Computer Science and Engineering, respectively) in affirming the library must attend “to what users see when they first come in the door, regardless of which door.” Users must see the library not as just a convenient stop on the way to other places on campus but as a vital place of learning that engages their interest, fosters learning, and supports their information needs. Any design that fails to create an initial and powerful impression of the library as a learning space will misinform

¹⁷ See *Libraries Designed for Learning*, pp. 31 ff. for a fuller account of desirable planning methods. See also Project Kaleidoscope, or PKAL, which champions collaborative planning for classroom and laboratory facilities for undergraduate programs in science, technology, engineering, and mathematics. For PKAL’s programmatic activities relating to facilities, see <http://www.pkal.org/template0.cfm?c_id=3>.

library users and diminish the value of the library building. The LEARNING GROUP RECOMMENDS (10) that

- conceptually, the two entry floors of the library be treated as one, so as to avoid creating an uncertain or confused impression of what the library is. The grand stairway between the two entry floors is a key design element in unifying the floors conceptually
- the principal design elements on the entry floors strongly define the space as learning space and, in doing so, make manifest the four key cognitive characteristics that we know draw people powerfully to space: *coherence*, or the ease with which a space can be organized cognitively; *legibility*, or the perceived ease of use; *complexity*, or the perceived capacity of the space to occupy interest and stimulate activity; and *mystery*, or the perception that entering the setting will lead to increased learning, interaction, or interest.¹⁸

The Learning Group intends these two recommendations to inform all of the more specific observations, comments, and more specific recommendations that follow.

How might the library act on these two recommendations? The answer to this question begins with an understanding of the learning behaviors of library users, especially undergraduate students. As one would expect, OSU students are much like students elsewhere. **Susan Metros** (Deputy Chief Information Officer) told the Learning Group that students believe that “doing is more important than knowing” and that multi-tasking and staying connected are ways of life. **Ron Kochendoerfer** (Assistant Director, Undergraduate Residence Life) and his colleagues said that students want more hands-on experiences; they learn through performance, are more self-aware of their learning styles and strengths, and enjoy activities where they can teach each other. Computer Science and Engineering students, for instance, typically study in groups, have many group assignments, need designated spaces where they can talk, and need quiet spaces for “solo work.” **David Stetson** (Council of Academic Affairs) described social interactions as the key element in student life, whether in learning or everyday activities. Stetson and **Randy Smith**

¹⁸ See Chapter 4, “What Matters in the Environment,” of Stephen Kaplan and Rachel Kaplan, *Cognition and Environment: Functioning in an Uncertain World* (New York: Praeger, 1982), pp. 73-98. These four factors are developed at some length in the chapter section titled “Informational Factors in Environmental Preference,” pp. 81 ff. Ken A. Graetz and Michael J. Goliber cite the Kaplans’ book and briefly explain these four factors in “Designing Collaborative Learning Places: Psychological Foundations and New Frontiers,” *New Directions for Teaching and Learning*, 92 (Winter 2002), 15.

(Vice-Provost, Curriculum and Institutional Relations) emphasized the importance of group learning and learning projects developed collaboratively with fellow students and professors.

Learning space. Students must feel, from the moment they enter the building, that the library recognizes, validates, and honors these learning behaviors. This means that the entry floors will be busy, lively, sometimes noisy places, offering relatively few places for individual, isolated study. To achieve the goals set out in Recommendation 10, the entry floors should provide

- abundant spaces where students can see fellow students and be seen by them as engaged in learning.¹⁹
- ample group study space, in the form of small group rooms, open tables for small groups, and living room-like spaces. Wherever possible, both the perceived boundaries of a group space and its furniture should be moveable, so that students can define and change their own study spaces. Group study spaces should be technically capable spaces (including projection equipment in at least some cases); they should also have such “low-tech” features as white boards and mirrors to be used in practicing presentations. **David Stetson** (Council of Academic Affairs) emphasizes the importance of creating places for people to gather for learning. If we make it easy for people to meet and discuss, Stetson believes they will go get the resources they need. Such assembly spaces should be the core of the building design. Spaces of this character are, according to **Living Learning Program staff**, in short supply at OSU.
- both wired and wireless telecommunication capabilities.
- substantial collections of print reference materials and a broad array current periodicals, inviting readers to use these resources (as well, of course, as electronic resources) to open inquiries and to inform learning by scaffolding from these materials to other information resources. The entry floors should foster at every turn a growing expertise in information seeking, critical thinking, and the discourse relevant to particular topics.
- significant exhibit space for the celebration of learning, especially the learning achievements of OSU students and their faculty mentors.

¹⁹ Most of these recommendations can be understood in terms of the four cognitive factors the Kaplans describe as shaping environmental preferences. The ability to see others and be seen as a member of a learning community, for instance, relates to the Kaplans’ complexity and mystery factors.

- space that lends itself to public events and performances that celebrate learning and the life of the mind.
- space for the purchase and consumption of food and beverages, recognizing the key role that food has in shaping communities of all sorts. The Thompson Library offers a popular food and beverage service, which will be even more comfortably accommodated in the renovations. Library space should be designed to encourage students to take significant responsibility for handling the custodial problems posed by food. More important, spaces for food services and consumption should be designed to encourage the creation and maintenance of learning communities and to reinforce the characteristics of *complexity*, *legibility*, and *mystery* mentioned above as powerfully attracting people to space. Food services must not simply be “placed” in the library; rather they must be designed so as to define library space as learning space.
- space for building partnerships with other units on campus dedicated to helping students succeed as learners. The Learning Group talked with a variety of persons from these units (see footnote 4, above); and while none of them proposed active partnering with the library, it might well be said that the library has not proposed itself such partnerships.²⁰ The example of several other libraries, especially in the construction of information and learning commons,²¹ challenges the Thompson Library consciously to re-examine what has been a largely unexamined library stance.

Deployment of library staff. One result of the way ideas of service dominate library planning is that readers’ encounter library staff only at service desks in experiences that are transactional in character. There is little in this traditional deployment of staff that affirms the library as a learning space or indicates that any but a handful of library staff are vitally concerned with and involved in the academic success of students. The need for a new paradigm for

²⁰ A librarian at a research university describes a common failure that works against such partnerships: “In some ways it would be nice to think of the library in the larger context at the university level and think what other services would be appropriate for the library [building] and to build those things into the library. Sometimes I think those discussions don’t always take place, and I think they should. What happens within the library world is that you worry you’re going to lose your space. It becomes ‘your space,’ and you’re giving it up for some other function instead of thinking, well, what are the services and programs we’d like to put in this central campus building, and how do we design them cohesively?” See *Libraries Designed for Learning*, pp. 41-42.

²¹ There is a large professional literature on information and learning commons. Good points of entry are the Web site “Information Commons: a directory of innovative services and resources in academic libraries” <http://www.brookdale.cc.nj.us/library/infocommons/ic_home.html>, which contains a useful bibliography; and Leslie Haas and Jan Robertson, *The Information Commons*, SPEC Kit 281 (Washington, DC: Association of Research Libraries, 2004), available in part at <<http://www.arl.org/spec/SPEC281web.pdf>>.

academic libraries is particularly urgent here. A vital part of that paradigm will develop out of the presence of instructional librarians in regularly scheduled class meetings. And the efforts of some science and medical librarians to engage with researchers and clinicians in their own work spaces, rather than library, offer promising alternative models for the deployment of library staff. Within a library building, the challenge for space design is to avoid the kind of generic space design commented on above that emphasizes transactional activity but does little to interpret staff functions and capabilities for readers; space should instead be designed to make apparent to readers what library staff do, how those activities bear on learning, and how readers might engage with staff. Space designs that yield transparency are likely to be more productive in conveying these things than designs emphasizing privacy. Engaging readers in workspace that functions more like studios or laboratories than offices may also hold promise.

It is of course often the case that a service- and transactionally-based deployment of library staff is sometimes needed (as for instance, at circulation desks). The argument here is that this should not be the only way in which the library uses space to deploy its staff. Finding productive alternatives that emphasize the learning functions of the library—finding a new paradigm—must necessarily begin with library staff thinking of themselves as educators and experimenting with ways of deploying themselves that express that identity.

Celebratory space. **Randy Smith** (Vice-Provost, Curriculum and Institutional Relations) stated that academic departments would appreciate having exhibit space in the library to showcase student and departmental projects. This would be a powerful way to recognize and honor the disposition of Millennial students for hands-on, “doing,” performance, group-project learning. Exhibits could show students learning through knowledge acculturation and help incubate interdisciplinary study.

Exhibits will also allow the library to engage with the “authority of knowledge,” a prominent issue in current thinking about teaching and learning. Exhibits will allow the library to move beyond “sage on the stage” notions of knowledge and the idea that library collections represent the final authority in knowledge. Exhibits should feature challenges to and expansions of knowledge as well as reveal the wisdom contained in library collections. Exhibits would validate and celebrate students’ standing as fully engaged members of particular learning communities, demonstrate the way those communities expand on knowledge, and invite the

interest and participation of others in these communities. In doing these things, exhibits will add significantly to the *complexity, legibility, and mystery* characteristics of library space.

Celebratory spaces should pervade the library but should be especially prominent on the entry floors. Display cases will be required, but digital display and interactive technologies are likely to be even more powerful in representing student learning.

Meeting, speaking, and performance space. **Mabel Freeman** (Assistant Vice President, Undergraduate Admissions) and **Phyllis Miller** (Director, First Year Experience) emphasized the utility of “gathering places” which are centrally located and inviting for a variety of program formats. The First Year Experience program wishes especially to create opportunities for intellectual engagement outside the classroom. Some ability to reconfigure entry floor space temporarily, so as to provide such gathering, speaking, and performance places, would yield the same celebratory values as exhibit space produces.

Asserting the acculturation functions of service areas. The entry floors to the Thompson Library should be designed primarily as space for learners and learning. That said, the entry floors should retain their identity as library space. The presence of print reference and journal collections will help in this. Several library services—provided by the often most visible library staff—located on the entry floors can play an equally important role in establishing the character of the library’s entry floors as learning space.

- *Reference and instructional* services are, at present, intended for widely separated floors, with no visible connection made between them. Traditional library design would place reference librarians behind a desk and instructional librarians in their offices and classrooms. Such space design emphasizes only service functions. **Carol German** and **Nikki Strader** (Academic Advisor for Human Ecology, Consumer and Textile Sciences; and Academic Advisor for Engineering, Computer Science and Engineering, respectively) describe how students often feel they are interrupting reference librarians at the desk. They advise that reference librarians need to “sell” themselves and be approachable. Surely the same applies to instructional librarians. A learner-centered design for reference and instruction services would emphasize the shared concerns of the two, foster the closest possible collaboration between the two operations, and question traditional space designs for these services.

- The design of *Special collections* should create opportunities to engage the staff and collections of the unit in visibly celebrating active learning and the building of interdisciplinary communities (activities that special collections particularly lend themselves to). University archival material can sometimes be used to particular advantage in shaping a broader sense of engagement in the OSU learning community.

Bringing students, faculty, and librarians together in the library. **Living Learning**

Program staff described the need for space where students and faculty can meet with each other both formally and informally. Such spaces are scarce at OSU and most other universities. The LEARNING GROUP RECOMMENDS (11) that the design of the entry floor—and especially of group study spaces, food services, exhibits, and meeting, speaking and performance space—self-consciously address this need. Many factors work against engagements between students and faculty outside the classroom. Library space can be especially powerful in countering these factors. Librarians at Illinois Wesleyan University, for instance, report a dramatic shift in faculty behavior toward welcoming contact with students in their new Ames Library, compared to a strong avoidance of such contact in the old campus library.

Second, third, and fourth floors of the Thompson Library

Knowledge is a community-based phenomenon, and the design of the upper floors of the Thompson Library should affirm that the university community commonly structures itself around disciplines that embody distinctive ways of knowing. The affirmation, on entry floors of the Thompson Library, of the wholeness of knowledge is an important statement of identity for the library, but it is also a way of preparing readers for the rich opportunities in discipline-based approaches to learning. The LEARNING GROUP RECOMMENDS (12) that the fundamental design purpose of the upper floors be to array for readers a number of discipline-specific and interdisciplinary approaches to learning. Doing this will require a library-wide, and eventually a community-wide dialogue that redefines such approaches to learning. Doing this will help meet the university's strategic objective of promoting the undergraduate learning experience and research at the undergraduate level.

While the Learning groups wishes largely to defer to a library wide dialogue about the upper floors of the Thompson Library, it does offer the following general comments:

- Physically imposing and inviting stairways from the entry floor on the Oval to the upper floors will be critically important design elements in asserting opportunities for scaffolding knowledge in the Thompson Library.
- The advice of **Carol German** and **Nikki Strader** (Academic Advisor for Human Ecology, Consumer and Textile Sciences; and Academic Advisor for Engineering, Computer Science and Engineering, respectively) regarding reference librarians applies with equal force to subject specialist librarians. These librarians must not create the impression that requests for reference and instructional help are an inappropriate “interruption” of their collection development duties. Subject specialists need to “sell” themselves and be approachable, as well.
- Group study space will have significant community-building impact on the upper floors of Thompson Library and should be generously available. That said, the upper floors are likely to be less busy and noisy than the entry floors, and care should be taken on the upper floors (and in the book stacks) to provide a variety of quieter, individual study spaces. Citing the book by Patricia Hersch, *A Tribe Apart*, **Mabel Freeman** (OSU Assistant Vice President, Undergraduate Admissions) and **Phyllis Miller** (Director, First Year Experience) said that students spend five hours per day by themselves. During this time, they may often be in connection with other people via a computer or other electronic communication device. The library should provide places for students to spend these connected but still importantly isolated “by themselves” hours.
- There will be double-height rooms at the east and west ends of the third level. The verticality of these spaces and of the areas overlooking the two atria will powerfully attract readers. Whatever decisions may be made about the collections and services provided in these spaces, their inherent celebratory nature should be capitalized on through a generous provision of exhibit capabilities. Here again, the library should heed the call of **Randy Smith** (Vice-Provost, Curriculum and Institutional Relations) for exhibit space in the library to showcase student and departmental projects. These spaces will be particularly fit places to recognize, honor, and celebrate the learning accomplishments of individual students, teams of students, and the partnerships of students and faculty.

Book stack tower of the Thompson Library

From the third level upward, the Thompson Library book stacks will be treated as an architecturally discrete space almost at the center of the library and the life of learning it houses. Distinguishing marks of the book stacks space will be the density of the collections (as compared to shelves elsewhere in the library) and the call-number order of the collections.

The LEARNING GROUP RECOMMENDS (13) that the knowledge scaffolding function of the classification system strongly inform the design of the book stacks. It will be particularly important to do this in the book stacks stairways and elevators, to avoid the disorientation that can come from moving from one floor to another undifferentiated floor. Signs will of course be useful, but an imaginative use of color and of exhibit capabilities will be equally important. One can imagine a reader getting on the elevator knowing that she wants to go to one book stack floor but discovering, through a digital display in the elevator that interprets the holdings of each floor, a need to visit some other part of the stacks. Design attention to the book stack stairways and elevators as learning spaces will help the reader to carry what she learns about knowledge acculturation in the Thompson Library to the several other libraries on the OSU campus and to libraries elsewhere.

While there are good security-related reasons to provide some open, group study spaces in the book stacks, most of the study space there should be for individual, quiet study.

Given the splendid views of the campus available both from the top-most floor of the tower, the celebration of learning should figure prominently in design decisions about this symbolically important space. This could take the form of an elegant living room kind of learning space that could easily be transformed to accommodate meeting, speaking, and performance space requirements.

NEXT STEPS FOR THE LEARNING GROUP

This report represents not the end but rather the beginning of the Learning Group's engagement with library space design. The Learning Group hopes this report will help shape the design decisions that are now being made for the renovation of the Thompson Library. The Group hopes just as strongly that its ongoing work will help shape how the Ohio State University Libraries thinks about the other spaces it occupies, outside of the Thompson Library. The learning and information environments for modern universities are subject to constant and sometimes rapid and fundamental change. The Learning Group wants to help the Ohio State University Libraries be a thoughtful and creative actor in managing these changes.

With regard to the renovation of the Thompson Library, the Learning Group wishes to:

- foster throughout the Ohio State University Libraries a broad understanding and appreciation of library space as a learning space.
- work within the Renovation Committee and with the Core Group as advocates of library space as learning space, doing this for the remaining planning of the Thompson Library and throughout the next three years of construction and renovation.
- bring its individual and collective expertise (represented by the Group's various work products, soon to be available on the Libraries' Web site) to bear on the myriad of specific design decisions that are still to be made.

More generally, a Learning Group should:

- continue to develop its expertise through ongoing attention to the professional literature and the design of libraries elsewhere.
- help launch a library-wide conversation, and in due course a university-wide conversation about how the library's mission, programs, and staffing are affected when library space is conceived of as learning space.
- initiate quality assessment and improvement activities, such as benchmarking studies of how well library spaces accommodate the most successful student learning behaviors. These activities will be marked by the involvement of readers, especially undergraduates,

and by experimentation with space to improve its ability to meet readers' learning needs. In advocating assessment and quality improvement, the Learning Group echoes the comments of MIT architecture professor William J. Mitchell. When asked about assessing the success of space design, he responded by saying, "Really the only way you can do it is by observing it over time." And when asked about who should be involved in space design, he said, "I think in general there's probably not enough direct engagement of the end users, particularly the student end users, in the process. It's challenging to structure a process that really accomplishes that. Also, you have to keep in mind that students are a relatively transient population and administrators and faculty members have to be able to deal with the situation over the long term. Nonetheless, I think real effort at much more serious engagement of the end users is always a good thing to do and something that is often neglected."²²

²² *Syllabus*, 17 (September 2003), p. 13.