



SURVEY RESULTS

EXECUTIVE SUMMARY

Introduction

Our research focuses on how libraries today are utilizing their learning spaces and what activities define these spaces. By looking at the evolution and development of library learning spaces over time, we hope to identify important trends within libraries that are acting as catalysts for civic and academic engagement. This survey looks at current and future trends in Next-Gen library learning spaces and then breaks this general concept down further into the instruction, programming, and collaborative endeavors within these spaces and ultimately, the means of assessment for these spaces. This survey was distributed to the 125 ARL member libraries in April 2014. Seventy-two libraries (58%) responded by the May 14 deadline. The survey findings reflect how academic libraries are adapting to the changing educational landscape and where libraries fit within the academic ecosystem.

Current Climate and Trends

Based on the survey data, dedicated learning spaces within research libraries can range from 5% of the total library square footage to nearly 80%. With the average learning space footprint in the responding libraries close to 30% of total library space, it's no wonder they are constantly rethinking how these spaces should be utilized, managed, promoted, and assessed. Space for physical collections is on the decline and is being replaced with studios, labs, innovative classrooms, serendipitous communities, and interactive scholarly environments through which librarians are finding opportunities to contribute in new ways to higher education.

Trends in the findings from the 72 responding institutions indicate learning spaces in libraries are

evolving from open and self-directed spaces to guided spaces. This is not to say all space for independent study is being eliminated, but survey data indicates the way libraries program learning spaces is being restructured to guide users through the learning life cycle from start to finish.

Types of Learning Spaces

Over 88% of respondents reported the current use of events space, exhibit space, classrooms with fixed stations, and various open study spaces within their libraries. These more commonly used spaces are now making way for new, tailored labs and specialized educational environments. Some of the newer, yet less common, learning spaces now in use are visualization labs (9 responses, or 13%), makerspaces (13%), faculty commons (8, or 11%), gaming labs (6, or 8%), and hackerspaces (1%). These spaces often foster external collaborations with community and campus entities, inviting the creation of new labs, centers, instruction, programs, or events. For example, visualization labs simultaneously act as an educational tool and a showcase for academic research and student work, thus becoming a Next-Gen exhibit hall. Makerspaces can give all students, regardless of academic discipline or focus, the opportunity to work in an area such as a technology sandbox, a creative artistic studio, or a tactile learning environment. Additionally, tailored learning spaces often give libraries a way to address accessibility and special needs issues. In all of these learning spaces and examples, librarians have the opportunity to interact with users through much of the learning life cycle while contributing specialized expertise.

All but one of the respondents stated that the physical configuration of their library has changed over

time. The survey asked what the drivers or motivating factors were for these spatial changes, and 58 (83%) responded that feedback, both internal and external to the library, factored into the decision-making process for library reconfiguration. A funding opportunity was cited by 41 of the libraries (59%) as a reason for physical changes. It's also important to note that several institutions indicated their organizational structure factored heavily into these decisions. For example, libraries with multiple branches may approach the physical changes of each branch location differently and for varying reasons.

When asking for examples of what libraries consider Next-Gen learning activities, it may not be surprising to hear the most commonly used descriptive term in our responses was *collaboration* or a variation of such (25 times). Librarians are natural “connectors” between users and the information or resources they need. Librarians are also good at connecting people from diverse disciplines and working collaboratively with them. Collaboration is at the center of Next-Gen learning spaces, and collaborative spaces come in many forms, not just high-energy activity centered space, but also quiet space for users to reflect, research, and share ideas and information. Next-Gen space goes beyond “renting out library space” to campus organizations or users. Through Next-Gen spaces, the library is a full partner in the creation and use of the space. Librarians help create the content, introduce new technologies, and design new instructional methods or programs. From Multimedia Design Centers and specialized classrooms to Digital Scholarship centers, librarians are finding ways to enhance their users’ experience through the library and partner with academic researchers. These spaces encourage cross-disciplinary activities and are designed with new pedagogies in mind. Librarians can also help with the development and preservation of scholarly output.

Services, Staff, Collections, and Transactions

Next-Gen learning spaces are not only enhancing the users’ experience, but they are also encouraging professional growth in librarianship. New positions are being created and librarians are experiencing changing responsibilities. Survey results indicate that 86%

of the respondents have added services as a result of development in learning spaces. The data also indicates librarians are learning new skills and adapting to new roles in these learning spaces. Traditional reference services are often being restructured, combined, or in some cases eliminated, while librarians specialize in new research technologies. Examples of new services include developing visualization services in a Digital Scholarship Lab, hosting technology & research-centered conferences, teaching 3D modeling, or integrating with academic writing centers.

Learning spaces and collections are directly connected. In many cases, the new services and programs in learning spaces have resulted in significant changes to traditional library collections. Approximately 89% of 70 survey respondents stated their collection was moved within the library as a result of learning space development, 71% reported their collection was moved to an off-site facility as a result of changes in learning spaces, 86% weeded their collection, 57% were influenced to make some transition from print to electronic resources, and 21% began collecting in new areas as a result of their learning spaces. Some libraries indicated that the changes in collections were also influencing decisions related to the discovery mechanisms for their library resources.

In general, it seems library traffic and transactions have increased as a result of learning spaces. Survey data reflects that 75% of the responding libraries (53 of 71) experienced an increase in library gate counts and 35% experienced an increase in web traffic related to learning spaces. Of these respondents, however, most indicated that circulation transactions were about the same (19) or had decreased (16), and reference transactions had decreased (19) or also stayed about the same (18). Most respondents stated that library hours had increased. Linking causality between learning spaces and traffic/transactions may be difficult in some cases since data collection methods for some institutions changed over time or had not been collected long enough for consistent measurable results. Additionally, it was interesting to note that while reference transactions appeared to be decreasing, some institutions indicated that related services such as e-resources and library instruction requests were increasing substantially.

As we move well into the digital age, resources that libraries are responsible for are defined now not only as simple print collections, but also as a collection of services and programming. Librarians are curators of collaboration, partners in specialized research, and innovators in pedagogy and instruction. How we organize and deliver these Next-Gen resources will strongly influence the future of libraries and librarianship.

Library Instruction

As learning spaces evolve and new programs develop, accompanying instructional methods and educational partnerships are growing rapidly. New pedagogies are being developed for these innovative spaces. These library learning spaces provide an appropriate venue for testing new educational technologies as well.

At 68 of the responding libraries, the most commonly reported technologies in the classroom are microphone and voice projection tools (85%), screen sharing software (65%), document cameras (60%), recording and broadcasting technologies (60%), clickers (57%), and SMART Boards (52%). Also mentioned were mobile technologies, media:scape units, 3D printers, video conferencing technology, and specialized software.

There are many types of library instruction; most respondents stated that classrooms with fixed technology are where most of their classes are held. Sixty-four of the 70 responding libraries hold *formal instruction* in classrooms with fixed computers, 51 indicated that traditional classrooms with no technology are used for formal instruction, and 27 respondents indicated they use event space for formal classes. The survey data indicates that *informal instruction* takes place mainly in open computer labs (30) or multimedia labs with specialized software (28). Open group study spaces (20) and exhibit spaces (18) are also used for informal instruction. In many cases, it appears that respondents use spaces for a blend of both purposes.

Most of the 71 responding libraries indicated that software training is the most commonly provided *walk-in instruction* (49). Other frequent walk-in offerings include research skills (46) and information literacy instruction (42). Less frequently offered are design principles (14) and design practice (8). This trend

is similar for the type and number of *pre-registered library classes*.

Information literacy (68) and research skills (61) were the most commonly reported *course-integrated instruction*, followed by software training (29). Again, design principles (9) and practice (5) are not offered widely.

In general, library *for-credit classes* are not offered widely across the board, but for those libraries that do, information literacy (17) and research skills (14) are the most commonly offered, followed by presentation skills (4).

Recognition of library class session completion is not currently widespread. Survey results indicated that the majority of respondents (55, or 77%) have nothing in place that certifies class or series completion for the students. Of the 23% that do have something in place, in most cases this is a certificate of some kind.

Instruction in libraries is primarily delivered by librarians (69), archivists (55), and other library staff (54). Campus partners also provide instruction at 46 libraries.

Instruction in libraries is growing and rapidly becoming a vehicle for collaboration and outreach with library users. Instruction is one of the ways libraries continue to stay relevant on academic campuses. New instructional programs present opportunities to experiment with the curriculum and new methods of content delivery. Librarians are equal partners in course development with campus and community. The survey findings reflect how library instruction is becoming more formalized; librarians are finding ways to go beyond one-shot optional classes and offer a wide variety of instructional programs that are packaged as a series, integrated into academic courses, or tailored for specialized needs. Some libraries are finding ways to offer for-credit classes and certificates. Although less commonly offered through libraries at present, topics related to design principles and practice is one of the newer concepts being explored. Traditionally, libraries have only stayed within certain boundaries of instruction. However, these findings show that library instruction includes not only teaching users how to use virtual tools such as databases and software, but also encouraging users to

go beyond the virtual and realize their ideas through hands-on training, building, and tactile learning. Finally, librarians are encouraging students to think about the life cycle of their research, from the conception of an idea through collaboration or individual study, to presentation and publication of original content. Libraries are also offering students the opportunity to learn important presentation skills in order to communicate their ideas to the academic community.

Programming

Next-Gen learning spaces are platforms for many types of programming that can enhance learning, inspire patrons, and create social or academic connections. Programming and instruction overlap, including events presenting coursework and library classrooms hosting events. The Next-Gen learning space can accommodate many modes of scholarly communication and instruction while also creating an open, social atmosphere.

Almost all of the libraries responding to the survey indicated they held lectures (97%) and exhibits (93%) in their spaces, along with presentations of student work (89%), workshops (89%), social and networking events (87%), and author talks (85%). Every type of learning space identified in this survey was a programming space in at least one responding library, including quiet study space (28 of 69 responses) and classrooms with fixed computers (49 of 68 responses).

Of the 70 libraries that identified who develops or provides programming, 69 rely on librarians, 62 involve other library staff, and 56 rely on archivists. Only 21 libraries have a full-time position dedicated to programming. Libraries also host programming provided by campus partners (48), other academic institutions (31), and external partners (23).

Collaboration

One of the primary characteristics of Next-Gen learning spaces that distinguish them from information commons is collaboration with partners outside the library, who provide staff, technology, programming, new services, designs for shared spaces, media resources, and even funding. All but 10 of 70 responding libraries have created or modified their spaces in collaboration with campus/parent institution partners or

external partners. Writing centers, information technology departments, learning and teaching development departments, colleges and schools, and administrative support (such as the Office of the Provost) were most prevalent in these collaborations. Of the responding libraries, 50 collaborated with partners from outside the library on instructional activities, especially tutoring and writing instruction, and 44 collaborated with partners outside the library on programming. External partners include research and development companies, professional organizations, non-profits, academic institutes, and state governments. The myriad educational uses of the spaces are complemented by social, legal, and health outreach (e.g., therapy dogs or a polling location).

Assessment

Most of the responding libraries (59, or 84%) are assessing the success and effectiveness of their learning spaces through both qualitative and quantitative methods. Informal feedback is the most common assessment method for instructional activities and programming (42), and for assessing the overall purpose of the space (44). For instruction, surveys (40) are almost as important as informal feedback. When considering overall success, libraries rely on gate counts (42) and field observations (41) to supplement informal feedback.

In 24 of the responding libraries (36%), assessment led to ending services, programs, or specific uses of spaces, including removing reference desks, creating integrated service desks, and removing physical collections.

Sixty-two of the responding libraries (87%) have used a Classroom Assessment Technique as part of their instructional activities. The most commonly used technique is feedback forms (60, or 97%).

Only 26 libraries (37%) are gathering metrics to link library instruction or programming to student success. Those metrics are varied and include engaging outside partners for long-term assessment projects, consulting with faculty, and scoring rubrics. All of the responding libraries collect data on the number of classes and number of participants engaged in instructional activities. Assessing the Next-Gen learning spaces' effects on student success and retention is

an area of experimentation and libraries use a variety of established assessment strategies.

The Future of Library Learning Spaces

Most responding libraries (60, or 84%) have plans to make significant changes to at least one of their learning spaces in the near future, including adding classrooms, labs, collaborative study spaces, and maker-spaces, along with removing collections. Other, more rarified expansions include digital studios, visualization labs, and other support for particular student learning and productivity strategies specific to disciplines or curriculum changes. There were few mentions of print collections other than removing them from the library; even the repurposing of a Special Collections reference room involving historical presses would focus on demonstrations and lectures.

Information technology, interdisciplinary collaborative learning, community, and support for new

pedagogical strategies were common responses when survey respondents were asked to envision the role of Next-Gen learning spaces in the future of research libraries.

Conclusion

The Next-Gen learning space is a resource and forum for the whole campus, providing the space and tools for instruction, scholarly communication, and pedagogical experimentation by students, faculty, and staff. Libraries continue to experiment in these spaces, inspired by their own observations of library use and by the aspirations of library partners, as new jobs are created to respond to pedagogical changes and emerging multidisciplinary curriculum needs, new spaces are created to accommodate new tools and work styles, and libraries strive to “model the behavior of the scholar in the digital age.”

SURVEY QUESTIONS AND RESPONSES

The **SPEC Survey on Next-Gen Learning Spaces** was designed by **Sherri Brown**, Instruction Unit Head, Public Services, **Charlie Bennett**, Undergraduate Programming and Engagement Librarian, **Bruce Henson**, Associate Dean for Research and Learning Services, and **Alison Valk**, Multimedia Instruction Librarian, at the Georgia Institute of Technology Library. These results are based on data submitted by 72 of the 125 ARL member libraries (58%) by the deadline of May 14, 2014. The survey's introductory text and questions are reproduced below, followed by the response data and selected comments from the respondents.

Many research libraries were radically transformed in the early 2000s with the introduction of information commons. In 2004, Leslie Haas and Jan Robertson from the University of Utah authored SPEC Kit 281, *The Information Commons*, which provided an overview of the state of commons in ARL member libraries. Since that time, these commons have continued developing as the growth of electronic resources has reduced the space necessary for physical collections. Libraries are using that newly available space for much more than computer labs and study areas. In the last decade, what we are calling Next-Gen Learning Spaces have emerged that bring together services, programming, instruction, campus and community collaboration, and specialized resources of all kinds to support a wide range of teaching, learning, and research.

Next-Gen learning spaces are distinguished from information commons or other library innovations by their purpose and by the activities libraries encourage within them. Next-Gen learning spaces are service-rich environments created in collaboration with campus partners that support active learning and multidisciplinary instruction along with providing a platform for scholarly communication and cultural enrichment. These spaces can be created all at once in one renovation or construction project, or they can develop piece-by-piece, e.g., when a library adds new services to a computer lab or classroom that in turn create an opportunity to collaborate with an external partner.

The purpose of this survey is to explore the configuration and uses of library learning spaces, the developments and transformations that have occurred over the past ten years, and future plans for learning spaces to determine where these learning spaces are on a continuum between first-gen information commons and next-gen spaces. The compiled responses from ARL members can be used as a benchmark for individual libraries making decisions regarding existing and future learning spaces, as well as to form a more complete picture of the direction in which learning spaces are headed as we move further into the 21st century.

This survey explores five main areas related to learning spaces. The first sections of the survey seek to identify what kinds of learning spaces currently exist, how these spaces have changed since their inception, and the effects these spaces have had on other library operations. The next three sections explore the instruction, programming, and collaboration that take place in the learning spaces. Finally, the last section is focused on the current assessment of ARL members' learning spaces and changes that have been made or are planned based on the results of these evaluations.

GENERAL INFORMATION ON LEARNING SPACES

1. Please indicate the types of dedicated learning spaces available at your library. Check all that apply.

N=72

Open group study space	71	99%
Open space with fixed computers and general software	71	99%
Open quiet study space	69	96%
Classroom with fixed computers and general software	67	93%
Exhibit space	65	90%
Events space	64	89%
Reservable group study rooms	60	83%
Classroom with tables and chairs but no computers	56	78%
Classroom with fixed computers and specialized software	53	74%
Multimedia lab with multimedia software	50	69%
Reservable presentation rehearsal rooms	45	63%
Undergraduate Commons	30	42%
Reservable individual study rooms	29	40%
Graduate Student Commons	17	24%
Spaces restricted by discipline	10	14%
Visualization lab	9	13%
Makerspace	9	13%
Faculty Commons	8	11%
Gaming lab	6	8%
Hackerspace	1	1%
Other type of learning space	34	47%

Please briefly describe the other type of learning space. N=34

Belfer Audio Archive classroom and recording studio, Biblio Gallery (for student exhibitions)

Classroom with dedicated laptop computers, flexible arrangement of tables and chairs

Center for Accessible Technologies

Collaborativity space: a multidisciplinary area designated for collaborative innovation.

Dedicated room for students with disabilities, child-friendly group study room for student parents accompanied by young children

DesignLab: consulting service for digital media projects (i.e., a "writing center for digital media.") Media Studios: classrooms for use by courses (regular, timetable, for-credit classes from across campus, all disciplines) that require digital media studio space approach—collaborative, technology-rich, but not a "computer classroom." WisCEL (Wisconsin Collaboratory for Enhanced Learning): two centers that provide large-scale active learning spaces for flipped classroom pedagogy, break-out rooms in a variety of sizes, and pedagogical support for faculty taking a blended learning approach. All three of these initiatives were designed collaboratively with campus and libraries to meet

instructional needs in addition to library needs and function as multipurpose spaces (usually instruction by day, general library use by night). Additionally, the education library has a flexible, technology-rich space for instructional use by for-credit courses, seminars, workshops, and summer outreach programming (e.g., College for Kids). Undergraduate commons: not defined as “commons” but there is a library with primary support for undergraduates. Space restricted by discipline: many libraries on campus; all officially open to all campus users. However the Law Library restricts access to Law School use during certain times in the semester. We are not counting that for the purposes of this survey.

Dissertation Writers’ Rooms: shared office space (telecommuting model) for doctoral students who have passed their comps and are on to the dissertation phase. Each room includes 10 (or 12) partitioned desks, available on a first-come basis. Graduate Exchange: intended for relaxation, building community, also used as events space; has open seating at tables and benches, writable and tackable walls, writable tables, excellent power availability, food-friendly, lounge chairs. Graduate Collaboratives: Reservable by grad students only, whiteboards, large tables, interactive atmosphere, LCD screens, and laptop hookups.

Gaming Lab pilot project is scheduled for 2014–2015.

Global Educational Outreach for Science Engineering and Technology (GEOSET): Recording studio in science library

Graduate reading room (graduate students only). Library Accessibility Services: for students with disabilities. The lab offers one large room with eleven computers and one room without computers for laptop use or for quiet study. The lab houses accessible computers with the following adaptive technology software: Kurzweil 1000, Kurzweil 3000 and compatible scanners, DAISY, ReadPlease, Dragon Naturally Speaking, Inspiration, and ZoomText.

Graduate student reading room, High-Density Data Lounge, Cisco Telepresence Classrooms, Video Art display niche, interactive instructional lounge with LED display and streaming capabilities, graduate student carrels

Graduate student study carrels: reservable on an annual basis

Graduate student study rooms

Honors students and Undergraduate Research Fellows quiet study space

Informal reservable study areas, such as booths of different types and open, moveable tables. Collaborative classroom for “flipped” pedagogies.

Learning Commons not restricted to type of student, GIS Lab with specialized software and assistance, Active Learning Classrooms, Research Commons for collaborative and programmed uses, assigned studies for PhD students.

Lecture-style classroom with fixed seating, podium, and multimedia. Flexible-seating classroom with moveable “Node Chairs,” podium, and multimedia. Seminar-style classroom with tables, chairs, and multimedia.

Math Learning Success Center is comprised of study spaces, tutoring spaces, and computer lab with specialized software. Writing Center Outpost space serves dual functions, but not at the same time. Much of the time the space is reservable group study spaces. During specific days/times, it functions as tutoring space.

Our “graduate commons” is also a faculty space. It’s titled the Faculty and Graduate Student Lounge.

Our group study rooms cannot be reserved; they are on a first-come, first-served basis.

Podcasting room, viewing rooms for film studies

Reservable presentation rehearsal rooms are being installed summer 2014.

Separate graduate student study space (but not commons area, i.e., no fixed equipment)

Shared workshop/classroom space with university IT's Academic Technology department

Spaces with special equipment and software for persons with disabilities

Steelcase LearnLabs

Technology Sandbox. Creativity Studio: movable walls, exhibition space. Video Seminar Room: six-person telepresence, video conferencing. Usability Lab

TILE (Transform, Interact, Learning, Engage) active learning classroom, graduate student study room with assigned lockers

We have a Learning Commons that is meant for use by all faculty, graduate, and undergraduate students depending on what they need the space for or what they intend to do. We do not limit learning spaces by status or discipline.

We have a "Scholarly Commons" that primarily targets faculty and graduate students but is not restricted to them. Our separate Undergraduate Library is conceived as a learning commons. We have a number of branch subject libraries, many located physically within academic departments and thus primarily serving particular disciplines, but by policy open to all users and not "restricted."

We have a space available for short-term projects (5–8 weeks) by faculty, especially designed for rapid prototyping. Some of the spaces described above are utilized or reserved for Digital Humanities research or teaching at certain times. Also, we are building an incubator/accelerator space within the Management Library. This will be for projects whose teams are greenlighted to work in the space for set periods of time. We are contemplating a bigger undergraduate collaboration space, which would be open space with some technology enhancements.

We have a Skype room, commuter lounge, Math Emporium, Writing Commons, and math and science tutoring spaces.

Writing Center, Communications Lab, Port Research Commons, Graduate Study Lounge

2. How many square feet in your library are devoted to dedicated learning space(s), and what percentage is that of your total library square footage? Please enter whole numbers without "ft" or a % sign. An estimate is acceptable. N=50

Square feet of learning space N=48

Minimum	Maximum	Mean	Median	Std Dev
150	483,888	88,531	67,000	85,281

Square Feet	Responses
<10,000	2
10,000–25,000	6
25,999–50,000	10
50,999–75,000	9
75,999–100,000	7
100,999–125,000	6
125,999–150,000	2
150,999–175,000	0
175,999–200,000	3
>200,000	3

Percentage of total library square feet N=45

Minimum	Maximum	Mean	Median	Std Dev
0.575%	78%	28.63%	25%	19.10

Percentage	Responses
<5%	3
5%–10%	5
11%–20%	10
21%–30%	11
31%–40%	7
41%–50%	3
51%–60%	3
61%–70%	0
>70%	3

3. Has the physical configuration of any of your learning spaces changed over time? N=72

Yes	71	99%
No	1	1%

If yes, what drove the decision to make the configuration change(s)? Check all that apply. N=70

Building renovation/reorganization	64	91%
Informal feedback from library users	58	83%
Formal feedback from library users	58	83%
Recommendations from library staff	56	80%
Influenced by configuration of spaces at other institutions	54	77%
Result of a strategic planning process	51	73%
Funding opportunity specified these changes	41	59%
Independent decision by library administration	36	51%
Recommendation from expert in the field	24	34%
Mandated by external body	6	9%
Other reason(s) for change	11	16%

Please briefly describe the other reason(s) for change. N=11

A new building gave us the ability to design forward-thinking spaces and a forward-thinking building.

Because of the many libraries here, not all of these decisions or factors driving decisions apply to the same situation. For example, the School of Education's library underwent a thorough strategic plan that directly affected space decisions, while the Libraries as a whole are only currently in a strategic planning process that has not (yet) driven these decisions.

Fine Arts: reuse of obsolete space

Funds released to complete two unfinished floors of the library building.

Legislation related to persons with disabilities has helped guide renovations.

Meeting program accreditation needs for more study space.

Need to update large general use IT computer lab provided impetus to move to commons model in the library.

One of our libraries had about 9,000 sq. ft. of unfinished space when they moved into their new location. Fundraising to complete the change allowed them to totally redesign the space to meet the current needs of the students, such as group study rooms.

Opportunity from vendor partner

The university rewards units that collaborate. The library is building collaborations with Digital Humanities and Undergraduate Education that rely on these spaces. Partial fiscal support is available from the university for new partnerships.

To meet the needs of new partnerships and opportunities for collaboration, and as a result of changes in campus teaching and learning landscape.

If learning space configuration has changed, please provide one example of a change that you think has moved a space in the direction of being Next-Gen. N=63

A few years ago we created a shared workshop/classroom space with our university's IT Academic Technologies department. Not only did this bring some new technology into the library (such as videoconferencing), but opened opportunities for collaboration between library instructors and IT specialists.

A former staff area was turned into an open group study space with movable furniture and whiteboards, whiteboard or chalk paint on all the walls, and vending machines.

A joint effort developing a Collaborativity space for multidisciplinary innovation.

A large undergraduate study hall furnished with carrels converted into a New Media Centre.

A new building encouraged us to think about what our formal instruction spaces would look like. We used the opportunity to develop larger more collaborative space. Additionally, we have used student feedback to create more informal collaborative student spaces, where students can drop in and collaborate with appropriate technologies and tools.

A portion of one floor of one of our branch libraries was renovated and traditional individual carrels and four-top study tables were replaced with reservable study rooms with white boards and other furniture options that encouraged collaboration.

Added presentation practice room. Added collaboration furniture to group study rooms. Added 24/5 overnight space. Reviewing policies/practices to encourage and enable collaboration.

Addition of large flat screens in collaborative spaces to facilitate teamwork.

Adoption of student-generated appointments with librarians in commons

Brought together our map collection, government information center, and spatial and numeric data services. It is a rich and unique resource, where students and scholars from every discipline—as well as those working across disciplines—can find the materials, tools, and expertise to meet their research needs.

Campus Math MaLL (Emporium) was implemented in our Science and Engineering Library in January 2013. There was a campus-wide committee run out of provost's office, and resulted in a partnership with the College of Arts & Sciences.

Changes in pedagogy that emphasize collaboration supported by Bring Your Own Device (BYOD) and technology-enabled spaces.

Created a Graduate Student Commons by converting space previously assigned as staff space for this new student use.

Creation of a Digital Media Suite in the main library. In the health sciences library, all group study spaces were outfitted with an interactive screen that hook up to any mobile device or laptop.

Creation of a Student Multimedia Design Center

Creation of digital media rooms for group work

Creation of Knowledge Commons, January 2012

Group study rooms equipped with 70" or 46" computer display monitors. One of our libraries created space for academic writing tutors, which has fostered collaboration between the library and Academic Learning Services. Our management library renovated space to create a computer lab for high-end financial data terminals.

In a 2010 renovation, a new hands-on classroom was developed that used multiple projectors to provide the capability for instructor and student presentation simultaneously. The room can be configured in multiple arrangements, not simply in rows for lecture.

In a recent Phase III renovation of the learning commons we created an enclosed separate space of the Student Success Center and for tutoring.

Increased emphasis on redevelopment of group study/collaborative spaces combined with easy to access & multiple power outlets for portable devices plus library provided collaboration stations (e.g., media stations).

More collaborative furniture and equipment (media:scape units) added.

Moving from fixed computer workstations in instruction space to laptops (for more flexible use of the space).

Next Gen Learning Commons combines a wide variety of furniture, technologies for collaboration and production, in a flexible open plan.

One of our new learning spaces is called "teach anywhere," a mobile cart of tablets that transform any room into a teaching space. We have incorporated 3D data creation into our suite of media capabilities, provided a space for capturing and printing 3D objects, and provided resources for capturing human movement in 3D with motion capture equipment. Our former slide collection space was turned into a multiuse space including a public ScanLab, with specialized software, as well as the Fine Arts Library Bar & Lounge, a teaching and presentation space used for classes, meetings, and events.

One of the library classrooms/meeting rooms formerly had only one projector and screen. A few years ago, we installed a SMART Board on a perpendicular wall. Now, the space is more flexible and can be configured in a variety of ways to meet teaching and learning needs. Not only is the space itself more flexible, but the SMART Board is a more interactive technology than the static projector and screen.

Our collaborative space has developed such that we are now providing students with a variety of furniture and technology that helps them study more productively, including a variety of seating, variety of table shapes and heights, charging stations, media:scape units, and other technology that makes it easier to share work from a laptop onto a larger screen, mobile whiteboards, docking stations for laptops, furniture that incorporates outlets, and a reservation

system for some of the workstations. Providing the variety allows for a wide range of student learning behavior and creates a space with which a greater number of students will connect.

Our Collaboratory is open, informal, and conversation friendly. (Located in the Undergraduate Commons, we call it Learning Commons.)

Our Electronic Scholarship Center (ESC) was reconfigured into an instruction and collaborative learning room with the addition of multiple screens and laptop/mobile device access.

Our Library East Commons has developed a study space into a learning space; there are plans for a tactile learning space coming. In 2006, was constructed as collaborative computing, academic social space, and presentation space. Now hosts collaboration with two outside academic units to create a classroom-style active learning space and curriculum-defined computing resources. Space is available for all when classes are not in session.

Our next-gen learning spaces include campus and community collaboration on services, programming, and instruction. One example of this is the use of our space by various tutoring centers (Writing Center, Statistics Tutoring Lab, etc.) across campus.

Our student multimedia studio is evolving into a mini-makerspace. We have added 3D scanning, 3D printing, and 3D pen creation. These new technologies have challenged us to rethink the layout of this lab, and also to bring the technology out of the lab into other spaces.

Over several years, the classroom for instruction with no technology has been renovated to computer-equipped classroom and then a smart classroom.

Physical collection is decreasing. More collaborative study space with new technology.

Piloting multimedia pods in the Learning Commons led to the development of the Digital Media Lab, where full-scale media production is a possibility for the general student population.

Provision made for collaborative spaces.

Recent changes include a refurbished meeting room with new furniture that can easily be reconfigured and more power outlets have been added to the room.

Recently constructed a Center for Digital Scholarship with a high-tech classroom, specialized software, and specialized equipment, such as a 3D printer, and specialized services, such as data management planning consultations, GIS instruction, instruction on advanced statistical software.

Some reference collection shelving replaced with Steelcase media:scapes.

Some spaces include campus partners in services and programming development and delivery.

Steelcase LearnLab

Team rooms with technology, SMART Boards in classrooms, tech desk for support/loans

The library rearranged space in its computer classroom to allow for more seating and also to provide a more interactive experience, with electronic white boards and other related technology.

The Scholars' Collaborative offers faculty and graduate students the space, expertise, and project management assistance they need to develop innovative projects using digital tools. Located on the 4th Floor of the library, the Scholars' Collaborative serves as a hub for the emerging digital scholarship community at the university.

The Science & Engineering Library's first floor was converted from a focus on housing a sizable collection of print reference books, indexes, and current journals, to emphasizing collaborative study.

The Science Library branch moved from mixed-use floor to having separate floors for group study, quiet study, and silent study. Health Science Center Library created open collaborative spaces with white boards, larger monitors, group workstations, movable furniture, mini-amphitheater seating, and semi-private study areas (post-and-beam construction).

Three examples (DesignLab, Media Studios, WisCEL) are all new approaches to library space, collaboratively planned with campus needs and initiatives, serving both instructional use for courses and general library use.

Turned a small conference/classroom room into a presentation rehearsal space for students.

Turned a typical computer classroom into a modified SCALE-UP classroom to facilitate group work and active learning.

Undergraduate library was renovated to increase technology/connectivity.

Videotape studios with separate editing rooms

We are creating a Family Friendly Study Center where students/parents with children can use library resources in a space that is as accommodating to their children.

We are in the process of creating a makerspace in the undergraduate learning commons. We are also exploring the creation of a flex classroom to accommodate different teaching methodologies.

We cleared out the space that housed our unbound journal collection and repurposed that entire area for individual and group study, collaboration, and instruction.

We doubled the space of our multimedia creation lab in partnership with our School of Arts. The new space has all the multimedia software it did before (graphics, video, audio, music annotation) plus we've added piano keyboards to each station for composition, and classroom control software that allows students to share their work with each other.

We have created a new collaborative classroom to assist faculty with exploring "flipped classroom" pedagogies. This space was formerly set aside as minimally used stacks for government documents.

We have worked with other campus units to design and deliver a range of learning support services and spaces in our Undergraduate Library (learning commons, media commons), Main Library (Scholarly Commons), and Engineering Library (CARE: Center for Academic Resources in Engineering, which incorporates tutoring).

We opened a GIS lab that has computers with ArcGIS, ENVI, and Adobe Photoshop suite.

We removed stacks to create a large open study area near the coffee shop.

We've allocated significant square footage to medium-large (reservable) group study spaces.

With planned closure of an IT computer lab, the library collaborated with IT to create a jointly managed digital media/digital scholarship lab to support both students and faculty needing specialized equipment and services.

With the renovation of the former Science Library, we brought together the sciences, social sciences, and the statistics lab (university IT, not library group) into a single space. There is a blending of IT and library services at all service desks. Librarians and stat lab consultants are available to assist with the location of data sets, training on how to use statistical packages, and then data visualization.

Without knowing all the potential uses, we built open spaces with configurable furniture in order to learn what faculty and student users would do with them. This has led to us refining the spaces used by programs like Digital Humanities, and forging tighter alignments with them. In particular, we are partnering to bring a CLIR postdoctoral fellow into the learning space in the Research Library to refine it for best use with a variety of digital humanists AND with the School of Information Studies—for research and teaching needs.

4. Has any learning space been repurposed to a different type of use over time? N=71

Yes	57	80%
No	14	20%

If yes, please briefly describe one example of repurposing a learning space for a different type of use. N=53

3rd floor of Social Science and Humanities Library houses campus tutoring center.

A classroom with rows of computers was converted into an open flexible learning space with mobile furniture and technology.

A computer lab was converted to presentation practice rooms.

A flipped classroom was created out of regular computer lab.

A group study room was repurposed to become a presentation practice room.

A group study room was transformed into a presentation practice space. A general classroom was transformed into large group study. A floor of journals was transformed into a commuter lounge and open study with media:scapes, lounge furniture, with small event space.

A large traditional reference room, dominated by an extensive reference collection, was converted to a student collaboration commons with a variety of furniture options that emphasized group-work and flexibility.

A multipurpose room (primarily used for lectures and movie viewing) now has electrified tables and rolling LCD monitors so that it can also be a laptop training classroom.

A Reserve Books Reading Room was repurposed to become a Technology Sandbox and ice-cream bar with seating area. In the same vicinity, a current periodicals reading room/display area was repurposed to become a glass-enclosed silent reading room, with adequate power outlets for laptops/devices. An outdoor terrace was upgraded and furnished to create an outdoor seating area.

A room that is on what we call "Main Street" in the learning commons was a digital media service for faculty to use in support of instruction. It was open 8 to 5. We moved it off main street and repurposed the room for research assistance, research consultation, and a 24-hour collaborative workspace for students.

A space that was set up as a standard collaborative workroom was repurposed to support the learning needs of students with accessibility issues. We are also currently repurposing one learning space and are creating a makerspace.

An area that previously had mixed learning space and stack space was re-purposed into the Math Learning Success Center, which is operated by the Math Department.

An electronic classroom with fixed desktop computers (configured in late 90s) was recently retired, the space converted to office space for our expanding Interlibrary Loan and Document Delivery Unit.

Auditorium to a computer classroom

Bert's Café and Study Lounge: Bert's Study Lounge, located in the library lobby, is an inviting space intended to support collaborative and peer learning. Users can engage with technology to accomplish their academic goals as well as see how others have used these resources in a creative, informal, and fluid learning atmosphere that combines expertise, technology, and resources.

Changes from open, quiet study to spaces that allow for reservable large group collaboration and active learning teaching spaces.

Classrooms with desks and chairs updated for hands-on collaborative learning using laptops/netbooks in flexible set up.

Cleared floor of book stacks to create quiet study space with separate group/individual study rooms.

Computer “e-zones” transformed into more flexible group study zones.

Converted a film viewing room into a dissertation writing room with individual lockers for students to store library study materials between visits and individual quiet study spaces.

Created new flexible event exhibit space.

Due to its location, one room was converted from a traditional classroom into a Census Data center. The classroom was relocated to another space within the library.

Former staff/storage spaces redeployed as group study rooms, as originally intended.

In the main library, an all-purpose study space was converted to a quiet floor. At the health sciences library, quiet and unmediated spaces are now collaborative and wired.

Large reserve room for student study became a reading room when circulation and reserve merged. That same space serves dual purposes as the large event space for up to 200 in the library.

Lecture-style library classrooms were remodeled as hands-on computer teaching labs.

Library West converted an open area originally created as a space for students to group study/practice presentations (this area had a computer and 61” screen). The students did not like practicing presentations in an open area where anyone could walk by and see/hear them practicing, so the space was converted to general group study space and is now popular and widely used.

One corner of our main level was formerly dedicated to quiet study. It has since become the Writing Center, which the library welcomed into the space one year ago. The Writing Center is an active, collaborative learning space.

One library presentation rehearsal studio has been re-purposed to provide public working space for a campus organization.

One of our libraries has a café.

PGSC (main Libraries presentation space): shift from library centric classroom/meeting to university space. Also re-purposing of carrels from faculty to graduate student/faculty. Carnegie library building shared with other campus departments. (We were able to reclaim and restore reading room.)

Reference area to Learning Commons space

Renovated an area that held current print periodicals into open study space.

Rooms that were formerly used as a micro reader/printer space have morphed into two interactive classrooms.

Seminar room was previously a student computer lab. However has been repurposed to be GIS instruction/drop in lab. Therefore, it is a multi-purpose room.

Shifting of reference collections in order to increase space for study carrels.

Silent study areas (no laptops) were eliminated.

Some quiet spaces have been converted to collaborative work area and vice-versa.

The Center for Dewey Studies is being moved from off campus into silent study space in the library, in a wireless environment.

The computer lab in the undergraduate library has been repurposed from a traditional computer lab providing high-end technology services and a computer classroom for software training, into a set of adjacent services that include Media Studio classrooms and DesignLab which function to serve both instructional needs and general access collaborative computing stations, all within a space that also offers 24-hour in-person help desk, circulating equipment, software training, and computer-related book/media collection. The adjacency of all these services was a specific goal.

The department of Reference and Instructional Services (RIS) added shared service space.

The Government Docs area has a few general study tables. The collection was moved to storage and the space redesigned with group study booths, quiet study tables, a student art gallery, and a collaboration room with mobile furniture and white board paint on the walls.

The renovated space includes a space that can be used for information literacy instruction or special presentations with movable tables, chairs, and whiteboards, which students can reconfigure to meet their collaborative study needs when the space is not booked for instruction classes.

To create a second cafe location

Transformation of the Digital Media Lab (DML): group study room and processing room became a telepresence room; media space became a bigger part of DML, classroom transformed into a Video Studio, classroom transformed into an audio studio. In Fine Arts: underused classroom was turned into space for digital image management team.

Turned a small conference/classroom room into a presentation rehearsal space for students.

Using reserves reading room for scheduled events—large multi-section writing program with guest speakers three times/semester.

We created a learning space in our science library that has 3D projection equipment for a virtual anatomy class. Later we enhanced this space (in collaboration with the university's Research Computing Center) for data visualization in 2D and 3D.

We emptied out a space that previously held microfiche/film cabinets and added soft furniture to make it a quiet study space.

We opened our first "commons" space in 2007. That space contained a somewhat traditional computer lab that we improved cosmetically, but made few other changes. In 2013, we worked with IT to transform that lab into a multimedia support center.

We took five group study rooms in the Information Commons that each had a PC desktop and were primarily used for in-person, small-group collaboration and added iMacs to enable Skype and Google Hangout collaboration. These rooms are now used by students to conduct practice interviews with each other, interview with prospective employers, and connect to native speakers for language classes.

We've repurposed some space to allow for small group tutoring and math tutoring/labs.

Working with university IT, we repurposed a traditional computer lab into a collaboration lab placing the desktop machines into a pod configuration and adding more whiteboards so that students could do computer-based group work more easily. Additionally, we relocated an area that had been traditionally used for individual study and installed a Mac

Lab with multimedia software to enable access to computers and software that would allow for students to create the types of papers and presentations that are being required by their classes.

EFFECT OF LEARNING SPACES ON LIBRARY SERVICES

5. Has the development of learning spaces had a direct effect on the services your library provides?

N=72

Yes	70	97%
No	2	3%

If yes, please indicate the type of service change(s) that have resulted from the development of learning spaces. Check all that apply. N=70

Added new services	60	86%
Reorganized services	55	79%
Combined existing services	47	67%
Eliminated services	20	29%
Other service change	10	14%

Please briefly describe the other service change(s). N=10

Central University Information Technology Services provided additional computers in a 2nd floor library quiet area from another less used computer lab on campus. These computers are maintained by Libraries technical staff.

Citation management consultation by appointment (change from drop-in or scheduled workshops). Introduction of Design Help service. Integration of librarians into writing center for research and writing consultations.

Creation of a Digital Literacy program from the Student Multimedia Design Center

Digital Media Lab: Building a flexible learning environment has created opportunities and requests to host technology-enhanced events and conferences such as student-driven hackathons, 72-hour film workshops, teaching fairs, etc. Fine Arts: re-purposed classroom space for digital services; eliminated the analog slide service; eliminated the need for a traditional classroom by taking teaching and instruction into the academic class space; added video art to the library as a studio art learning space in an unused former niche of the reference room; eliminated much of our traditional reference services in favour of a multiuse teaching, learning, and study space. Scholars' Lab (SLab): elimination of software distribution and support (now handled online) provided space to increase access across all disciplines to technologies (like 3D modeling) that could spark new research questions.

Expanded existing services.

Streamlined/combined multiple service desks. Developed speaker "salons." Began lending VGA cables.

The School of Education and College of Engineering have combined support units administratively so that the libraries work together with media support and technology support. The services provided are therefore not as discreetly defined as "library" services.

We incorporated new learning commons partners into the space (Writing Services, Learning Skills, Career Centre).

We've reorganized our reference services.

With increased number of enclosed group study spaces we have found it beneficial to create a reservation system. We purchased a web-based system with touch screens at the rooms for making reservations or by accessing with campus ID and password on the web.

Comments N=20

Added multimedia classroom to campus classroom booking system so departments can book their for-credit multimedia-rich classes in our space.

As a result of developing new learning spaces we have integrated our main service desk, eliminated the concept of a separate reserve desk area, added in device charging stations, and have begun lending video games, video game peripherals, as well as other technologies. In addition, we extended our weekend hours.

Brought many services into the Learning Commons; established new service point for the Digital Media Lab.

Campus IT staff now work side-by-side with library staff in the undergraduate library. Additional IT services offered from dedicated service point in Humanities, Social Sciences and Education (HSSE) library.

Circulation, technology support, and reference services are provided from same central location on the main library floor.

Cross-trained librarians and IT staff to provide tier 1 level of service for both library and IT questions.

Developed visualization services in a new Digital Scholarship Lab.

IT Help Desk moved to share Information Desk with Reference. Brought in Learning Support Services (tutoring, testing) and Math Classrooms and Labs. Provide IT support to students using new technologies. Lend more equipment and adaptors.

IT Help Desk, IT central printing, Writing Program tutors, reconfigured reference desk as research center.

Library West, Science Library, and Health Science Center Library moved to combined service desk models.

More time is spent managing technology or responding to tech questions.

Public exhibit space has been developed which has increased services and partnership opportunities. We are in the process of implementing tiered reference services and developing a multi-media learning space, both of which will involve adding, reorganizing, and combining services.

Technology support desks staffed by Peer Consultants (student workers).

The multiple-library and complexity of the campus makes this hard to capture in a single scenario. The three libraries most directly affected by changes in service and administrative structures to support next generation learning spaces are the undergraduate library, the education library, and the engineering library, and those three environments are for the most part being used as examples for this survey. Other libraries have either traditional learning spaces (e.g., information literacy classrooms) or not much space to work with (many small departmental libraries). Memorial Library, the largest library on campus, created an events space that allows multiple uses—both programming and learning—including author talks, film showings, seminars, etc. This space is not open to the public outside of event use and is used

for formal classroom learning, but the events often include informal learning and are a new service capability the library can provide. Most libraries have not had a significant change in services due to learning spaces.

This has enabled us to conduct instruction sessions and vendor database demonstration lectures in the library that previously would have had to take place elsewhere on campus, along with better satisfying our students' request for additional collaborative work space.

This includes the Research and Writing Center, converting a periodicals room into a grand reading room, and converting the general reference area into a Learning Commons.

We have combined three reference service points into one at our main library.

We now staff combined reference and tech help desk. We have roaming library staff covering floors. We have added an Ask Me desk in library lobby to quickly answer directional questions. These have all been driven by reconfigured spaces, which have driven more students into the library.

We removed media reserves to open stacks and focus service desk on training and tech support.

We've added multimedia equipment for loan with the addition of a Mac Lab that has multimedia software. We are in the process of adding a Tech Desk on our 2nd floor to help support our expanding collaborative spaces and the technology within them, assist with the use of our presentation practice room, and house newer technologies like 3D printing. Many of our individual and group study rooms require a key that is checked out at the circulation desk, but we have been experimenting with online room reservation systems and open rooms that would allow students to control when they use the spaces. This has taken a bit of the burden off of our circulation staff—fewer keys to check out and students are monitoring the reservations themselves. Students are also requesting access to study spaces 24 hours a day, and in response to this we have opened our lobby 24/5 during the regular semesters. To make the space more of a study space we have invested in larger tables with bigger work surfaces, made power easier to access, and opened the Collaboration Lab which houses computers and whiteboards.

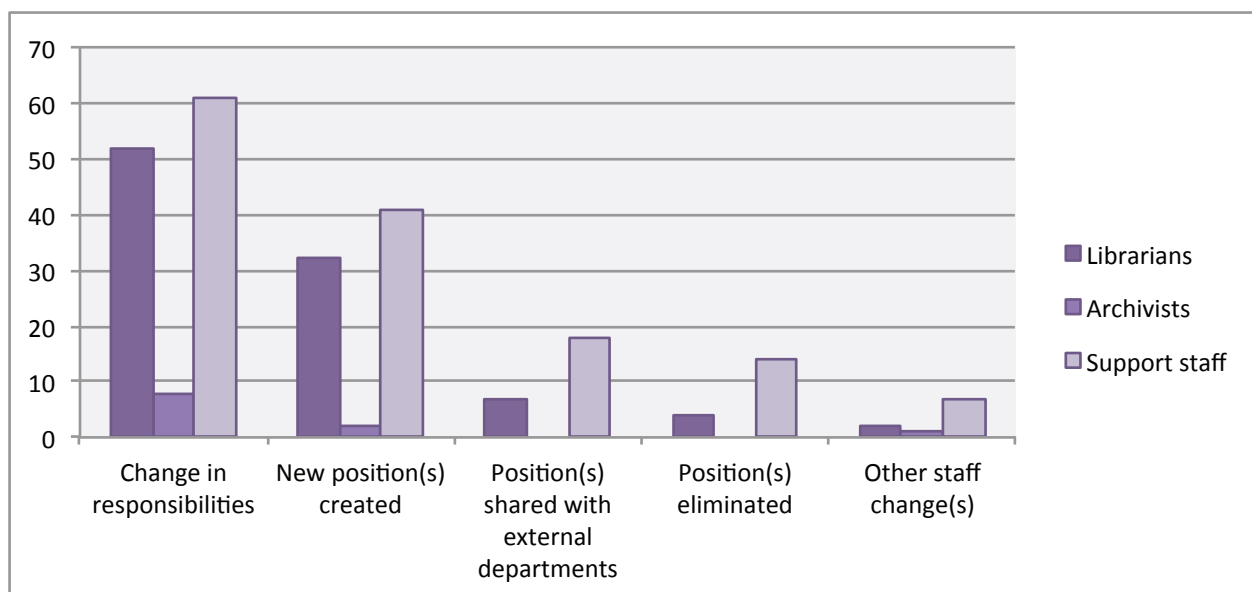
EFFECT OF LEARNING SPACES ON LIBRARY STAFF

6. Has the development of learning spaces within your library had a direct effect on staff responsibilities or positions? N=72

Yes	65	90%
No	7	10%

If yes, please indicate the type(s) of staff changes that have resulted from the development of learning spaces. Check all that apply. N=65

Staff Changes	Librarians	Archivists	Support staff	N
Change in responsibilities	52	8	61	63
New position(s) created	32	2	41	49
Position(s) shared with external departments	7	0	18	22
Position(s) eliminated	4	0	14	15
Other staff change(s)	2	1	7	7
Total Responses	54	10	64	72



If you selected "Other staff change(s)" above, please briefly describe the change and the staff category affected. N=7

Addition of several graduate internships to provide services in the two Commons and the Research and Instructional Services areas.

Creating teams of students who are trained to perform designated, specific services such as technology support in the Research Commons.

In addition to librarians and archivists, as an integrated cultural facility we also employ curators and specialized staff who support art gallery functions.

Increased technology skills were required to support patron use of media equipment.

Moved two tech-savvy staff members from non-technical department to Libraries Information Technology Services department to manage User Technology Support Desk and provide one-on-one multimedia consultation sessions. Also, hired additional student staff to provide assistance from the Technology Support Desk.

Several existing IT support positions (in the university) were relocated into the library to support the services offered in our new collaborative library/IT space.

With the current remodeling project of the Science Library and the addition of several new "next gen spaces" at that branch, the Government Documents department was combined with Library West's Humanities & Social Sciences collection. The head librarian was also moved to Library West and support staff positions were eliminated with the dissolution of the department. Staff who did not retire were given the option to transfer to other positions within the Libraries.

Comments N=18

"Support staff" does not address our staffing situation. The major categories of staff responsibility changes are in two areas: IT professionals and program directors (Associate Director positions for operations of faculty-driven campus initiatives) that are administratively housed in the library. These are not librarians, nor are they "support staff" meaning

paraprofessionals—but there are changes in our staffing profile due to new learning spaces. Also, the combined administrative units at the Engineering and Education libraries include positions such as instructional designers and other traditionally non-library roles. They were originally housed in separate support departments for the school/college, but now are part of the combined units that are led by the libraries.

Added a librarian position to support new programs in the Research Commons. Significant numbers of staff and librarians participate in the management of the Active Learning Classrooms, including assessment, assignment, tech support.

Additional instructional responsibilities have been incorporated into staff and librarian positions.

Also an increase and reliance on student staff, especially at a higher skill set, i.e., graduate student “consultants.” Technologists/instructional support/statisticians are all coming on board and not in the traditional “support staff” mold.

Although we do not have any shared positions with external units, we have experienced a higher level of cooperation with external units. Also, we are in the early stages of developing an emerging technologies position for one of the libraries.

Among others, new positions have been added specifically in the area of instructional support, and these positions have responsibility for developing, assessing, and managing some library learning spaces.

As we offer more specialized technologies and programs in our learning spaces we find that we need to hire experts in these areas. They are not necessarily traditional library staff (librarians, archivists, curators, or support staff). We have a Coordinator for Visualization who holds a PhD in Human Computer Interaction, and a coordinator for our Media Commons who is an educational technologist.

Fine Arts: Librarians are embedded in departments and have teaching and office hours there.

In order to ensure that the librarians were proficient in the technology provided in the new learning space, we brought on a support staff to focus on library staff IT training for a year.

More student assistants, additional Circulation/Information Desk staff for additional hours

Our Facilities and Support Services staff are responsible for checking the group studies to wipe down the white-board walls. They also open and close walls in our technology classes.

Some new learning spaces are staffed in part by student employees.

Some OIT staff offices are located in the library and positions have direct responsibility for certain services in the library.

Staff have had to take on a small level of extra work in scheduling and configuring the class space and providing maintenance for laptop computers in preparation for the instruction sessions.

Staff person became responsible for security into the Honors study area. Circulation staff are responsible for group study room and equipment checkout.

This question implies a direct cause-and-effect. In many cases, learning spaces have evolved and jobs have evolved with them. In the case of the Media Commons and the Scholarly Commons, new positions were created to manage them; for some positions, we recruited from outside our organization, and for others, we filled from within.

To better support our spaces and provide services that students and faculty need, every position within our User Services department has been reviewed and revised. An increase in knowledge of technology—computer software, multimedia equipment, AV equipment and software—has been built into those positions that we have recently filled and staff trainings have increased so that all staff are comfortable assisting patrons. A greater percentage of time has

been allocated for space assessment in multiple jobs as we are recognizing the need for continual assessment of spaces so that the library is refreshing and revising itself to meet the changing needs of students and faculty.

We created a new support staff position in the library to support AV technology, and other support staff members have greatly increased responsibilities with AV support and room booking.

EFFECT OF LEARNING SPACES ON LIBRARY COLLECTIONS

7. Has there been a direct connection between the development of learning spaces within your library and changes to collection format or the arrangement of your library's physical collections?

N=72

Yes	70	97%
No	2	3%

If yes, please indicate the type(s) of collection changes that have resulted from the development of learning spaces. Check all that apply. N=70

Moved collections within the library	62	89%
Weeded collections	60	86%
Moved collections to off-site storage facility	50	71%
Influenced move to electronic over print collections	40	57%
Restructured access to collections within the library	35	50%
Started collections in new genres/areas	15	21%
Other collection change(s)	8	11%

Please briefly describe the other collection change(s). N=8

Added high-density storage (Automated Storage and Retrieval System). Majority of print reference collection moved into general collection.

Compacted collections.

Creation of a popular reading collection congruent to a lounge space

Fine Arts: Streaming materials to the Bar & Lounge.

Implemented delivery/pull and scan services for onsite collections for faculty and doctoral students only.

Library West moved the staging area for serials to another space in the building and converted the area into a tutoring center staffed by tutors from the Office of Academic Support and the University Writing Center.

Significant reduction to reference collection to make room for 1st floor study space. Collection was largely "liberated to stacks" and weeded/replaced with online resources.

We moved some collections to a new building and used the newly opened spaces for learning spaces.

Comments N=19

Additional shelving added and collections will be redistributed in the building.

Collection changes have both had a result on the development of learning spaces and resulted from the development of learning spaces.

Creating collaborative learning spaces has been so important to our School of Medicine that they have made space available for temporary off-site storage until long-term decisions can be made about retention and storage.

Digital Media Lab: To free space for the VizLounge (high-density data wall), we moved the laser disc collection to off-site storage, moved the DVD collection to a different floor, and we will move reservable equipment checkout to the Media Center desk (this equipment supports academic courses). Music: Book collections sent to storage from the Music Library to make space for a media:scape table for group presentations. Fine Arts: rare materials sent to the Special Collections library and the space repurposed to create a Materials Collection and makerspace.

Expansion/growth of new genres/areas re: collecting/curating/creating discovery mechanisms for data.

Gaming Lab pilot project will require collecting in new genres/areas.

In order to create space for expanding our collaborative and individual study areas we have moved portions of our collection to off-site storage. It should be noted that in our assessment with students, they do not want us to remove all of the books; they still like the feel of being surrounded by books and they note that it has the psychological effect of helping them focus on their work.

In the development of the learning spaces, we have been able to leverage the expertise of one of our librarians and have developed a very strong retrospective and contemporary game-based learning collection. We are also in a unique position to bring our primary resource collections together, including archival material, rare books, and art. Our past decision to prefer electronic over print collections supported our decision to move print collections to an off-site storage facility.

One example: We moved microforms to both internal and long-term retrieval storage to free up space for student learning space.

Opened an off-site storage facility in order to reduce print collection and accommodate more space for users (quiet study, commons areas, soft seating).

Our learning commons was built as an addition to our main library, and is accessible from each level of the main library. While we can't fully replicate the openness of the Learning Commons in our old building, we did decide to weed and relocate the general reference collection from an adjoining space in the old building so that when you looked across the space, there was a greater feeling of openness and more room for open group study tables.

Some collection weeding and potential move to off-site storage needed to happen at a faster time frame for remodeling needs than the libraries were able to find a proper location for the removed collection. The engineering library, in order to make room for one of the two WisCEL Centers, ended up boxing up thousands of volumes with no clear "home." They will eventually be either withdrawn or sent to an off-site storage facility, but policies were not fully in place and the storage facility is just now about to open. There are overall many discussions for future planning about the balance between collection space (expecting to have a smaller footprint) and learning space.

The cause-and-effect goes both ways. That is, the desire to repurpose space for users influences our decisions to move collections into high-density storage or replace them with electronic versions; and the availability of high-density storage and increasing amounts of digital content enable us to conceive of our spaces in new ways.

The conversion of many of our reference materials and journals to electronic format had been underway for years rendering much of the print collection redundant. The remaining reference materials are now housed on compact shelving, while the few unique incoming periodical titles are interfiled with the bound volumes on another floor.

The movement toward electronic over print collections for journals was well advanced already. But to create a new student commons space we moved 50,000 additional bound journals offsite, to enable the relocation of 70,000 monographs to remain within the building.

The Undergraduate Library holds very few physical volumes. Space formerly used for collections is now classrooms, new group study rooms, group study "spaces," and individual study spaces for learning.

We have begun to add "high-touch" collections to high-traffic areas, a graphic novels collection on group study floor, ESL readers in high-use area frequented by international students.

We prefer electronic periodicals and reference materials, unless electronic versions are not identical to the print or do not meet faculty and student needs. The reduction in printed periodicals and reference collections, especially, has paved the way for more flexible and active learning spaces, particularly on our main level. Also, some general collections have been moved to the off-site storage facility to lay the foundation for other new learning spaces to come in our library's future.

With external funding, we built a classroom specifically tailored to instruction with sound recordings; collections changes were determined also independent of physical spaces.

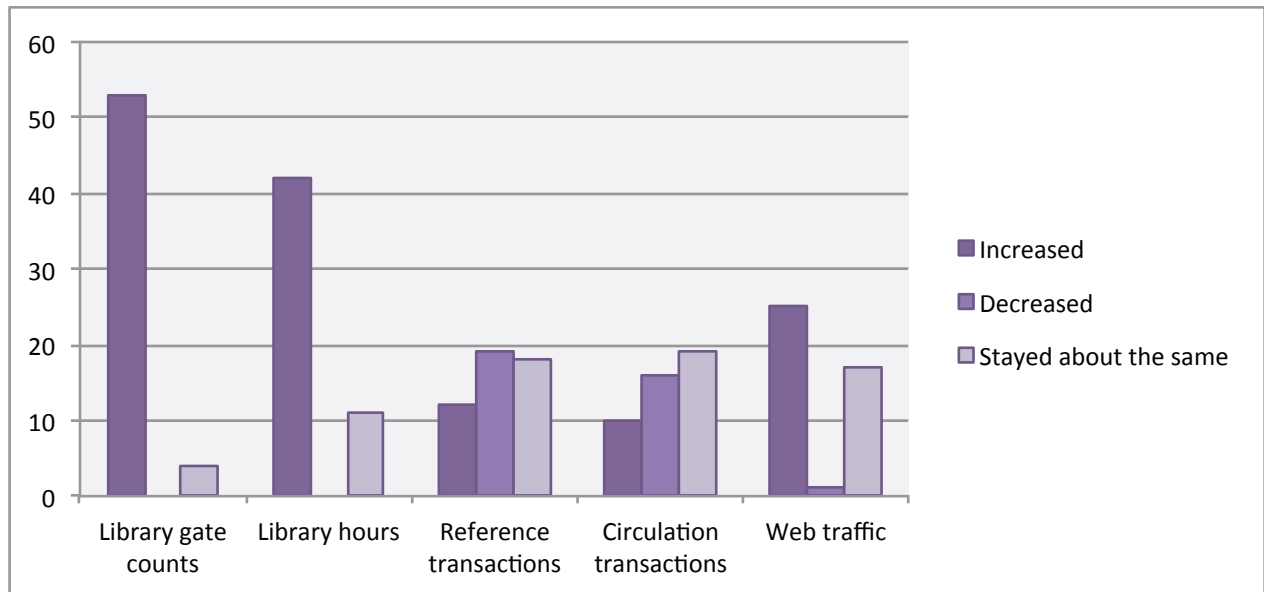
EFFECT OF LEARNING SPACES ON LIBRARY TRAFFIC/TRANSACTIONS

8. Has your library collected any data that indicates a direct connection between the availability of learning spaces and the volume of library traffic/transactions? N=71

Yes	59	83%
No	12	17%

If yes, please indicate how/whether the availability of learning spaces has affected the volume of library traffic/transactions. Please make one selection per row. N=59

Data Collected	Increased	Decreased	Stayed about the same	N
Library gate counts	53	0	4	57
Library hours	42	0	11	53
Reference transactions	12	19	18	49
Circulation transactions	10	16	19	45
Web traffic	25	1	17	43
Total Responses	58	27	35	59



Comments N=24

Answered Yes N=22

Both Music and Fine Arts libraries experienced increased gate counts with the opening of new refurbished spaces both within and around them. In general, we track all of this data, but have no way to connect it to learning space use other than in small branches.

Changes in the methods of data collection make historical comparisons difficult.

Disclaimer: We cannot say for sure that these specific changes are completely due to our new learning commons.

During the time period before and after the Student Multimedia Design Center opened, all activity increased.

Gate counts have risen steadily each year for a total increase of 63% between 2010 and 2013. We know our database and e-journal usage totals continue to rise and, due to our emphasis on e-book acquisition for new materials, our print circulation is dropping.

Gate counts increased dramatically in the year following our last major renovation in 2004. This renovation increased study/learning space for users.

General collection circulation decreased, technology equipment increased.

In the Engineering Library, data on the number of active wireless connections by floor indicates increased use since the opening of the Center for Academic Resources in Engineering, a tutoring and academic support service on the library's top floor. In the Undergraduate Library, we have made any number of changes to the facilities and services, so it would be simplistic to claim a "direct connection" between the availability of learning spaces and levels of use.

Library gate counts at selected branches increased after renovations to library learning spaces. This probably says more about the desirability of newly renovated spaces than about "the availability of learning spaces" in general.

Library space was offered to outside academic departments, on a permanent basis, so this has affected our gate counts. We will need more time to monitor further increases in counts.

Library West moved to 24/5 hours during the fall/spring semesters and after the remodeling of the Science Library this summer, they will also move to a 24/5 schedule during the fall/spring semesters.

Our gate counts have remained about the same. We now have three building entrances—two into the learning commons and one into the main library. We thought there might be a shift in which entrances were preferred by students, but the largest gate count remains at the main library entrance.

Our library gate counts have remained about the same but we find gate counts to be an incomplete indicator of space usage and have implemented the use of SUMA to help provide a more well-rounded picture of how fully occupied our spaces are. Our web traffic has significantly increased in terms of page visits for those pages that deal directly with providing information about our collaborative space and our presentation practice room. While our print circulation has decreased, the circulation of equipment and room keys for individual study rooms has seen an increase. Head counts during the late night hours prompted us to scale back our hours from closing at 2am to closing at midnight. We extend our hours to 2am during exams. We did extend our lobby hours and access to our collaboration lab to 24/5.

Reference transactions have been steadily declining for years. Moving from a traditional reference desk/circulation desk to a combined service desk with on-call reference providers did not change the pre-existing trends.

The addition of group study rooms in one building in 2007–2008 and the move to an online registration software significantly increased traffic in the library and room use.

The health sciences library is a 24/7 facility effective this spring semester.

The Undergraduate Library is now open 24/7 during the academic year.

Two research commons units have expanded service hours. Library hours expanded during final exam period. Print circulation transactions declined, e-resources usage continues to expand.

We don't know how to assign causality in the last four categories, but there may have been some affect.

We have several co-curricular and curricular collaborative spaces. We know the addition of a Math Emporium (computer-assisted math instruction targeted at remediation) has driven hundreds of students into the library.

We have some locations that provide new learning spaces exclusively, such as our Education Commons.

While reference transactions have decreased *dramatically* over time, instruction requests (provided by librarians) have greatly increased.

Answered No N=2

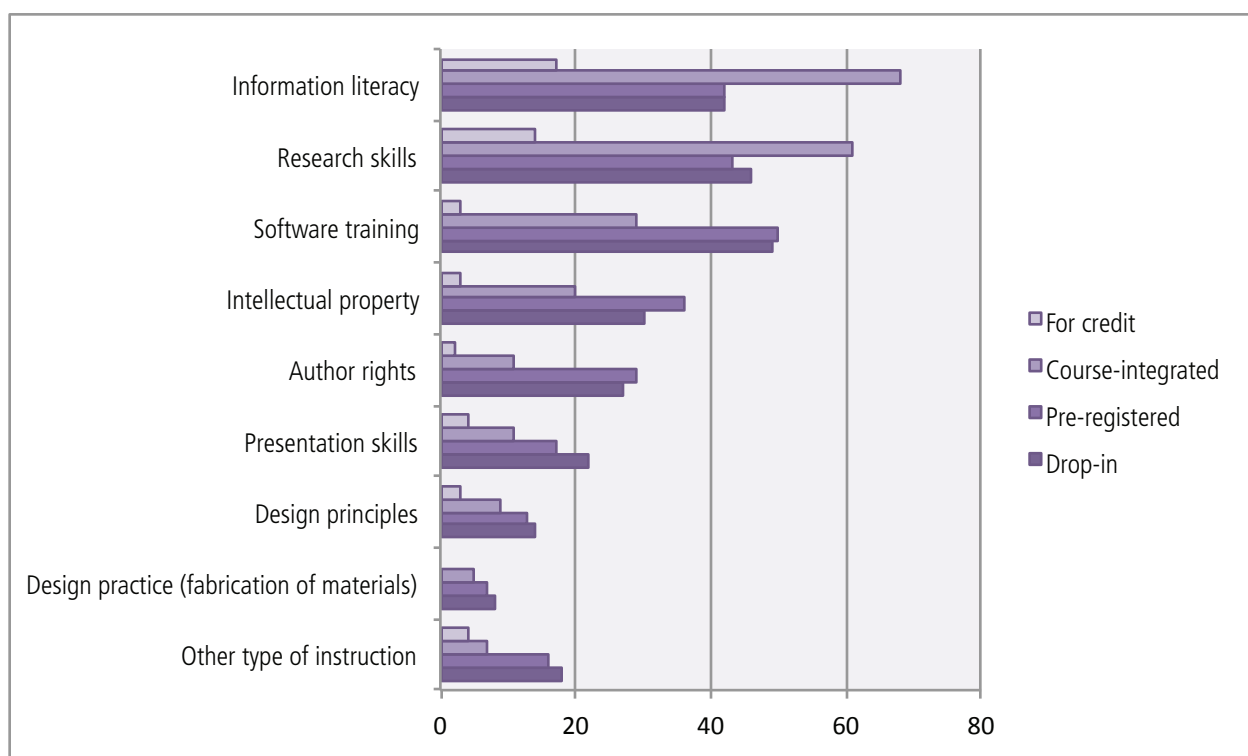
We are currently (during 2013–14) collecting a variety of data (gate counts, circulation/reference transactions, etc.) and will analyze it after the end of the year.

While the libraries collect these data, no specific efforts to link the data with the learning spaces has occurred.

INSTRUCTION

9. Please indicate the types of instruction offered in your learning spaces. Check all that apply. N=71

Type of Instruction	Drop-in	Pre-registered	Course-integrated	For credit	N
Information literacy	42	42	68	17	70
Research skills	46	43	61	14	69
Software training	49	50	29	3	61
Intellectual property	30	36	20	3	47
Author rights	27	29	11	2	42
Presentation skills	22	17	11	4	30
Design principles	14	13	9	3	20
Design practice (fabrication of materials)	8	7	5	0	12
Other type of instruction	18	16	7	4	24
Total Responses	63	64	70	26	71



If you selected "Other type of instruction" above, please briefly describe it. N=24

Citation management

Citation management tools, e.g., EndNote, Refworks; data manipulation; data visualization; survey design; video editing; web design

Data Visualization: instruction and support for our Data Visualization Studio

Data visualization skills

Digital Media

Digital Media Lab: Authoring content digitally (creating fliers, t-shirts logos, videos, virtual worlds, interactivity within spaces). Fine Arts: Museum docent training, visiting scholar training, streaming class and public seminars. Scholars' Lab: programming (coding), creating online archives, intro to WordPress, version control, data management for humanists; GIS and hands-on mapmaking; 3D modeling and printing.

Drop-in reference consultations, writing and academic success tutoring, business math

First Year Studies: study skills development and acculturation to the academy. This is not the same as taught in information literacy or research skills instruction.

For-credit courses from various departments use library spaces for course instruction.

Grant funding research skills (Research Commons). Orientation and best practices session for faculty teaching in the Active Learning Classrooms (Undergraduate Library).

Health Science Center Library offers NIH public access and medical terminology.

If a semester-long course taught by full-time faculty needs the pedagogical tools offered by our instruction spaces in the commons, we will let them book the room for a semester. For example, the introductory computational programming class taught in our mechanical engineering department uses one of the technology classes since it requires group problem-based learning. There is only one other room on campus that also allows this, but it only accommodates 25 students; our tech classroom seats up to 45 students.

Instruction about archives, rare books, and special collections

Instruction for GIS, statistical analysis, data visualization, research impact assessment

Our library liaisons provide intellectual property, author rights, and copyright assistance to their respective departments. We also offer drop-in sessions for research and data management.

Peer-to peer workshops on group projects, on good security practices, etc.

Research and Data Service management courses brought in Organization, Information & Learning Sciences (OILS) department and library grants degrees.

Software Carpentry and Wikipedia editing sessions are two examples.

The size, multiple libraries, and complexity of the university environment are hard to capture here. In general, traditional information literacy classrooms are widely available and provide both drop-in and course-integrated instruction. The "next-generation" learning spaces do not typically offer information literacy or research skills instruction, however software training (provided by campus IT) and intellectual property instruction (provided by libraries) are used heavily in the Media Studios classes. DesignLab offers design principles workshops and for-credit course. Copyright/fair use and author rights are taught in a variety of settings, including campus workshops for graduate students co-taught by libraries and campus legal services. The key "other type" of instruction is regular college courses (e.g., calculus, engineering, English) being taught in the Media Studios and WisCEL centers by faculty without direct library instructional involvement.

Video, multimedia, graphic design, advanced new media software, integration of technology into teaching and learning

We have general assignment courses that hold their entire semester-long course in our active learning spaces. We also have a large amount of course-related instruction as well as library-sponsored instruction.

Workshops and advice for graduate students completing their dissertation on formatting requirements and deadlines

Writing

Writing skills (drop-in help); Learning Skills (workshops); Career Services (workshops)

Additional Comment

More drop-in software/media training is forthcoming, along with possibly more makerspace-related instruction; the intellectual property classes marked here are for patents (if that’s applicable).

10. Please indicate whether the primary function of the learning spaces below is formal or informal instruction, or if the space is not typically used for instruction. For the purposes of this question, we define *formal instruction* to include any pre-scheduled classes, specialized workshops, planned educational series, or course-integrated instruction. Please make one choice per row. Select NA if your library does not have a particular type of space. N=70

Learning Space	Formal	Informal	Not typically used for instruction	NA	N
Open space with fixed computers and general software	4	30	34	1	69
Open group study space	2	20	46	1	69
Events space	27	12	22	8	69
Classroom with fixed computers and general software	64	1	0	4	69
Reservable group study rooms	1	14	42	11	68
Multimedia lab with multimedia software	13	28	10	16	67
Classroom with tables and chairs but no computers	51	2	3	11	67
Classroom with fixed computers and specialized software	48	5	0	14	67
Reservable presentation rehearsal rooms	2	12	29	23	66
Exhibit space	16	18	27	5	66
Visualization lab	4	3	0	58	65
Undergraduate Commons	3	14	12	36	65
Spaces restricted by discipline	4	1	2	58	65
Makerspace	1	5	1	58	65
Gaming lab	1	2	2	60	65
Faculty Commons	4	2	4	55	65
Hackerspace	1	0	0	63	64
Graduate Student Commons	2	4	14	43	63
Other type of learning space	8	6	5	36	55
Total Responses	70	60	60	64	70

If you selected “Other type of learning space” above, please briefly describe it. N=19

Formal N=6

Collaborativity

Creativity Studio: A flexible, "white box" space that can be easily reconfigured and transformed to support a variety of activities in many disciplines, with high-definition, 3D-capable projectors, movable and writable walls, a full theater lighting kit, and many interactive tools that can be configured for simulations and virtual environments.

Grad Exchange is used for formal instruction. "Media viewing" area is used for formal instruction w/laptops.

Our shared library/IT space is used for both formal instruction and informal (drop-in) workshops, but the balance is more formal instruction.

Service points and librarians' offices are often used for informal instruction.

TILE classroom - see above

Informal N=6

Booths and movable tables in the two Commons, new collaborative classroom with open porch area.

Digital Media Lab: Audio studio, video studio. Music Library: media:scape table in the stacks

General learning commons is available to all—undergrad, grad, and faculty.

Lecture hall is used for presentations and lectures to which students are invited or required to attend for class.

Our collaborative study area is one that is used for informal instruction. Our librarians have worked with faculty for specific course work that requires group work or active learning. Librarians have also taught class sessions for Design and Environmental Analysis students studying public learning spaces in our collaborative space explaining our assessment process and why specific pieces of furniture and technology were chosen over others.

We use our Learning Commons for formal and informal instruction. Not segregated by academic status.

Not typically used for instruction N=5

Family Friendly Study Center

GEOSET studios

Graduate Reading Room, not generally used for instructions save in the past a graduate student open house event.

Graduate study lounge

Honors Quiet Study

Comments N=10

A gaming lab is currently under development.

Because the main learning spaces that we consider "next generation" are designed specifically to meet both formal and informal learning (multipurpose, instructional, and general access study space) I would want to check BOTH boxes for the following: Open group study space (active learning labs in WisCEL are both open group and formal instruction spaces); Multimedia lab with multimedia software (Media Studios both formal, for-credit courses, and informal collaborative learning); DesignLab: both formal consultation by appointment and informal collaborative learning); Classroom with fixed computers, and Classroom with tables/no computers: WisCEL Centers designed with multiple learning spaces and variety of configurations, flexible by design, both formal and informal instruction occurs.

Many spaces are designed to support both formal and informal instruction. The primary purpose is multipurpose to serve both.

More types of media/technology/software instruction are forthcoming.

Most spaces that are currently unavailable are being planned for the Learning Commons, which will open in January 2015.

Unlike other areas, Fine Arts conducts formal instruction in their open group study space and reservable group study rooms, and informal instruction in their events and exhibits spaces and reservable presentation rehearsal room. Also, Scholars' Lab does formal instruction in their makerspace.

We use our spaces for a blend of both purposes.

We will be installing individual reservable study rooms.

While the classroom space does not have fixed computers, we have laptops available for any student who does not bring his/her own laptop. As the classroom furniture is reconfigurable, the space is occasionally also used for events.

While we do have group study rooms and presentation practice space(s), they are not on a reservation system.

11. Which of the following equipment and technologies are available in your learning spaces? Check all that apply. N=68

Microphone/voice projection tools	58	85%
Screen sharing software	44	65%
Document camera	41	60%
Recording & broadcasting technologies	41	60%
Clickers	39	57%
Smart boards	35	52%
Lecture capture software (e.g., Tegrity)	31	46%
Other equipment and technologies	31	46%

Please briefly describe the other equipment and technologies. N=31

3D Printers

Active Learning Classrooms: videoconferencing, shared monitors/instructor podia technology. Touchscreens (pixel sense), shared monitors (e.g., media:scape) in several commons.

Audio/visual file production software

Blu-Ray, DVD

Ceiling mounted document camera, web streaming and videoconferencing systems

Cell phones using Poll Everywhere, iPads

ClickShare in one room; computer, video/DVD, CD and projector in all rooms; turntable and keyboard in Music Seminar room; SMART Boards were available in the past, but have been removed.

Different spaces have different capabilities and we can adjust capabilities as well. For example, we can add clickers for a specific workshop.

GEOSET studios

GIS software, Adobe Photoshop

High-density data wall, immersive curvilinear (parabolic) display, multi-touch displays, Fine Arts' Video Art Niche

In the large active learning labs of the two WisCEL Centers, iPads used in conjunction with Apple TV allows for wireless projection of mobile device to all monitors in the room. Digital displays on tables in the engineering library indicate availability (e.g., reserved for scheduled instruction or open for informal learning). Note: Lecture capture is not available directly in library spaces, but rather is supported by library units in education and engineering. The libraries are responsible for providing the technical support of the lecture capture capabilities in classrooms for the School of Education and the College of Engineering.

Laptops (Mac/PC), iPads, tripods, headphones, flash drives, Kill-a-Watt meters, graphing calculators, laptop security systems, mice/trackballs, chargers, USB cables, digital still and video cameras

Laptops with specialized software, data projectors, flip charts, and whiteboards

Large moveable whiteboards

LCD screen, projectors, laptops

media:scape units; currently testing ClickShare; multimedia equipment (audiorecorders, digital camcorders, still cameras), Mac and PC laptops available for loan.

media:scape tables

Perceptive Pixel multi-touch display, Microsoft Surface table, motion-based gaming, 3D printing, poster printing

Scanners, printers

Scanners, large-format printers, multimedia editing stations

Screen sharing software is being installed in summer 2014.

Standard web software, screen, monitor

Student Multimedia Design Center equipment kits, hardware/software

Touchscreen, Scantron

Two media:scapes and four rooms with large monitors for laptop plug-in for group viewing/collaboration

Video and audio editing equipment and software

Video cameras, digital cameras, projector, laptops, adapters, digital recorders, digital readers, specialized software

Videoconferencing equipment, Stereoscopic 3D projector

Wi-Fi

WorkWare (Haworth), GPS units, Wacom stylus, Wacom tablet, Steelcase media:scapes, videoconferencing equipment, Sympodiums

12. Does your library recognize participant completion of any library classes or instructional series (e.g., with certificates, badges)? N=71

Yes	16	23%
No	55	77%

If yes, please briefly describe the type of recognition. N=13

Business Research 101 Certificate

Certificate

Certificate for "undergraduate research skills," which is a seven-part workshop series.

Certificate for pre-college

Certificates of completion for annual Open House event. Digital badges in recognition for discreet information literacy skills such as evaluating information, creating search strategies. Certificates for completion of a library tour are available upon request.

Certificates that can earn grades in certain courses.

Digital Literacy Fellows program for current juniors and seniors is a year-long exploration of new media and digital literacy.

Graduate Communication Certificate (in collaboration w/Communication Center and others).

OILS is a degree generating department within the College of University Libraries and Learning Sciences.

Students receive credit for classes taught by Fine Arts librarians.

The Libraries "Avoiding Plagiarism" workshops require an instructor to sign the student's completion, which the student takes back to the Dean of Students Office. Health Science Center Library awards certificate of attendance for medical terminology course.

We offer a certificate of completion for certain undergraduate instruction workshops.

We teach a credit-bearing course, UNIV190: Demystifying Library Research, as a part of the curriculum.

Additional Comments N=4

Not at this time; some consideration for the future.

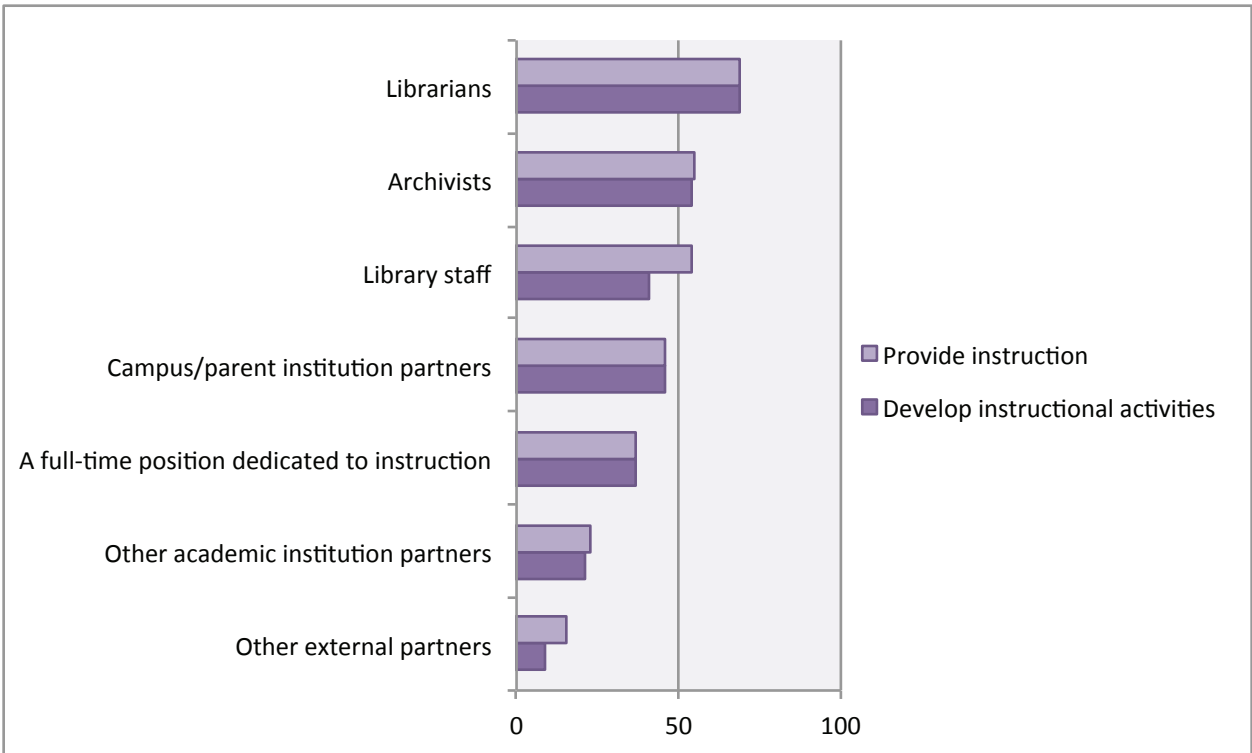
Not yet, but plan being developed.

Our library does not award its own badges or certificates, but we would facilitate whatever recognition methods collaborating faculty may use in course-integrated instruction.

We are in the process of developing a badge program.

13. Please indicate who is involved in developing/providing instructional activities for library learning spaces. Check all that apply. N=70

Staff Category	Develop instructional activities	Provide instruction	N
Librarians	69	69	69
Archivists	54	55	57
Library staff	41	54	56
Campus/parent institution partners	46	46	50
A full-time position dedicated to instruction	37	37	37
Other academic institution partners	21	23	25
Other external partners	9	15	15
Total Responses	70	70	70



PROGRAMMING

The specialized or flexible nature of learning spaces can create opportunities for libraries to engage their users with internal or external programming. For the purposes of this next set of questions, we define programming as activities or temporary installations planned by the library (alone or in partnership with other entities). Examples of programming include (but are not limited to) lectures, social events, museum-style exhibits, academic presentations, workshops, and interactive displays.

14. What kinds of programming take place in your library's learning spaces? Check all that apply. N=71

Lectures	69	97%
Exhibits	66	93%
Presentations of student work	63	89%
Hands-on workshops	63	89%
Social events	62	87%
Author talks	60	85%
Art installations	55	78%
Presentations of faculty research	54	76%
Film showings	43	61%
Presentations of research group findings	37	52%
Musical events	30	42%
Other type of programming	17	24%

Please briefly describe the other type of programming. N=17

Collaborating with Strangers (speed dating for researchers)

Conferences led by graduate students, departmental programming such as installation of named chairs, academic support orientations, administrative meetings (committees, etc.)

Conferences/seminars, Literary Festival

Cultural celebrations

Digital humanities programs

Donor functions (meetings as well as social and author events). Final exam activities that we have branded "De-Stress for Success." Educational information tables from groups and offices on campus.

Finals Study Break activities for students

Fine Arts: web conferences, streaming events. Scholars' Lab: discussion groups, design jams, THATCamp, conferences

Mini-seminars led by visiting scholars in special collections.

Occasional poetry reading

"Recognition of accomplishment" events

Research Commons: Collaborating with Strangers events, dissertation bootcamp, GIS Day. Scholars's Studio: Data Management Series, conferences

Slam poetry

Social networking events and book discussions

Special collections open house. Also, "technology petting zoo"-like event, allowing users to experience various technology tools with librarians and library partners there to engage and teach.

Undergraduate Research Fair, debates, teach-ins, special events/receptions

Vendor/professional society training and discussion sessions of specialized databases from IEEE, American Chemical Society, and Springer aimed at graduate students and faculty.

15. Please indicate how often library learning spaces are used for programming. Please make one selection per row. Select NA if your library does not have a particular type of space. N=71

Learning Spaces	Frequently	Occasionally	Rarely	Never	NA	N
Open group study space	5	28	20	12	4	69
Open space with fixed computers and general software	6	16	22	21	4	69
Classroom with fixed computers and general software	31	15	11	7	5	69
Exhibit space	35	22	8	1	3	69
Reservable group study rooms	3	7	15	34	11	69
Reservable individual study rooms	1	0	4	29	35	69
Reservable presentation rehearsal rooms	3	6	9	15	36	69
Open quiet study space	1	8	19	33	7	68
Gaming lab	1	3	1	1	62	68
Makerspace	2	2	2	1	61	68
Classroom with fixed computers and specialized software	26	14	9	8	11	68
Classroom with tables and chairs but no computers	36	20	4	0	8	68
Spaces restricted by discipline	1	4	1	2	60	68
Multimedia lab with multimedia software	5	12	18	11	21	67
Visualization lab	4	3	1	1	58	67
Hackerspace	1	0	0	0	66	67
Undergraduate Commons	5	11	10	3	38	67
Faculty Commons	1	5	2	1	58	67
Graduate Student Commons	1	6	4	7	48	66
Other type of learning space	4	1	3	1	34	43
Total Responses	59	62	58	59	67	71

If you selected “Other type of learning space” above, please briefly describe it. N=8

Frequently N=4

Our learning Commons is frequently used for programming. It is not segregated by academic status.

Research Commons is not restricted by type of patron but hosts all of the programming checked above.

Shared library/IT collaborative space

The Lecture Hall in our central library facility is equipped with minimal technologies—a laptop and projector with presentation capabilities are the only built-in A/V components of the room. However, we have been able to present interactive programming in this space. For example, this fall’s Eating Architecture Program, featured speakers that

addressed the ways in which environments for the preparation, production, and consumption of food both reflect and affect those processes. Individuals who planned to attend the program were asked to post a picture of themselves eating on campus to a dedicated social media site. After a more formal presentation, the speakers did a spontaneous, onsite analysis of the pictures posted to social media. All programs are developed and coordinated by the Libraries' manager for library communications and public programming.

Occasionally N=1

Booths and movable tables

Rarely N=3

Family Friendly Study Center

Graduate reading room

Honors Quiet Study

Comments N=3

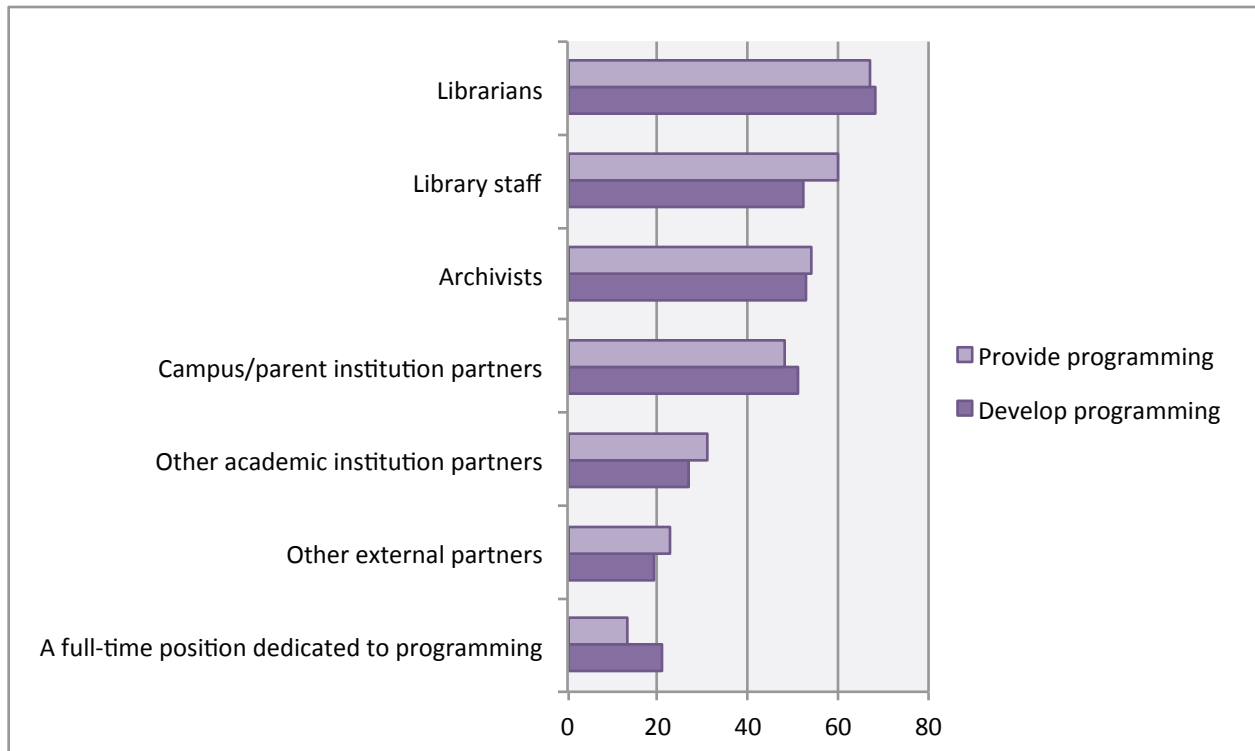
Art installations/exhibits, author talks and lectures happen throughout the library, but not in the IDEA Commons.

One open quiet study space is used for programming due to its south-facing location and view. Programming is minimal and is scheduled around user needs to keep disruption to a minimum.

Some traditional learning spaces are used for programming. Exhibit space is available in a variety of libraries and the function of exhibit programming is available across campus, but not explicitly part of "next-generation" learning spaces. The undergraduate library has a lot of informal exhibition of student work throughout the library, but no formal gallery or exhibition program.

16. Please indicate who is involved in developing/providing programming for library learning spaces. Check all that apply. N=70

Staff Category	Develop programming	Provide programming	N
Librarians	68	67	69
Library staff	52	60	62
Archivists	53	54	56
Campus/parent institution partners	51	48	53
Other academic institution partners	27	31	32
Other external partners	19	23	25
A full-time position dedicated to programming	21	13	21
Total Responses	69	69	70



17. Please identify one learning space and briefly describe an example of programming that takes place there and the staff responsible for that programming, particularly one that you think has moved the space in the direction of being Next-Gen. N=42

A main floor lounge that is highly visible has some great display space that is regularly used to highlight student work.

An anniversary lecture series is held in an open space in the health sciences library. Librarians and staff are responsible.

Digital Scholarship Lab: Staff responsible includes DSL Coordinator, Communications & Public Programs Specialist, and often a librarian liaison involved in the project or subject area.

Digital Media Lab: The Media Center, which includes many new media technologies, hosts a campus-wide showcase of innovative teaching methods on an annual basis. The programming efforts are led by the head of the Digital Media Lab. Fine Arts both develops and provides programming with other academic institution and develops programming with other external partners (local arts groups).

FIREtalks are a series of interdisciplinary forums run by graduate students for graduate students. They allow graduate students in the academic community to collaborate, network, and explore ideas beyond conventional disciplinary boundaries. Talks consist of a series of "rapid-fire" presentations followed by short discussions and topics have included: Tools of the Trade, Community and Communication, Frameworks of Power, Creativity and Innovation, Learning Machines, Indigenizing the Academy, Communicating to Multiple Audiences, Mixed Methodologies, Care and Healing, Applied Academia, and Ethics and Dissemination.

Graduate Student Mixer, Modern Language Conversation Tables

Group tutoring/One-on-one tutoring takes place in the Tutoring Center. When more than one student appears or schedules to come in for tutoring in a single subject, the tutor goes in to the open area and sets all students up at a

media:scape which displays computer screens to the entire group. Frosted glass walls are near some media:scapes where formulas can be written over a large space.

GIS Day: event held in open group study space adjacent to Data Services and located in Research Commons is dedicated to GIS presentations/demonstrations/exhibits. Open Access Day/promotion: events held in Media Viewing area and Graduate Exchange to promote Open Access awareness/opportunities.

Honors College book discussion in which they broke into small groups to discuss a book is the responsibility of Library Learning Services.

In our exhibits/events space, we have quarterly presentations by campus faculty who discuss a research project. These are open events. We have an event coordinator and a lecture series coordinator who are responsible for most of the programming and logistics, however, librarians frequently make the initial connections.

In our open group study space & the nearby exhibit space in the performing arts library we recently hosted an exhibit on Handel. A local collector provided materials we featured, we digitized a Handel score we own in our special collections, and the baroque group on campus performed the piece in the library as part of the opening of the exhibit.

In the Teaching Commons (faculty space), the libraries, information technology, and the Center for Teaching & Faculty Development collaborate to facilitate shared programming on a range of topics in teaching & learning.

iPearl Immersion Theater: This area features a large, curved video display wall that surrounds the viewer with imagery and sound. The Digital Media Librarian, collaborating with the Digital Library Initiatives department, External Relations, and the Special Collections Research Center, created a participatory digital service designed to encourage visitors to document their library experience using the social media platform Instagram. Images from this crowdsourced documentation effort will be selected to become part of the library's permanent digital collections, allowing the community to contribute to the historical record of the library through image submission as well as the use of voting tools. These images are showcased in the iPearl Immersion Theater. This space also supports user-directed display of and interaction with research and curricular content from all disciplines.

Large multipurpose, multifunctional room that offers capacity to hold lectures, show films, combine with other spaces for breakout areas: staff member does outreach with campus departments and the campus events office to bring events to this space and publicize events campus-wide.

Learning Commons with WriteFest writing workshop programming by the Writing Center for graduate students.

Maker Faire-type activities and events have been held over the past year or so (informal Maker Mondays and two more formal Maker Faires), which have been well received. Interested librarians and staff coordinate these events, though none are specifically assigned to do so.

One large study area, called the "Browsing Room," is occasionally used for many different types of programming. For example, it has been used to provide hands-on workshops for teachers, showing them ways to incorporate audio (oral histories, music, etc.) and archival photographs with classroom instruction. This involved multimedia presentation and interactive learning.

One open study space is used for "Sci Pop" presentations. University faculty present interesting topics that are coordinated by librarians and outreach staff.

Open group or individual study space located within exhibits area where regular programming takes place.

Our special collections and archives staff has worked with students on pop-up exhibits that are mounted for short periods in the special collections research center. These are based on work that students may be doing for a class or for a particular event on campus, i.e., Black History Month or homecoming.

Research Commons, Scholars' Studio: juried lightning talks by graduate students presented to live audience, which provides feedback. Staff responsible: Research Commons librarians and staff from Graduate School.

Several thousand people attend workshops each year at the Information Commons. Topics include video, presentation software, animation, graphic and web design, and integration of technology into teaching and learning. The staff and graduate student interns have substantial expertise in new media production and the space also attracts a large number of guest presenters from faculty, staff, and students (undergraduate and graduate) from around campus.

Students gave presentations and exhibited posters of their research done using GIS in the GIS lab.

The Digital Salon exhibition of student digital media works is held annually in the undergraduate library (and online) and is supported in partnership with the DesignLab. Student work is projected and run on monitors for a week in the cafe space in the library, as well as on a monitor throughout the year in the DesignLab space. Some of the work has been quite experimental and includes art installation. Librarians, library IT professionals, and DesignLab staff work together to collect submissions, curate, and install exhibition.

The exhibit spaces in the Central Library in addition to having traditional exhibit cases have interactive touch-screen monitors. The programming on the touch screens are customized to the theme/topic of the cases in the area, providing further information/details about case contents, or supplementary information; both textual, graphic, and video. There have been instances when patron(s) have spent over an hour in one section of the exhibit, exploring all of the interactive content.

The Gallery is meant to be a gathering place for the enrichment of the intellectual, educational, and cultural life of the campus and the larger community. The library aspires to: showcase and interpret the library's rich collections, promote their scholarly use, and use collections to facilitate scholarship and storytelling; support the library's role as an intellectual center of the university; foster relationships between the library and faculty, students, alumni, staff, and the state and local community.

The Health Science Center Library's open collaboration space hosted a Harry Potter exhibit and opening event with science demonstrations (magic), costume contest, wand making, and trivia contest.

The high-tech classroom in the Center for Digital Scholarship is used regularly for GIS training and for a credit-bearing GIS class.

The International & Area Studies Library, which opened in summer 2011, located within the Main Library building, has offered cultural programs such as musical performances and lectures by foreign dignitaries in its reading room.

The lab with fixed computers and specialized software served as the site for a geographic information systems-focused, interactive workshop. The GIS librarian planned and led the workshop. Participants collected data using a GPS device and took it into the lab to clean it, add it, and edit it using an open source and open access mapping system.

The classrooms incorporate media into instruction activities, for example (historic) sound recordings. Librarians and faculty both use spaces for teaching that actively use these materials.

The Public Services department has invited multiple faculty to participate in research panels in library commons.

The Science & Engineering Library hosted a session wherein a Springer materials sciences representative engaged in a lively question and answer discussion with Department of Chemical & Materials Sciences faculty and graduate students on the research applications of Springer's materials database.

The student club needed a gallery space, so the library included one in its renovation. The space is managed by an Exhibits Specialist who is also responsible for the other library exhibit spaces. Faculty also use the space to display class projects and occasionally their own work.

This example occurred in a number of learning spaces throughout the library. To mark 20 years of democracy in South Africa, the library created an exhibit composed of materials from the Library of African Studies that incorporated a number of multimedia elements.

Undergraduate Commons: Staff supervise a 3D scanning and 3D printing operation.

Undergraduate work study students designed topical installation featured throughout commons supervised by librarian responsible for undergraduate engagement with the libraries.

We did a series of workshops in our library/IT collaborative space over our spring break for graduate students (who often are working in the library during the break). The workshops involved both librarians and IT staff.

We have a new Multipurpose Room that is dedicated to faculty/library events. We host student work displays, course exhibits, workshops, and campus meetings. A newly appointment Outreach Support Specialist manages much of the programming and event planning, working with students and faculty to put together interesting displays and events.

We host an express workshop series in our Learning Commons. These are a series of short workshops (20–30 minutes) on a variety of topics. ITS staff and librarians work together to plan and implement the workshops. We make sure there is a mix of library workshops and workshops led by campus partners (writing center, financial aid, etc.)

We partner with our Student Success Centre to offer learner support for academic writing and academic success. We are focusing on the holistic needs of learners rather than parceling out our support based on our normal responsibilities. In addition, we are embedding our staff in a variety of nonacademic units where learners from diverse backgrounds may gather rather than coming into the library.

We partner with the Teaching & Learning Center on campus to offer open discussions over the lunch hour called “Uncommon Learning.” Faculty present innovative teaching practices in a room that is multipurpose—study, prevention, events, etc. it does not contain technology, but presentation technologies can be brought into the room. It also allows easy access for catering. It is a welcoming space that encourages community.

COLLABORATION

18. Has your library collaborated with any campus/parent institution departments or external organizations to create (or modify) library learning spaces? N=70

Yes	60	86%
No	10	14%

If yes, please identify the specific collaborator and briefly describe the nature of the partnership.
N=60

Other campus/parent institution department N=58

Academic advancement, writing center

Academic Computing and Communications Center provides IT support in Commons.

Campus OIT and Center for Teaching and Learning helped develop the Center for Digital Scholarship.

Campus Information Technology operates a High End Multimedia Computer Learning Space in the Library Information Commons.

Campus-wide committee formed in 2011 to reconsider the Undergraduate Library. Representation from all over campus.

Center for Computation and Visualization (department on campus); collaboration on design and specs for space and technology

Center for Excellence in Learning and Teaching is renovating space to aid instructors to create blended learning products.

Center for Teaching & Faculty Development, Information Technologies are both close collaborators for most all learning spaces in library.

CITES (campus academic computing services) to develop and staff the Media Commons. College of Engineering to develop and staff the Center for Academic Resources in Engineering.

College of Arts & Sciences created Math Emporium.

College of Science: SCALE-UP classroom (classroom + study space and events)

Cornell IT is transforming traditional computer lab into a collaboration center.

Departments/schools, programs such as Center for Entrepreneurship, etc.

Digital Humanities

Direction des immeubles collaborates in the execution of the projects.

Examples: Student Government Association for funding & space planning; Reading Writing Center space integrated into a library learning commons.

Facilities, Learning Technologies, Learning Assistance, University HR, student groups

Faculty of Graduate studies on future spaces for graduate students

Food Science Department & University Dining for Hill of Beans and Common Grounds coffee bars; Digital Games Research Center for the Game Lab

Freshman enrolled in Design Thinking and Communication (DTC), a course required of all entering students in the School of Engineering, assisted in the design of our student collaboration commons.

In the library, the math department created the Math Learning Success Center, which consists of tutoring space, study space, and fixed computers with specialized software.

Information Technology: multimedia support, lab support. Writing Center: writing support.

Information Technology Services (ITS), Office of Disability Services (ODS), Math Center, Writing Center

Institute for Teaching and Learning to develop a shared classroom space within the library.

iSci Program: library instruction program and academic program share classroom housed in library.

IT and Instructional Design both collaborated with the library to create co-located services within the library.

IT, Facilities management & space planning

ITS to co-develop two services/centers: Data Services, Digital Studio. Spaces, services co-developed, jointly run, jointly staffed.

Learning Support Services & Math Department planned new collaborative spaces that are flexible and adaptable to a variety of activities.

Multiple cross-departmental instructional initiatives (WisCEL, Media Studios, DesignLab)

Music Industry faculty assisted with the design of the Audio Archive classroom. Campus Planning Design and Construction (CPDC): space planning. Information Technology and Services Department: Expansion of wireless network across all public spaces. Tutoring: outlet & port, satellite desk.

Office of Academic Support, University Writing Center, Center for Safety, Simulation & Advanced Learning Technologies

Office of the Provost, Office of the President for the Education Commons that opened in 2011.

Office of the Provost (College is a direct report), Office of the President, College of Arts and Sciences

Office of the Provost: 1) Telepresence room; 2) Planned transformation of library floor into site for enriched student advising (courses, academic success, critical thinking, research skills, etc.) Arts Council: helped fund the video studio. Vice Provost for the Arts: creation of the Video Niche to fill a need for video art presentation.

OIT: guidance on technology

OIT, Writing and Design Courses

Our school of the arts (specifically the music program) partnered with us to expand our multimedia classroom and lab space.

Partnered with campus' Student/Parent Wellness Program to develop Child-Friendly Group Study Room in library for student-parents accompanied by young children.

Provost Office: funding for renovation of learning spaces through competitive General Fund Equipment awards.

Provost's Office: worked together to design and build a learning commons in our Main Library.

Research & Writing Center collaboration with Humanities. Creativity, Innovation & Design space collaboration with a multidisciplinary learning group from the Faculty Center.

Research Computing Center, Information Technology Services: in both cases, the library provided space for staff and services for these units, and relevant library staff are in partnership with the appropriate staffs.

Student Government Association: financial, advisory. School of Medicine: financial, shared planning and decision-making. Undergraduate Affairs: financial, shared planning and decision-making.

Student Services, Information Services & Technology were involved in the development of a plan and the design of the learning space.

Student Success Center

The University Writing Center. Undergraduate and Graduate Writing Centers have opened in the library and work directly with librarians and staff. Partnerships include Dissertation Boot Camp and use of the Espresso Book Machine.

Student Accessibility Services is developing a learner space in support of our learners with accessibility issues (print, audio, ergonomic).

University Architects office

University Information Technology

University Information Technology study informed the creation of the Research Commons & provided input on technology.

University ITS

University Writing Center for planning collaborative study spaces, classrooms & offices to support student learning.

University Writing Centre

University Writing Program (UWP)

Writing Center

Writing Center, Tutoring, Math department, Orientation and Enrollment

Writing Centre Learning Skills Services and Campus Services and Business Operations partnered in planning and design of the Learning Commons.

Other academic institution N=7

Facilities Division: funding from competitive repair and renovation funding

Information Technology Services worked together to design and build a learning commons in our Main Library.

Institute for Creativity in the Arts: pre-construction phase

Allow Instructional Advancement Center, now called Academic Technology, to use space in the library. We also allow the Writing Center to have drop-in sessions for students in the library as well.

RENCI (Renaissance Computing Institute) for visualization studio

School of Arts and Sciences and Office of the Provost for the Information Commons, opened in 2006.

Tufts University (for Digital Media Lab): site visits, sharing of job descriptions, conversations

Other external organization N=11

Banneker Academic High School (Community partnership)

BMO Financial Group, Cardinal Capital Manitoba Inc., Great West Life Assurance, Investors Group, Richardson Foundation

Carver Trust paid for and approved design of two classrooms.

Herman Miller: To develop learning spaces based on research on student life habits

Herman Miller, Steelcase, DeKalb office solutions: guidance for furniture and set up

LIBROS Consortium

Naval Training Command for NROTC Marine Skills Simulator in creativity studio.

Paid architectural firms to help design the spaces.

We got a state grant to add a makerspace (3D printing and scanning) to the multimedia lab.

We worked with outside vendors to design two recently renovated areas of the library.

Writing Center: English department. Communications Lab: communications department.

19. If you indicated previously that your library collaborates with any campus/parent institution departments or external organizations to develop/provide *instructional activities* in library learning spaces, please identify the specific collaborator and briefly explain the type of instructional activity that was developed/provided. N=50

Other campus/parent institution department N=48

A number of non-library departments cooperate with the library to deliver workshops in the Savvy Researcher series, which is jointly sponsored by the library's Scholarly Commons and the Graduate College. Partners for workshop instruction include the Survey Research Center and the College of Liberal Arts and Sciences.

Academic Learning Services collaborates with librarians to provide writing and research skills support to students.

Academic Skills Office: study skills, peer tutoring. School of Graduate Studies: ESL workshops.

Academic Success Center: drop in and scheduled math and science tutoring

Academic Technologies, Center for Teaching and Learning, Writing Center

Arts & Sciences Writing Program: expectation that 80+ instructors work with designated librarians to introduce students to library research; instruction varies tailored to each course.

Campus Foundation: how to use Foundation Center and other non-governmental tools and sources.

Career Services, Writing Department, Learning Skills Services for workshops

Center for Teaching & Faculty Development, Information Technologies, several academic departments: co-instruction and collaboration in curriculum development for instruction within these spaces.

College of Arts & Sciences: freshman cohorts program that includes library "research readiness" workshop for all 1,500 CAS freshmen. Students were divided into teams and undertook "research" missions throughout the library, captured their findings with their Smartphone cameras, and presented their discoveries to the group. Graduate School of Arts Sciences: Dissertation Boot Camps. HEOP: orientation/training. Student Resource Center: time management, presentation skills programming. Student Wellness: for relaxation techniques.

Digital Humanities, Information Studies

First year programs: library orientation

Full-time faculty may teach semester-long classes in our instruction spaces if their pedagogical techniques warrant it.

Graduate School for ETD workshops. Writing Center for consultations.

Graduate School collaborated on workshops for grad students on research skills, academic resume, graduate student success.

Information Technology: multimedia instruction

Information Technology Services: technology training. Academic departments: teach specific classes or semester-long courses. Arts Council: grants for the transformation of the Bar & Lounge, Music Library spaces.

Institute for Social and Economic Research provides workshops and onsite assistance with statistical software.

Library currently developing space and programing to create a Student Multimedia Writing Center with the Writing Center and the Student Multimedia Writing Center.

Library West collaborated with the Office of Academic Support and the University Writing Center to provide a combined tutoring center space within Library West.

Math Center: math tutors. Writing Center: writing tutors.

Math department to provide business math instruction for students in the School of Business

Math Learning Lab (Math MaLL)

Office of Academic Integrity for providing plagiarism prevention courses and training

Office of Instruction and Assessment

Office of Undergraduate Research: instruction on library research. Graduate School: offer classes to prepare future faculty.

OIT, Academic Technology Consultants, Career Services Counseling, and Psychology Services, Advisors

Research & Writing Center; Creativity, Innovation & Design space

Rhetoric Department: all course related instruction

School of Arts and Sciences: annual research resources forum for entering graduate students held in a number of library learning spaces.

Science & Engineering Library has partnered with the Chemistry Department to integrate information literacy instruction into chemistry classes beginning at the freshman level; many of these sessions take place in the S&E classroom. The Libraries partner with the Writing Program to provide information literacy instruction at the 140 and 340 level classes, some of which occasionally take place in the S&E.

Setting-up wireless, providing workshops on the CMS, other general software and tech instruction

Several professors also integrate searching skills in their courses. These hands-on workshops often take place in the learning spaces of the library. The professor will often help to pinpoint the specific skills to develop in students. Student services (Services aux étudiants): courses in photography, creative writing, introduction to the profession of media researcher, etc.

Student Success Centre developed discipline-specific programs on supporting research and writing in History, Engineering, and for other academic disciplines.

Tea Time Tech Talks, workshops, classes, tutoring, luncheons

The library has worked with the English and History departments to provide workshops. The Oral History Research Program has worked with the Alumni Association to provide classes for Grandparent University.

Undergraduate Affairs: Digital Media Suite software instruction

Undergraduate Studies department, Undergraduate Research department, IT

University Writing Center: graduate student research boot camps, undergraduate mid-term madness research assistance

University Writing Program provides classroom instructions.

We collaborated with IT Services to provide a week-long series of workshops for graduate students.

We've worked with the Center for Social Research on data management training and the Center for Teaching and Learning on programs to help instructors incorporate media-rich assignments into their classes.

With the writing center, the library collaborates on an event called the "Write-in" staffed by writing tutors and librarians. Students attend and consult with writing tutors and librarians to get help at any stage of research or writing. We plan research classes in conjunction with class faculty. We host classes, and we collaborate with the humanities' digital efforts on campus to develop instructional activities.

Writing & Communication Program

Writing Center: librarians and Writing Center tutors jointly staff Research Rescue Drop-In sessions that help students with their research and writing.

Writing Center and Quantitative Tutoring Center to perform General Education tutoring.

Writing Center: WriteFest writing workshop for graduate students

Writing Center, Public Speaking Center, Tutoring Center, Office of Student Disabilities, Office of Learning Resources and Career Services: monthly meetings are held to maintain a strong partnership with all entities.

Other academic institution N= 6

Faculty Development Programs

Local high schools

Mohawk College: 2 plus 2 college to university program to teach research skills

Pratt Institute: User Experience seminar/internships; LIU Palmer School: NYU Dual Degree Program mentoring, boot camp, instruction

SCAD (Savannah College of Art and Design): printmaking workshops

University of Rhode Island for development of UNIV 190L

Other external organization N=7

Affiliated hospital libraries for library instruction.

Apple authorized training

Florida Department of Law Enforcement: Research for Leadership Program for Officers.

Librarian and history teachers from Banneker High School had students use open space with computers for research projects.

Library hosted Society of American Archivists Digital Archives Specialist classes.

Straw Hat Press: bookmaking and printmaking

Vendors have visited to provide training on their products.

20. If you indicated previously that your library collaborates with any campus/parent institution departments or external organizations to develop/provide *programming* in library learning spaces, please identify the specific collaborator and briefly explain the type of programming that was developed/provided. N=44

Other campus/parent institution department N=40

Academic departments

Academic departments, centers, and units work with librarians and archivists on lecture, symposia, and presentations.

Academic Learning Services collaborates in a "Long Night Against Procrastination" event (library open through the night and offering research and writing support) twice a year.

Blackboard workshops for faculty

Center for Global Engagement on discussions and lectures on special topics, Center for Humanities and Society on lectures on a variety of topics

Center for Social Research: data management planning

Center for Teaching & Faculty Development, Information Technologies, several academic departments: for speakers, exhibits, installations and other events we frequently partner with many campus entities.

Center for Teaching Excellence, Office of Assessment, and other campus groups provide joint programs, workshops, guest speakers, events, etc.

Collaborate with campus art gallery on exhibits in library spaces.

College of Arts & Sciences departments of English & African American Studies: collaboration between faculty in these departments and librarians linking course integrated student use of special collections research center sources and culminating in a student-centered Undergraduate Research Conference, taking place within library spaces and open to the full campus community and the public. Art faculty collaborating with Learning Commons on exhibits of student art, as part of their course assignments. Museum Studies exhibits intern working with Special Collections on exhibits.

College of Arts & Sciences Honors Program reception, TISCH School of the Arts MIAP panels

College of Geoscience works with Libraries to host GIS Day events/Open House at the Libraries.

Department of Student Affairs: April 16th art exhibit

DesignLab: partnership for Digital Salon exhibition (cross-departmental initiative sponsors DesignLab)

Development

Discover Auburn Lecture Series is co-sponsored by the AU Libraries, Carolyn Marshall Draughon Center for the Arts and Humanities, and the AU Bookstore.

Digital Media Lab: HackVirginia with Student Group, Teaching Fair with Learning Management Group. Fine Arts: School of Architecture on transformation of space for the Materials Collection.

Faculties around campus such as Health, Liberal Arts, and Professional Studies. Computer Science Faculty of Science for hackfest, debates, teach-ins, research celebrations, and other one-off events such as Open Access Week, Undergraduate Research Fair. Vice President Research Office for research celebrations, Undergraduate Research Fair. VP Research for a promotional booth. Organized research units on campus and faculties for various art or other exhibits.

Faculty lectures, faculty as co-curators of exhibits

Faculty of arts and sciences: presentation of findings of research groups. Faculty of education: series of lectures on children book writers and illustrators, etc.

First Year Experience uses a recently renovated library reading room for orientation activities. Program includes introduction to the libraries as well as other academic support services.

First Year Initiatives: Night in the Library event as part of first week orientation

Health Science Center Library partnered with the Center for Safety, Simulation & Advanced Learning Technologies to add a touch-activated game simulation in our collaboration commons. Health Science Center Library has collaborated on the Panama Canal Exhibit and events.

Information Technology: programs highlighting available technologies

ITS: integrated technology, multimedia and audio/visual services within the Libraries

Lectures, programming, rapid prototyping with Digital Humanities and Information Studies

Other units offer consulting services (e.g., on statistical analysis and survey design) within our Scholarly Commons. The Rare Book & Manuscript Library partners with many university and external organizations to provide lectures, receptions, etc. in the RBML. The Sousa Archives and Center for American Music partners with community organizations on educational and cultural programming, both in their own space and in community venues, including K–12 schools.

Provost, Research & Sponsored Programs, Undergraduate Studies: Undergraduate Research Symposium

School of Engineering and the Department of Chemistry

School of Industrial Design: design studio

Strengthening the Professoriate (NSF funded program) created data management plan training with the library.

Study abroad program: Friday afternoon orientations

The library regularly collaborates with the English and History Departments, and also has collaborated with Strategic Communications Department, Office of Multicultural Affairs, and Research and Technology Office to provide programming. Programs have included musical events, exhibits, film showings, author talks, lectures, book talks, symposia, and workshops. The library also regularly collaborates with the local chapter of Sigma Xi Scientific Research Society to offer Science Cafe, a monthly event in which scientists present their research in an informal and engaging way.

Undergraduate Studies department, Undergraduate Research department, IT, Orientation

University IT: software and technology workshops. Graduate School: Scholars' Studio.

Various academic departments such as English, Film Studies, Engineering, Computer Science, Architecture, Education

We collaborate with Academic & Research Technologies (A&RT), a department of University Information Technology, to provide programming on popular presentation software in our Information Commons.

We collaborate with IT Service to provide orientation programming for entering first-years, as one example of our activities.

Writing Center: provides drop-in assistance writing research papers.

Writing Center, Public Speaking Center, Tutoring Center, Office of Student Disabilities, Office of Learning Resources, and Career Services: monthly meetings are held to maintain a strong partnership with all entities.

Other academic institution N= 6

A Center located in the library has worked with an HBCU, to bring in one of their former deans to speak on the institution's history and importance to overall state development.

California Digital Library (CDL)

Emory Digital Humanities

Information Technology Services: we work together to create a series of express workshops for undergraduate students that cover a wide variety of academic topics.

Many traveling exhibitions or conferences (in traditional exhibit/learning spaces, not next-gen)

Research Data services: telepresence, Data Boot Camp

Other external organization N=15

A number of librarians have worked with external partners including the public library, local and state museums, and national archives. Programming has included lectures, exhibits, public presentations, art installations, and musical events.

American Chemical Society and IEEE

American Library Association: Lincoln exhibit

Artists exhibiting work in the library.

Book editor Flammarion: exhibit on the history of the editor, etc.

Galleries, social movement groups, local organizations on development and facilitation of programming

Health Science Center Library has collaborated with Cade Museum of Innovation and Invention for Harry Potter science demonstrations.

Many traveling exhibitions or conferences (in traditional exhibit/learning spaces, not next-gen)

Open Minds/University School Week: work with the University School Week Program as well as individual K–12 schools to develop curriculum based programming for their University School Week Visit. This is normally a two-hour program tailored for each school (12–15 per year).

Our state library consortium hosts colloquia, lectures, and presentations in our space.

THATCamp Research Triangle Park

Training and Support for consortium

United Way Tax Outreach

VecNet (Vector-Borne Disease Network): institutional repository collaboration

We collaborated with external partners to plan and deliver MoneySmart Week programming in our library.

21. Has your library collaborated with any campus/parent institution departments or external organizations to develop/provide any other services in library learning spaces? N=60

Yes	36	60%
No	24	40%

If yes, please identify the specific collaborator and briefly explain the type of service that was developed/provided. N=30

Other campus/parent institution department N=28

- Associated Students: supplies vending in library
- John Crerar Library: biannual research symposium
- Blackboard support
- Campus writing program: on-call research assistance during writing consultation sessions
- Center for Teaching and Learning: training for creating media rich assignments
- Center for the Enhancement of Teaching & Learning: Graduate Communication Center
- Department of Art: thesis defenses, faculty interviews using Skype
- DesignLab: a "writing center" for digital media is a cross-campus/department collaboration.
- English and Engineering departments
- Film lectures, speakers series, etc.
- Husky Tech to perform technology help on student devices
- Information Technology: share Info Desk, formerly staffed only by librarians and library staff
- Instructional Teaching Services (ITS) provided space for presentations.
- IT help center and writing program tutors brought into library.
- Library West collaborated with Campus IT to pilot an after hours IT Help Desk.
- Mentoring Center: tutoring.
- Office for Disability Services: created a shared position to make resources accessible for patrons with disabilities.
- Office of General Counsel, scholarly communications services: OA training and contract review
- Office of undergraduate research: student poster presentations
- School of Design & Engineering: Design Help Desk in Research Commons; Writing Center
- School of Education and College of Arts and Sciences: TRIO-Upward Bound and Computer Art Studio
- Science Media Lab (Nerd Herd): provides multimedia instruction/support in New Media Centre.
- Student Advising, Statistics Consulting, Physics Tutoring, Reading Writing Center
- Teaching and Learning Services: MyResearch

Volunteer Income Tax Assistance (VITA) tax guidance service: table in learning spaces

Writing Center: tutoring

Writing Center and Study Partners peer tutoring: tutoring services offered.

Writing Centre and campus tech support

Other academic institution N= 3

Campus IT: IT services

Department of Student Affairs Student Success Collaboration gave space for presentations.

Sessions on California Digital Library services

Other external organization N=4

Board of Elections: official polling place

Brightspot: for therapy dogs (forthcoming)

Therapy dogs in several campus libraries during final exam periods, flu shots, voter registration

TRAIL conference (Technical Report Archive & Image Library)

ASSESSMENT

22. Are you currently assessing whether the purpose of or ways library learning spaces are being used are successful/effective? N=70

Yes	59	84%
No, but we plan to	9	13%
No	2	3%

Comments N=13

Answered Yes N=10

Current metrics collected include gate count, reference transactions, patron counts, computer and wireless logins, room reservation requests, etc.

Not rigorously or systematically

Robust ongoing assessment program includes surveying students, conducting focus groups, interviews, usability testing, design exercises, photo diaries, to determine whether a recent space refresh has been a success and how we can create a better learning environment in the future.

The assessment was not about library learning spaces generally, but about the use of one particular classroom, and its suitability to be repurposed.

Transformation/use aspects such as furniture, equipment, software, and need-specific, responsive space options are being explored and analyzed.

We are holding forums to gather input for the weeding of collections for more learning space development.

We completed an ethnographic study in spring 2013 that looked at how students were using the spaces in the commons.

We review LibQUAL+ data and conduct local user behaviour studies to assess the use of spaces.

We surveyed a one-on-one undergraduate research service: Re:Search Start. Space and equipment was put aside for this service.

Yes in small ways, but with plans for more. Given the multipurpose nature of the spaces, it's challenging to answer the assessment questions based solely on the library involvement in the learning spaces. Much formal assessment is happening in the WisCEL centers on the active learning pedagogy. This assessment does not currently involve the fact that the spaces are located in libraries, but there are intentions to expand assessment into that question.

Answered No, but we plan to N=2

Other than general comment boxes throughout the library, there are no intentional assessment programs at the moment.

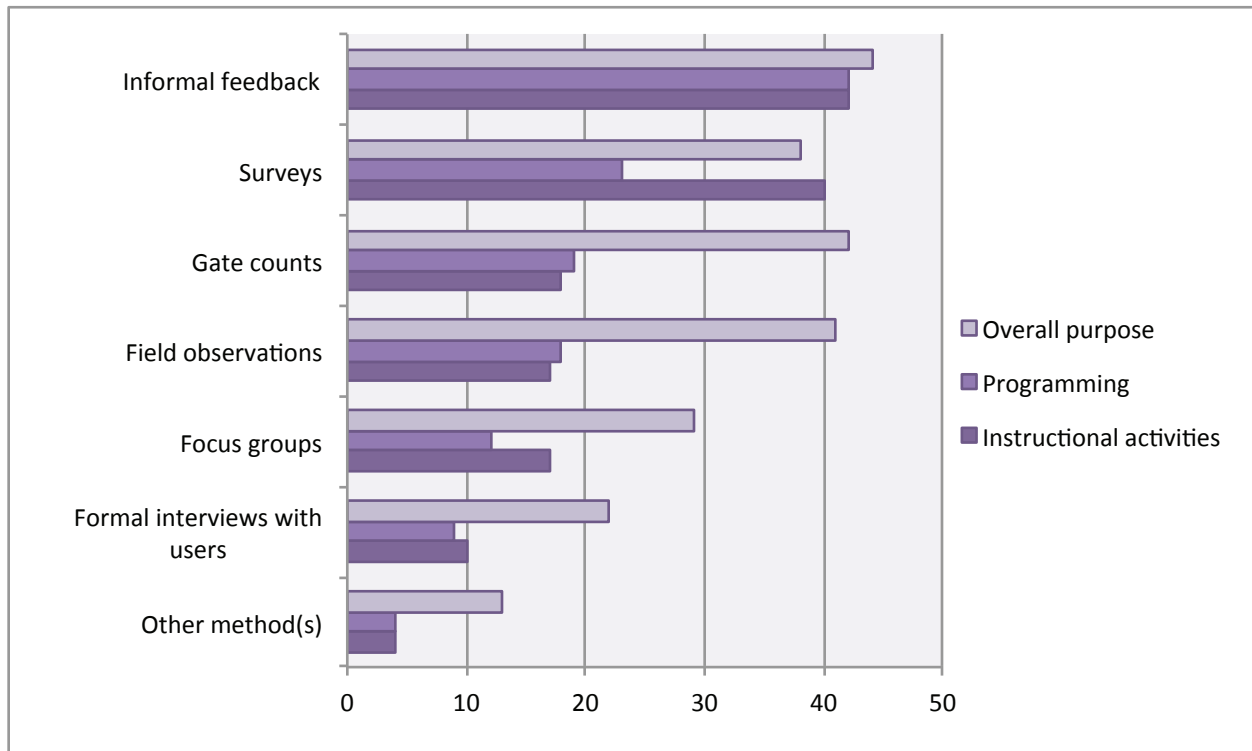
We're gathering data with the plan to begin assessment in the fall of 2013.

Answered No N=1

In the past we have done surveys of students to learn how often and why they come to the library, their preferred spaces for studying, etc.

If yes or you plan to, please indicate the methods used to assess the effectiveness of instruction and programming and/or the overall purpose of the space. Check all that apply. N=61

Methods	Instructional activities	Programming	Overall purpose	N
Informal feedback	42	42	44	56
Surveys	40	23	38	55
Gate counts	18	19	42	47
Field observations	17	18	41	44
Focus groups	17	12	29	37
Formal interviews with users	10	9	22	28
Other method(s)	4	4	13	17
Total Responses	50	48	57	61



If you selected "Other method(s)" above, please briefly describe the method(s). N=16

A photo-voice study of students is currently being conducted to assess overall purpose.

Benchmark to select new furniture in some learning spaces

Class evaluations of user instruction

Ethnographic research

Formal learning assessments

Graduate and undergraduate advisory groups; Active Learning Classrooms: in-class observations, faculty & student surveys, faculty focus groups

Hourly seating counts, LibQUAL+, ID swipes to begin in fall 2014.

Ideal Space Design exercise where students drew what their ideal learning space would look like. Photo diary exercise where students responded to questions about their learning habits and spaces with photos. Informal flash interviews with students about particular topics, and usability testing with new technology and software.

Information Desk statistics, online surveys

Library West Assessment Team set up rolling wipe boards throughout the building asking students to write down opinions and suggestions on the space usage.

Student Advisory Board

Students have also designed observational studies as part of course work and have worked with the library on those assignments.

Unobtrusive observations and other anthropological methods

Usability testing, way-finding study, occupancy studies

Usability testing, way-finding studies, photo interviews

We did an analysis of library classroom use. Formerly, we had two hands-on classrooms (one quite out of date), and multiple other rooms available for simpler presentations and instruction. For pressing reasons of need for office space the outdated e-classroom was retired, and a temporary second classroom with dedicated laptops was created.

Comments N=4

I found that the service was popular but not scalable nor particularly tied in with teaching/learning goals. We'd want to reconsider such a service in conjunction with other academic support services.

Libraries have been doing some initial overall user satisfaction and input from students on their perspectives on the success of the space.

Most assessment occurs at the level of individual campus libraries and we do not have a complete central record of it nor of all the methods used.

Partnered with Anthropology Department in ethnographic study of the Learning Commons—our largest consolidation of learning spaces. This is a part of a larger case study analysis of the commons, with outcomes projected for 2015.

23. Has any assessment of your library learning spaces led to ending services, programs, or specific uses of the spaces? N=66

Yes	24	36%
No	42	64%

If yes, please describe what changed. N=24

A formal Reference Desk has been eliminated; we have switched to online chat reference, with on-call help as needed.

A physical roving reference and research help service was dropped in favor of widening the publicity of the availability of telephone and other contact points for requesting research assistance. At the launch point of our learning commons, early experiments with merging of circulation and reference related services led to a decision to unmerge some previously merged services, inclusive of the maintenance of a distinct research help service. Initial assessment of the vending of technological hardware (laptops, etc.) also led to a decision to not merge that service point in with other research and circulation related services.

Active Learning Classrooms: tweaked policies and services. Research Commons: reduced number of in-person workshops, added webcasting.

Attendance has been used to adjust the timing of some drop-in events offered.

Attendance records for drop-in sessions highlighted most popular topics. Led to fewer sessions on presentation skills and more for writing.

By retiring the old e-classroom we lost a room that was open workstation study space for students when not used for classes. Use patterns and seat counts had indicated it was underutilized for that purpose and equivalent spaces exist elsewhere in the building.

Closed our undergraduate library and incorporated library services into our main library for the humanities and social sciences.

Discontinued math tutors due to poor response.

Fine Arts: choice to embed librarians in the academic classroom for instruction and provide office hours in the departments led to repurposing the library classroom in favor of flexible interactive space.

Gate and floor counts indicate we need more space available after midnight, which we are working to do.

Graduate collaboratives: dispensed with high-end tech in favor of plug-and-play monitors, also modified size of graduate collaboratives built subsequently, opting for a standard 6–8 maximum, rather than larger.

Helped us to justify merger of some service points.

Integrated service desk led to reference desk being reassigned.

LibAnalytics used to determine shift in service hours provided in reference, circulation/reserves and Learning Commons Technical Support (IT).

Moving map services to a low traffic area and converting the space to innovation and group collaboration space.

Presentation space in Library East Commons was specific use we ended; presentation rehearsal studio changed due to low stats.

The most significant change has been the removal of print reference materials from the informal learning spaces that have typically surrounded reference desks. Materials have been weeded, transferred to the regular stacks, or been put in our onsite auxiliary storage area.

The Undergraduate Library has reconfigured its service desks.

We closed a government documents and microforms service desk to make space for additional group study rooms.

We closed the Re:Search Start service until we can develop another, scalable service with a dedicated space in a learning commons.

We combined two multimedia centers into one physical location.

We had a formal AV production room but those services are now being distributed in other ways. We have a Mac Lab with 20 iMacs all with multimedia software and it is no longer limited to the production room.

We made a group study area with computers into a quiet space based on surveys.

We used to host walk-in assistance with time management and academic stress but demand was very light and this is now provided by appointment at a location outside the libraries.

24. Do you use any Classroom Assessment Techniques in your instructional activities? N=71

Yes	62	87%
No	9	13%

If yes, what are your most commonly used technique(s)? Check all that apply. N=62

Feedback forms	60	97%
Polling software	36	58%
Minute papers	27	44%
Direct paraphrasing	9	15%
Other technique(s)	20	32%

Please briefly describe the other technique(s). N=20

Authentic assessment techniques including annotated bibliography of research assignment analysis

Authentic assessment via carbon copy worksheets

End of semester surveys for both students and faculty

End-of-semester course evaluations

Following up with students and/or instructor at a later date

Individual instructors implement different techniques; most frequent choices include surveys to the faculty and asking students to list the top three things they learned.

Librarians and other instructional staff typically have their own ways of assessing or evaluating in their instruction sessions. There is no formal, defined way they are asked to do this.

Muddiest point, one thing learned/one thing didn't learn, informal interviewing/observation

Multiple-choice survey

Outcomes based assessment, experiential activities, group assignments that are graded by librarian and submitted to academic instructor

Pre- and post-tests

Pre- and post-tests, instructor interviews, quizzes

Pre-tests/post-tests, post instruction bibliography assignments, direct observation of student activity during in-class breakouts

Quiz based on class content

Short surveys

Some librarian collaboration with non-library faculty on assignment authorship and grading

Standardized Assessment on Critical Thinking: Watson Glaser; Pre-, post-testing; There is not one standardized assessment procedure that is sanctioned across the libraries.

Surveys. Note: libraries are generally not leading the instructional activities in the next-generation learning spaces.

Systematic observation, library/faculty debriefings

Wide variety

25. Are you gathering any metrics that link library instruction or programming to student success in any way? N=70

Yes	26	37%
No	44	63%

If yes, please briefly describe the metrics. N=24

A rubric is used to determine whether library instruction had any effect on learning.

As part of an IMLS Lib Val grant project metrics for value of teaching learning spaces and for instruction.

Currently involved in ACRL Assessment in Action project; may lead to identifying/developing specific metrics.

Faculty evaluation of bibliographies produced before and after an instruction session.

Feedback from faculty

For at least one credit course, the instructors have polled the students 2–3 years later to measure their success.

In UNIV190L course, rubrics are used for the purpose of assessing artifacts (annotated bibliography, research journal), indicating whether students have successfully internalized and critically applied knowledge.

Investigating National Survey of Student Engagement (NSSE) information literacy module.

iSkills is being implemented, but the usefulness of it is still in question.

Not systematically, but some librarians work closely with faculty on developing activities or curriculum-related assignments that measure student success, quantitatively or qualitatively.

On local engagement survey, students report on frequency of visits to library and interactions with librarians.

Our libraries are engaged in Balanced Scorecard planning, and we expect this effort will help us assess the link between instruction/programming and student success.

Pass rate in required credit course

Rubric applied to information literacy skills.

Rubrics assessing student learning outcomes for assignments, scores on information literacy tutorials and assignments, and student perceptions of change in skill levels on information literacy outcomes.

SAILS, Freshman Composition 1120 paper source analysis via rubric. Nursing class assignment source analysis via rubric.

Student Success Programs offer programs in learning spaces.

There is much assessment of information literacy instruction, which is currently being done in the traditional learning spaces.

We are in the early stages of a learning analytics program.

We are just beginning to gather this information, but our preliminary metrics include instructor surveys that indicate students who have had library instruction are more successful in their assignments for that course. In addition, on a small scale, highly successful students who receive Information Literacy Awards at the Undergraduate Research Exhibition consistently state that library instruction, meeting with librarians, and library research guides were critical to their success.

We are working on this, partnering with campus assessment experts.

We're currently working on creating an assessment program with the Rhetoric department.

Will collect IDs at instructional sessions beginning Fall 2014.

Working with institutional research unit on long-range impact of info lit instruction in a multi year ethnographic study.

Answered No N=3

But we plan to.

But we should and will.

Currently working on linking Libraries' instruction efforts to data provided through the Student Experience in the Research University (SERU) survey.

26. What data do you gather related to participation in instructional activities in library learning spaces? Check all that apply. N=70

Number of classes/activities	70	100%
Number of participants	70	100%
Type of participants	61	87%
Class/activity location	53	76%
Class/activity duration	52	74%
Class/activity topic	51	73%
Other data	23	33%

Please briefly describe the other data gathered. N=23

Active Learning Classrooms: collect data on perceptions of student learning and pedagogy and pedagogical best practices.

Activities that are integrated into Blackboard course management software

Affiliations with formal courses

Amount of time required to develop curriculum and online support tools. Marking time required (for any in class assignments)

Attendee affiliation/status

Department, course number, staff involved

Fine Arts: credit classes and team taught classes have academic evaluations that identify participants; participate in learning outcomes assessment in individual departments.

For course-integrated instructional activities we record the course name, number, and academic department.

For general education requirement courses (information literacy embedded) there are formal assessment data collected by campus assessment efforts related to course assignments and outcomes. Again, this is not directly related to next-generation learning spaces, but rather in traditional learning spaces.

How much student learned from session (self-report), what was most/least useful, what still remains unclear

Information evaluation surveys

Instructional objectives, technology used, instruction mode (online, in-person, blended)

Learning outcomes voluntarily

Learning outcomes, amount of prep time

Learning outcomes, teaching modalities

Librarian preparation time, suitability of instructor space employed for each session

Presenter's department, course name, college, type of instruction session (e.g., one shot session), how many total sessions

Satisfaction level of the participants

Student feedback, surveys

These data are collected annually as a part of ARL statistics gathering.

Time required to prepare, names of instructor and support

Which librarian or staff member delivered the activities

Who initiated instruction; was there consultation before or after instruction; form of assessment, if used.

27. Please briefly describe one example of a particularly successful instructional activity or program. Include, for example, the type of learning space, the staff involved, equipment/technologies that were used, how you measured its success. N=43

A first year experience example: For eight years the library has cemented a substantial partnership with our campus residence life staff and hundreds of undergraduates, focusing particularly on freshmen, by collaborating on annual library "after dark" events. Inspired by post closing hour library "lock-in" events taking place at other institutions, the staff planning and executing the event cut across multiple library departments, the campus office of residence life, and the university's information technology and facilities staff. The activity is popular with students new to the university who are seeking out an experience that combines close and competitive orientation to library spaces and information sources with social interactions with librarians and library staff. Office of Residence Life and the library conduct post event assessments of participating students and these surveys have informed continuous improvement of the nature of this learning experience. We have consistently expanded the vision for this event from what at some libraries was a scavenger hunt focusing on print reference books into a more extensive exploration of library spaces, personalities, and online and offline collections and services of all kinds. This event has evolved into a tradition on our campus and is often covered by campus print, televised, and social media.

A one-credit course offered in a computer lab to develop the searching abilities of the student. The course, provided by a librarian, is composed of five 3-hour workshops including hands-on exercises. The students use their own research subjects to practice their research skills, which increase the relevance of this course. The seminar is given to small groups of fewer than 20 students. The course has been offered several years and is still very popular among students.

All first year students who take the required writing class participate in two library sessions for information literacy. The classes are scheduled at the beginning and towards the end of the semester, when they are working on a research topic.

All reference/instruction librarians teach these classes, as well as other library staff. The class is conducted in a smart classroom. Multiple methods are used to assess the success of the class.

Amazing Library Race introduced new students to the library as a whole. Students used desktop computers in our digital classroom, visited exhibits, special collections & archives. Success measured by completion of four written race forms within 30 minutes and at least 80% correct responses.

An instruction librarian and composition instructor collaborated in planning and teaching a library instruction session on topic and keyword development in order to help students complete an essay. The librarian first created a video on how to create mind maps and posted it on a LibGuide. Students were required to watch the video prior to class and create mind maps based on their own research interests. During the library session, which took place in a library computer lab with fixed computers, the librarian guided students through the process of narrowing their mind maps to more specific topics and developing keywords based on their narrowed topics. Students used the keywords to conduct research in a library database. The librarian and composition instructor received copies of both the mind maps and the keywords for assessment purposes.

Big Muddy Film Festival used auditorium and new double room with four projectors to display portions of the filmmakers' films for discussion and judging. The Center for Teaching Excellence held its 3rd Annual Teaching and Learning with Technology Symposium and used multiple spaces throughout the building for multiple sessions for faculty, students, and administrators to learn about the technologies (mailing program and photos).

Chair of the Department of Energy, Environmental & Chemical Engineering wanted to make class available to international partners, and ran a trial using SMART Board to record lectures with PowerPoint notations; distributed via iTunes U. Used "presentation room" (capacity 50), support from staff, and SMART Board.

Closing the reference desk: referring users to online reservation for in-person consultations at the undergraduate library resulted in doubling the number of consultations and the length of them.

Digital Media Lab: As part of a two week design thinking course that the library taught, we introduced 3D technologies, helped students learn a 3D technology and produce their findings during class presentations. Our objective was to introduce students to 3D, and each group produced 3D content. Fine Arts: The ARTH 4051 Library Lab is a semester-long discussion lab taught by the Art History librarian that uses the library and its collections and services to develop deep research skills for majors based on the methodologies taught in the ARTH 4051 Theory class.

First year writing class seminars collaboration with technical writing classes in creation of multimodal content and promotional videos

Flash reference—very brief proactive sessions focused on one general skill or topic at a time performed by a librarian in a large open study space—reaching a large number of students in a short span of time. Equipment used was Pico Pocket projectors, mobile device.

Graduate Research Series: staff involved is library technicians, librarians from various campuses. The success was based upon attendance and feedback from participants.

Hackathon on open study floor involved librarians, staff, and faculty advisors, used library and personal computing devices, also used projectors. We have participant surveys, interviews with faculty advisors, informal feedback from participants, and feedback from corporate sponsors who really treated the event like a job fair.

Hands-on workshop for specialized software in a flexible teaching space with laptops and projectors and small prize incentives for class participation; librarian and one support staff; feedback form, follow-up consultations, plus faculty feedback.

Instructional Program: In partnership with the US Naval ROTC program at the university, the library provides a space for a naval training simulation classroom. The simulator is in the Creativity Studio, an open, flexible space in which the furniture can be arranged to approximate the actual layout of a vessel's bridge with a massive floor-to-ceiling curved screen to serve as the immersive forward view from the ship. The Creativity Studio is a white-box space that can be easily reconfigured and transformed. It has high-definition, 3D-capable projectors, movable and writable walls, a full theater lighting kit, and many interactive tools. Library IT staff worked closely with the Navy software development team to test and adapt the application for use in the Creativity Studio. Success is measured by feedback from the faculty and students in the Naval ROTC program. The commanding officer of the North Carolina Piedmont Regions said that, "[the library] was able to create an MSS lab that goes well beyond the functions of the basic product.... This particular MSS package has been turned into a full mission bridge simulator, second only to those located in major fleet concentration areas."

Introduction to Applied Marketing class with embedded library instruction via Blackboard, LibGuides, video tutorials, and workshops. Assessment is measured via the grading of a portion of the final project, number of students in each workshop, types of questions asked, and number of visits to each page of the LibGuide.

Library Essentials, a program done in collaboration with English 100, utilizes two librarians and reaches about 80% of English 100 classes. Instruction is done in a classroom with computers and flip charts. Student surveys and feedback from faculty are used to assess the program.

Library Open House makes use of the entire 1st floor of the main library. Students are introduced to key services & resources show-and-tell style with handouts, giveaways, and demonstrations (e.g., of multimedia equipment & inventory of collections). A cross-section of staff & librarians are involved from all libraries. Grand prize drawing is tied to survey to assess what students learned at the Open House event and feedback that is used to plan for the following year.

Library West, the Science Library, and Health Science Center Library collaborated on a simultaneous information literacy event held across all three branches and embedded into a campus-wide augmented reality game, Humans vs. Zombies. Librarians & IT staff were involved in collaboration with the HvZ student group. HSCL used large screen monitors and specialized anatomy software, Library West and the Science Library used classrooms for "create spaces" and coordinated information scavenger hunts for participants to gather clues to win points in the game. Success was measured by participation.

Night in the Library had 1000+ students in attendance. Activities held in all parts of the building. Some of the events were related to library services or collections but most were entertainment-oriented and designed to get them in to different areas of the building. Success was primarily measured by size of the turnout. No formal assessment was conducted.

One librarian in one of our multimedia classrooms uses the open-ended response system, Poll Everywhere, twice during instruction sessions to solicit responses from students about the affective domain. The students are surveyed once at the beginning and once at the end of the class. The poll questions are designed to measure students' confidence levels in finding sources for their assignments. Poll Everywhere is a web service that provides instructors with a flexible response system with several modes of participation, including text messaging with multiple-choice questions using a pre- and post-class format. Before and after the class, students are asked to anonymously respond to the question ranking their confidence level to see if their feelings and attitudes related to the research process, which is essential to their growth as lifelong learners. It has also been found that the sessions have a positive influence on affective learning with regard to the trait of confidence.

One of our engineering librarians used the flexibility of our problem-based technology classroom to work with a couple of the mechanical engineering design teams at the same time. She was able to move easily between teams, share common problems/solutions as they arose, and make better use of her and the students' time.

Our chemistry librarian partnered with the Chemistry department to conduct three introductory, chemistry-focused information literacy sessions for freshman chemistry majors, which featured an information/library scavenger hunt that started and finished in the learning space classroom. Session began in the classroom, moved to the desktop computers in the open group collaborative area for searching task, to the compact shelving for print reference book, to other floors in the library, then back to the classroom. Librarian and circulation staff participated. Students appeared engaged and course instructor indicated satisfaction and continued the partnership.

Printmaking in the Library East Commons had Multimedia Instruction Librarian, School of Literature, Media, & Communication instructors, and local arts center as partners. Materials included Adobe Illustrator instruction, ink, printmaking blocks, paper, carving tools, etc. Success was measured by reflective statements from students at the end. Prompted grant proposal for future similar endeavors.

Recently, we used our new collaborative classroom to host an open house for newly admitted prospective students in partnership with our world languages departments. We set aside two hours for the event. The six tables in the classroom were allocated to different language groups who used the technology in the room to share details about their part of the world. The Japanese table showed an animated film and displayed objects that students could touch and play with. Another table displayed a world map where students could annotate directly on the writable glass to indicate where they were from or had visited. The room sound system was used to share an international music medley. Simple drawing and mark-up activities were available around the room. On the glass porch just outside the classroom, faculty and students wrote "Welcome" in dozens of different languages and drew funny pictures of themselves. Students could connect their phones and tablets to the different projectors around the classroom. The space lent itself well to casual interaction, humor, and a food-friendly and iPad/tablet-friendly afternoon.

Sci Pop talks: measured attendance, used social media, projection, microphone

SPSS instruction, led by students hired as part of the Research Commons

Student use of GIS is supported by the library. GIS prizes are awarded to the best graduate and undergraduate projects that utilize the GIS services of the library. Posters are displayed in the library for about a week.

Students are asked to compile a preliminary bibliography on a paper topic prior to meeting with a librarian in one of our research consultation spaces. During the meeting they discuss the methods they used to compile the bibliography, and they are introduced to additional resources and methods that might be helpful. The final bibliography used in their paper assignment is then compared with their preliminary bibliography.

The first undergraduate research fair accepted applications from years 1 to 4 providing 37 poster sessions in the Collaboratory where attendees, including proud parents and friends, applauded the recipients of eight awards and honourable mentions. The Undergraduate Research Fair is producing an online journal that is also tied to the curriculum for a 4th year publishing class. The winners and planners of the Undergraduate Research Fair were invited to the University Research Gala event afterward where winners from the fair were celebrated. It was an outstanding success as evidenced by the fact that nearly 100 applications were received and over 300 people attended, also by the fact that the event was recognized as promoting the university research culture at the university-wide research gala and that an increasing level of monetary support is being received through donations from campus partners and donors.

The library creates instruction for many of the first year writing programs. One, Making of The Modern World, has numerous sections and classes. We create online guides, in-person instruction, and online tutorials to work with 800 of these students in a semester. The instruction is provided by librarians and staff in order to teach approximately 8 to 10

classes a day for a week. These classes took place in two library classrooms, with computers for each student to use and follow along, as well as a projected screen from the instructor's monitor. An online tutorial was assigned along with the in-person instruction. Success is measured, though next year the assessment will be more robust.

The Undergraduate Library focuses its library instruction on those classes that meet the university's Composition 1 requirement. This includes classes in Rhetoric, Communication, and English as a Second Language (ESL). The program teaches approximately 150 classes each semester and reaches approximately 80% of the target population. The Undergraduate Library provides integrated instruction that takes place during regular class times, in library hands-on classrooms, and is led by trained graduate assistants and/or faculty librarians. The classes provide students with their initial introduction to an academic library and academic research and focus on teaching students how to create a search strategy, select and search an article database, and determine if sources are scholarly. Face-to-face instruction is supplemented by LibGuides, in the case of Communication and ESL classes, and information integrated into the course text, in the case of Rhetoric classes. Success is measured through the use of personal response systems (clickers) during class and observation of instruction provide by graduate assistants.

The university has recently admitted a much larger class of international (Chinese) students. The Student Academic Success Center (SASC) asked the library to partner with them to help the students understand the place of Western libraries in the cycle of learning and research. This was much more than basic research skills. It was about making connections with the library buildings, staff, and general academic concepts (bibliographies, original research, paper writing). Not only did the library partner in our care areas, we were also asked to share personal stories in order to familiarize our students with our lives and experiences. This took place in our interactive teaching lab and during a physical tour. The learning unfolded over multiple sessions. The content and assessment was directed by the SASC.

UNIV190L (a blended course) produces the most concrete artifacts for assessment. One librarian manages instruction for this 1-credit semester-long course. For face-to-face sessions, PC classroom is used that has two projectors and SMART Sync. Because this is a regular university course, Student Response to Instruction (SRTI) assessment forms are completed by the students at the end of the semester. We have yet to receive the results for this spring (pilot of course).

Use a learning classroom for a second-year English class. The librarian brought in our GIS specialist and an archivist to educate students on the use of maps throughout history and how maps and GIS information can be used to explore cities and cultures in literature. The resources used included whiteboards, computers/library databases/GIS software, archival resources, and maps. Student feedback was used to measure the program's success. It was very well received.

We held a social media boot camp event to teach students how to use social media professionally. Three staff members collaborated to set up the event. It was held in one of the group areas in the Main Library Learning Commons. We used laptops, HDMI cables, and adaptors, and an 80" monitor for the presentations. We sent out surveys online and in person and we kept track of the total number of people who attended.

We held an exhibit on the 400th anniversary of the publication of the King James version of the Bible. It took place in our main exhibit space just off the Special Collections foyer. The exhibit involved the Exhibitions Manager, Curator of European Books, Multimedia Unit Manager, Multimedia Projects Manager, the PR/Communications Officer, multiple web designers, and multiple professorial faculty from outside the library who gave lectures associated with the exhibit. These lectures were held in our library auditorium. Success was measured by gate counts of exhibit attendees and from a comment book in which visitors were invited to leave comments.

We hosted an "Essential Skills for Graduate Students" series of workshops over spring break (when many graduate students are working in the library). We used flexible/collaborative space in our IT Service TECHBAR, and involved both librarians and IT staff. We offered workshops on library skills, free software (citation management tools), and licensed software (like Stata). We asked student attendees to rate their satisfaction with the workshops, and received high ratings. We also observed that participants often attended multiple sessions, another indication of satisfaction.

We meet with roughly 100 First Year Writing & Rhetoric classes each year and we use a classroom with collaborative units to teach the class. Students can connect their computers to the collaborative display units and show their work easily to small groups or the whole class. The classes are designed to be hands on, and very active, so groups of students are given small topics to learn about and then share with the rest of the class. The classes are taught primarily by librarians, the space seats roughly 20 students and has five collaborative units and a SMART Board. Success is measured by on the spot surveys and informal feedback from instructors.

We partner with area schools systems and academic departments on campus to offer a STEM career symposium for high school students and college freshman. We use a variety of classroom and event spaces for presentations and hands-on demonstrations. Scientists and technology companies in the area also participate. Basic presentation technologies are used but the learning event is not really about the use of technology in itself. It is a good example of collaboration among campus and community in a university learning space.

We provide a Graduate Student Research and Write-In two Saturdays a semester. We provide light snacks and plenty of coffee for four hours in the morning, along with expert assistance from librarians, technologists, and writing center staff. We use a dedicated open group study area for this. We offer short, drop-in sessions on finding information/using databases, EndNote, author rights, and thesis/dissertation formatting. In the future we hope to offer more on data collection and management. Participants receive a survey once they arrive and check in (this is a pre-register event). Our feedback has been outstanding. They really appreciate the dedicated time, space, and resources.

We recognized a trend of larger class sizes in certain academic programs that make heavy use of our library instruction service. For instance, class sections that once had a maximum of 18 students had grown to as many as 30 or 40. The largest of the Libraries' lab/classrooms could accommodate no more than 20, making it difficult to provide quality hands-on library instruction experiences for the larger groups. Therefore, we decided to include a larger lab/classroom in our renovation plans. The room was designed with a raised floor to house the electrical wiring needed to power desktop computers. Because the wiring is under the floor, we are able to move the desktop computers around to form different configurations, for example: rows of desks, clusters of desks, one large U-shaped formation of desks, etc. This gives us the flexibility to configure the classroom in ways that support various teaching methodologies. The classroom has 15 desktop computers, each on a desk sized to fit two students. This enables doubling students up when the class size is large and/or when we want students to work in pairs. In addition to the desks, there are breakout tables to accommodate further student overflow or that can be used to facilitate certain learning methods, such as small group discussions or exercises. A cart with 12 laptops is available for students to use at the round tables. The classroom can comfortably seat up to 40 people. Aside from the desktop and laptop computers, the classroom has an instructor podium (with desktop computer, two screens and projectors (on the same wall right and left so students have a clear sight line from anywhere in the room), and speakers built into the ceiling. This classroom (one of five lab/classrooms) has quickly become the venue of choice for librarians scheduling a class. Student and faculty feedback about the room has also been positive. In summary, the flexibility of the classroom enables librarians to use a wider variety of teaching/learning strategies and supports various types of events such as classes, trainings, and programs.

With a need to provide services and a space that promotes collaboration and digital scholarship, a former map reading room space was transformed into a flexible classroom and group collaboration space that includes easily moveable tables and chairs and four large-screen displays mounted to the wall to enable collaboration. The space is designed to be agile and responsive to a range of instructional needs and pedagogies and enables small to large group collaborations using analog and digital content. In addition to this space, digital scholarship experts in GIS, digital archives, data visualization, and data processing are located adjacent to the space and can provide one-on-one and group assistance on digital scholarship projects. The development of this space and service began as a pilot project that included focus groups of faculty and graduate students, and based upon their input the space and services were developed and launched and have been used by faculty, graduate students, and undergraduates. Future development

and refinement of the services includes input for the target audiences, as well as from surveys directed at individuals who have used the digital scholarship services and spaces. Visitors and partners of the Scholars' Collaborative can: Consult with Scholars' Collaborative staff to discuss aspects of digital scholarship. Build projects using the latest digital tools and software. Connect with a community of scholars with a shared interest. Discuss openly and honestly the possibilities and challenges of using new technologies in research and scholarship. Leverage the expertise of the Libraries' subject specialists. The Scholars' Collaborative can partner with scholars at the university to assist with data management, metadata, data visualization, spatial mapping and analysis, geo-spatial and temporal storytelling, and presentation and publishing tools (WordPress/BuddyPress, Omeka, etc.)

Writing program Theater Now multi-section seminar meets in repurposed reading room the day after theater production to interview actors/directors. Engages students with direct primary research within research space (library). Resources are two librarians, four to five faculty, and microphone set-up. The seminar has extended engagement with the writing program.

FUTURE OF LIBRARY LEARNING SPACES

28. Does your library have plans to make significant changes to any of its learning spaces in the near future? N=71

Yes	60	84%
No	11	16%

If yes, please briefly describe one example. N=58

Add more.

Adding a reservable presentation rehearsal room and a gaming lab.

Addition of a SMART classroom

Additional flexible instruction space and more silent and group study

Build out an accelerator/incubator in the Management Library.

Complete renovation of the first floor in the early planning stages; goal will be to make this floor more clearly focused on collaborative and consultative services.

Complete transformation of the Learning Commons, hence the current case study/ethnographic study.

Continuing to create more of the types of spaces that students are requesting: interview rooms with video-conferencing software, upgrading our presentation practice rooms so that students have the ability to record and play back their presentations, testing new technologies for screen sharing and 3D printing, and using furniture to create more collaborative study/work spaces.

Create a Digital Studio: a 3500 square foot creation/production/work space for using/manipulating data primarily in the humanities and interdisciplinary fields; produced works then could be presented in the adjacent Digital Scholarship Lab using visualization technologies.

Create a new Multimedia Commons.

Expand the Graduate Commons, add presentation practice spaces, establish hacker space.

Exploring a makerspace, a faculty support commons, and a shared training & support lab with IS.

Funding permitting, we are planning to convert portions of several central campus libraries to collaborative, technology-enabled space designed for informal and formal learning. The pace of this conversion depends on the completion of an offsite shelving facility.

If we are successful in concluding negotiations with a donor, we may be repurposing some of the reference room associated with our Special Collections into a room housing multiple historical presses. This space would be used for hands-on demonstrations and lectures associated with our rare book and fine printing collections.

In near future reconfigure five year old research center to accommodate more and more varied instruction/interaction with students.

In the near future we will be renovating the first two floors of the library. Currently, the first floor houses a computer cluster near a service desk. The cluster has standard software loaded on the computers. After the renovation, the number of desktop computers will be reduced and moved to the second floor. These computers on the second floor will most likely have much more specialized software. The plan is to develop something more like a makerspace on the second floor where students can work on multimedia projects.

In the process of converting a space used for Map Services to a study space that will be multipurpose for individual study, collaborative work, and an innovation workroom. There will also be space for students and parents using One Stop student services center for enrollment services.

Investigating a virtual/physical research commons.

Large learning commons

Learning Commons in the largest of four branch libraries on campus; demo and construction begin May 19, 2014.

Minor and major renovations over the next ten years

Most of the collection is moving to high-density storage. As a result we'll have more learning spaces and massive reprogramming of the library as a whole. Possibility of spaces limited by discipline, faculty, grad students, etc.

One library: renovations to a 1987 facility, reducing collection, replacing furniture, creating different seating configurations, and creating space to offer tutoring services. Another library: creating a digitization and media services lab.

Opening a new classroom/event space in the Main Library. It will not be a hands-on teaching lab, but a lecture/demonstration/collaboration space with flexible furnishings and presentation technology.

Overhaul of all instruction spaces

Phase 2 renovation at the Undergraduate Library in summer 2014. New library/classroom building is anticipated to open fall 2017.

Plan to create a makerspace.

Plan to repurpose former reserve staff space to create a Graduate Commons. Plan to repurpose former serials staff space to create a dual use library instruction room/and evening open study room.

Plans are in place to construct two additional dedicated classroom spaces on one of the floor levels within our Learning Commons. Parallel to this is an incremental overhaul of furniture with power available to support individual and collaborative study.

Possibly in adjacent spaces in conjunction with a classroom commons to be built contiguous to the RBD Library.

Redesign our Faculty Exploratory to include a media space, informal meeting space, and one button studio. Previously the room was only used for instruction.

Reading room renovation taking place this summer.

Redesign of seat configuration, improved display, and group space.

Remove some journals from the journal floor in the Science & Engineering Library and create a learning space.

Transformation of one floor of our undergraduate library in collaboration with Office of the Provost to support strategic initiative to enhance and enrich undergraduate advising. We are developing a Materials Collection in the Fine Arts Library for interactive makerspace activities.

Renovating a flexible teaching lab.

Renovating ground floor to enlarge coffee shops and add more group study rooms.

Renovation planned for 2015 will include a consultation-friendly reference desk and inclusion of IT support services on the main floor. The Center for Teaching Excellence is in the library but has a separate entrance; next year we plan to open a wall to connect the spaces.

Repurpose space in west wing of the library to create a Faculty Research Commons with mobile videoconferencing capability.

Some library spaces that currently house collections will be converted to study/service/commons spaces following construction of a high-density storage facility. Data from existing surveys, observation studies, and informal interviews will help shape these future spaces.

Still trying to determine the right/best level of user assistance in large open group study area that borders on data services—may remove original service point in favor of TBD; would like to add visualization option.

The library is in the process of planning a new library building.

The Life Sciences/Agriculture library is working on a “BioCommons” project in collaboration with the Institute for Biology Education to create a community and learning space in the library to bring together students and support for various biology-related curricula. Planning has been underway for over a year and the space will open in that library in fall 2014. In addition, Memorial Library has just begun significant planning for a Graduate Student Commons.

The Science & Engineering Library is seeking funding to convert the library’s 2nd floor from journal shelving to a collaborative next generation graduate focused learning space. In addition, the Leavey Library’s 20-year old information commons is now due for a major renovation.

The Science Library is currently under renovation for an entire floor to be dedicated as a learning space; including over 20 study rooms, computers, comfortable seating, etc. Also plans to convert additional space into a makerspace-type lab. Health Science Center Library is currently reducing print collection in order to make room for more group study space. Library West is removing former research assistance desks on the 3rd floor to make room for more group study space and a “technology bar.”

The Special Collections renovation will include a classroom.

The Undergraduate Library will be renovated, repurposed, and transformed into a Learning Commons with two floors devoted to learning spaces.

There is interest in building an experimental teaching lab/space where professors and librarians (and other campus units such as Online and Distance Learning, Center for Teaching Excellence) can try new pedagogical techniques related to hybrid and flipped teaching.

Transforming 30,000 square feet of space on the second floor into a modern group/ collaborative environment.

Undertaking a master space plan for the libraries, which will ultimately result in changes to some if not many of our learning spaces.

We are on the cusp of hiring a new department head for teaching & learning. The expectation is that we'll be interacting more with faculty and programs in the development and assessment of how library resources can be better incorporated. With this programmatic shift will come a new way of building and using learning spaces.

We are planning on renovating the Main Library Exhibit Hall.

We are renovating the learning space area of the mathematics/computer science library. We will create an active multifunction learning classroom. The furniture and the large flat screens will be mobile so the space can be configured for several types of uses (collaborative work, individual work, classrooms).

We are working with architects to reconfigure 18,000 square feet in one library into an open environment that encourages collaborative work and instruction among students, faculty, academic technologists, and library staff.

We have two new librarians who will be expanding our teaching and learning: an undergraduate experience librarian and an instructional design librarian. We are also just starting a master space plan for the Libraries that will help determine the direction for all of our spaces.

We plan to bring more interactive, flexible programming and exhibit spaces to our main level.

We plan to explore more teaching spaces that support new models of teaching such as the "flipped classroom."

Will add a café and refurbish a large area dedicated to undergraduate collaborative/social learning; considering need for graduate study commons and/or faculty commons.

Within the past few years, some space on the first floor has been repurposed from shelving for current print journals to group study space, and it will be remodeled soon to add modular furniture. The print journal shelving has been condensed to make more space to accommodate seating for students.

29. Please briefly describe what you envision as the role of next-gen learning spaces in the future of research libraries. N=47

A space that can accommodate multiple learning/research activities and styles, and which invites students to devise their own approaches to assignments.

Access to hardware, software, and content that allows students and scholars to study new modes and forms of human creativity and knowledge, as well as providing the tools and resources for students and scholars to create knowledge in a variety of formats, both traditional and new.

Align closely with strategic needs of institution, support curricular change (be modifiable, flexible), responsive to changing needs of students. Fine Arts: Next-gen learning spaces are the future of the research library. In the Arts

Libraries, we have found that a successful reuse of what was previously a traditional collection or instruction space has led to a more energized use of the core collection as well as a more congenial space for research development.

As collections continue to move off-site and online, the library's physical spaces must be re-imagined as flexible, collaborative, learning environments that measurably contribute to student success and faculty productivity.

Basically, the role is to meet the 21st century learning needs of students, to be flexible, adaptable, with appropriate technology and/or connectivity. Providing active learning classroom environments, with fluid spaces, flowing out of formal learning spaces and into small group collaboration spaces and individual study spaces.

Collaboration using technology that is not widely available elsewhere

Enabling students to learn about emerging technologies and to learn from each other. Providing graduate students with both collaborative and quieter contemplative space for their intensive study and research. Providing a nexus for faculty members in many disciplines to gather and interact.

I believe it will continue to develop as the center of interdisciplinary collaboration and as a community space. I believe those spaces we refer to as the "commons" spaces will be less about separating groups such as faculty, graduate students, and undergraduates and more about providing functional separation so that you can have both quiet contemplative space and communal spaces as part of learning space.

Ideally, I would like the spaces to more seamlessly become part of the student experience as part of the curriculum, as well as co- and extra-curricularly.

Laboratories for student work and crossroads for intellectual engagement

Learning spaces in research libraries will continue to evolve to support changes in pedagogy, student work habits, availability of resources, including specific technological advances that change access or capacity.

Libraries have always changed to meet the needs of their users and to serve their institution's mission, but the importance of next-gen learning spaces in the future of research libraries will increase. One of the driving factors for this is due to technological advances in how information can be accessed. This has led to new opportunities for libraries to serve their constituents.

Libraries need to be more involved in the development of research assignments. We need to provide access to learning objects that can be repurposed as needed. We need learning spaces where faculty can work with librarians and education development experts to improve instructional effectiveness and promote the integration of information literacy into departmental curricula on topics such as pedagogy assignment design, student centered instruction, learning theory, learning styles, student learning assessment, and technical training. Examples would include a learning commons that allows for the life cycle of paper writing, rooms where an intersection of faculty, librarians, and learning specialists is encouraged. We hope to develop a visualization lab and support for multimedia labs when it ties into library holdings (of every format). Learning happens on multiple platforms 24/7, we need to ensure the library is there—and this includes developing better, more intuitive online resources. Currently, most webpages and tutorials are kludgy and unsophisticated. We need to partner with our teaching colleagues and develop content for flipped, online, face-to-face learning. Space is well beyond physical in the future.

Libraries need to be responsive to the changing needs of our students/users. A key element in the design of our Knowledge Commons was non-weight bearing walls and raised floors. This will allow us to reconfigure the space in 5 to 10 years in response to the needs at that time.

Longer term develop active learning spaces in which any university member can create multi-media content singly or collaboratively.

More provisioning of specialized software for multimedia development, advanced statistical software, 3D printing, visualization labs, soundproof recording studios.

Next-gen learning spaces are different than traditional learning spaces but their role is not different. Their purpose is to contribute to the education of the students who are studying at our institution.

Next-gen learning spaces move libraries forward by helping position them as hubs of research, learning, and teaching on campus. Through these spaces and the activities they support, libraries emphasize and embrace that they are, and always have been, more than houses of books and other physical materials. These spaces provide opportunities for users, librarians, campus partners, and others to engage with each other, with printed and electronic materials, and with technologies. They support and encourage the sharing of ideas, research, and expertise, and they further the academic mission of the library and its parent institution.

Next-gen learning spaces not only support the acquisition of knowledge, but also provide the tools and environment for students to work individually and collaboratively to contribute to the creation of new knowledge and products. This aligns with the educational experience the university seeks to cultivate, wherein undergraduate students are given the opportunity to participate in faculty research projects and to view themselves as contributors to the generation of knowledge. Our libraries need to continue to evolve to provide the information, environment, tools, and support students need to fulfill this educational mandate.

“Next-gen” learning spaces will be superseded by new trends and technologies and are an example of how research libraries must continuously balance trends with traditional services.

Next-gen learning spaces will be technology-rich, will nurture students in interdisciplinary exploration and information discovery, will allow for flexible use of space and furniture, will enable collaboration (including collaboration beyond our own institution), will be inviting and accessible.

Next-gen learning spaces will become pervasive as their effectiveness in supporting student engagement and retention is documented.

Places for collaboration with other campus entities

Places where students go to be with peers, not necessarily go for help/assistance.

Serve as flexible spaces to adapt as technologies, study habits, and teaching methods change.

Such spaces will increase in size and number, will better facilitate collaboration, flexibility, and repurposing, and enable users to adapt the spaces to best suit their needs at a given time and to take more responsibility for their own learning.

The Libraries are in a strategic planning process and are articulating a philosophical framework for developing future learning spaces in the Libraries. 1. Identifying *key drivers* that shape our users’ space needs and preferences and employing them in space planning. 2. Envisioning spaces on a continuum of physical-to-virtual, and incorporating robust resources that support learning, researching, and collaborating across the continuum. 3. Envisioning space designs from a pedagogical perspective—developing and applying a strong understanding of current and emerging pedagogical approaches and their corresponding space needs. 4. Identifying any disciplinary differences in space needs that might inform space designs for different spaces and locations throughout the library system. 5. Designing spaces for interdisciplinary research and collaboration (e.g., spaces supporting interdisciplinary research clusters). 6. Envisioning and developing new/innovative value added services and amenities integral to various space commons. 7. Engaging an increasingly wider academic community, and utilizing various overlays of data in envisioning and planning of spaces.

The new library will continue to provide academic support to students by increasing the quantity and improving the quality of its spaces, equipped with better technology and collaborative spaces.

The next-gen learning spaces have arrived. The next frontier relates to the programming and instructional opportunities that can be developed around them—for faculty and for students. These spaces provide the infrastructure and offer the opportunity to build new course-integrated instruction partnerships with faculty, using the research skills/knowledge of librarians coupled with the technologists and learning specialists we are bringing in. Programming opportunities that introduce the hardware/software/apps, but more importantly the learning opportunities, digital scholarship, and new ways of exploring and sharing new knowledge will be the challenge.

The role of next-gen learning spaces act to bring learners and researchers into research libraries. This will push research libraries to consider their mix of staffing in support of the programs and services that are envisioned.

These spaces will continue to experience flexible evolution along with ongoing changes we see in information technologies, learning and teaching style preferences, and the overall organizational transitions being experienced within 21st century academic libraries and within higher education generally. The most successful next-gen spaces will not only allow for flexible physical implementations over time, but will continue to grow away from mere aggregations of fixed stand-alone technology or passive service point options. In this sense, as with both online social media platforms of the recent past and the longer evolutions of library instruction and even longer evolutions of library collections themselves, such developments arise from an intellectual and organizational legacy of engagement with source material and spaces that is far deeper than any one media format or spatial design practice. Research libraries, therefore, will likely see greater intentional linkages put into place that tie such evolving flexible library spaces to legacy collections, in order to form specific knowledge enhancing feedback loops, all working toward an aim of greater likelihood that scholars and students inhabiting the spaces will arrive at meaningful research and learning outcomes. Thus, we may likely see continued efforts to more intentionally tie spaces to specifically desired human or organizational expertise. Those collections and expertise may be local, regional, or global. The most creative new deployments of next-gen spaces will also continue to strike a delicate balance between the priorities for allocation of open available multi-purpose spaces, on the one hand, and intentionally scheduled/intentionally purposed spaces. Learning styles vary widely, as do research cultures within different disciplines, and the higher end next-gen learning environments will need to serve those differences while not sacrificing the valuable role of research libraries as open multidisciplinary communities.

These will be technologically sophisticated learning and research environments that will inspire individual and collaborative knowledge building using current technologies, tools, and methodologies. Expert staff will assist students and researchers across the disciplines in a variety of services that meet their changing needs, including digital imaging, project design and implementation, copyright and fair use, data curation and management, archiving and repository services, digital scholarship methodologies and practices, as well as the delivery and dissemination of digital content. Services will be offered as hands-on training, support for small group projects, consultation on project scoping/ planning/management, assistance with data presentation and visualization, and in other ways as needed.

These will become valued community spaces that allow a variety of interactions and scholarship to take place, formally and informally.

They are collaborative, flexible, high tech spaces where various groups can gather to learn and create knowledge/ products, share ideas, dream big, and design even bigger.

To be more closely integrated into the landscape of the institution's curriculum. To provide more team-based learning opportunities. To enable entrepreneurship. To provide multiple opportunities for experiential learning, for multiple learning styles. To help students engage with new research materials (digital, large data sets, experimental design).

To enhance and support new pedagogies and provide additional types of spaces for collaboration and consultation

To give students (and faculty) the tools to be collaborative and creative. Increasing interdisciplinary and inter-professional collaborations, and testing and evaluating new technologies. Increasing instructional collaboration with academic faculty in our space.

To improve student success in the university and after

To model the behavior of the scholar in the digital age. Be an active partner in the creation of knowledge as opposed to simply information finding.

To offer new learning opportunities for students, opportunities that they would not otherwise easily locate.

User focused, flexible with moveable furniture and technology, informal environment, mobile flat screens.

We are seeing the need to create spaces that allow for thought provoking discussions between faculty and students that are informal, something of a 'touchdown' space after or between classes where questions and discussion flow freely. Configuring or reconfiguring spaces within the building for specific needs of students such as individual and group study areas, open informal work areas, computer learning, quiet study, etc. Students are asking for a variety of spaces and furniture options, allowing for them to customize and "own" spaces within the library. These spaces also need to maximize flexibility to accommodate various functions, needs, and group sizes. Spaces need to be comfortable, make it easy to collaborate, flexible for a variety of learning environments, and they need to be inspiring. Research, learning, programming, etc., doesn't happen or doesn't need to happen in one specific space within the library. A space that establishes facilities that enable users to incorporate media segments into assignments, e-portfolios, and research projects. Creating a "Labrary" space idea where spaces in the library can be devoted to testing out new furniture and layout of furniture or testing software. One that provides spaces that accommodate new patterns of learning, i.e., SCALE-UP classrooms.

We envision the role of next-gen learning spaces as active and collaborative spaces.

We hear from faculty that they greatly appreciate the commitment of our library system to create classrooms and teaching spaces that support new pedagogical methods. They can schedule a class in our spaces and explore techniques with high levels of support, and then return to their home departments to campaign for improvements in their own buildings. Several departments have copied our decisions—buying the same models of video cameras, document cameras, short-throw projectors, etc.—after first exploring these gadgets in our spaces. We also hear from faculty who are the early adopters of new technology that they enjoy coming to explore what we have in our next-gen spaces so they know what is on the horizon for their own disciplines.

We intend to create more collaborative spaces to support the growing trend of interdisciplinarity. The spaces will take into account the new pedagogical methods largely based on collaborative work. The staff already play a key role in helping students with new technologies, new tools, and new platforms and this role will continue to grow in the future. We envision facilitating access to learning spaces by broadening access to the facilities outside normal operating hours.

We need more integration of our IT group, more sandbox or incubation spaces for technology. However, with that should come a teaching and learning component; this isn't just to open up a space with gadgets and tools without some kind of instructional or programming component.

We think that 80% or more of learning happens in non- or co-curricular space. We are following our users (faculty and students), listening to their needs, and continually evolving. Next-gen spaces will grow in importance for the foreseeable future.

ADDITIONAL COMMENTS

30. Please enter any additional information that may assist the authors' understanding of your library's learning spaces. N=15

In our main campus library we have seven floors, three of which are what we would consider our learning spaces (the other floors are the stacks and study space). Each floor has a different purpose overall. The second floor is our main commons area where we have a technology rich space with a multimedia production lab, a scholars lab, individual computing, academic, library, and technology support staff, equipment checkout, and a variety of types of workspace and classrooms. The first floor has classrooms, an auditorium, and is a quieter space with a general reading room and a Special Collections reading and group rooms. The ground floor is undergoing a conversion to a multipurpose space for individuals and group study along with a special room that can be reserved to work on innovation projects. It is also in the area of the One Stop enrollment services center.

Our Commons is not a very large space. If I had to guess I would say that it represents less than ~15% of our entire library building. We have many renovation projects in the works and more plans for the future. The Commons was the first learning space the library opened in 2011.

Survey was based on viewing every area of the library—with the exception of technical services—as a learning space.

The discipline specific commons is in the Health Sciences Library. The Undergraduate Library has just completed a \$16.5M renovation to expand formal and informal learning spaces, including the addition of Active Learning Classrooms. The Research Commons is used by both graduate and undergraduate students and is in the main library.

The learning spaces in the Libraries are evolving and plans are in development for a Learning Commons, which includes patron input, reduction of paper collections, and extensive remodeling of existing space.

The university has a network of 17 libraries of diverse size, scope, and purposes. Some libraries are more recent and the learning spaces are therefore more modern. Some of the older libraries are being renovated to integrate new technologies and new concepts to better respond to the student needs. This is a long process, but one we are committed to.

These answers are based on the Libraries' renovation of the first floor of the Science & Engineering Library in 2010. This basic, student-focused modification has been so well received by our student body that we hope to provide even more innovative spaces by converting the S&E Library's second floor. In addition, we look forward to the Leavey Library, now about to celebrate its 20th anniversary, having the opportunity to implement a major revamping and refreshment of its originally ground-breaking information commons in the near future.

We are fortunate in that we were able to build a next-gen library building that incorporates a library, art gallery, archives, special collections, and a university press along with the latest digital tools for learning and research. We have built flexible spaces that will allow them to evolve as program and service requirements change. We are able to move walls where we need them and access data and electrical from any location in the building. While we have some spaces that are set, other spaces can be changed by our learners and researchers to meet their learning and research requirements.

We are in the midst of assessing our learning spaces with plans to redesign in the near future. We recognize the needs of the campus community have changed.

We are on the cusp of new and exciting movement in this direction.

We have successfully established a virtual computer lab called Skybox that provides essential software in one convenient place. Skybox can be accessed at any time, from any computer, anywhere in the world. Making the traditional computer lab portable enables us to utilize learning spaces in new and more dynamic ways.

We have two main libraries. One of them is primarily an undergraduate learning commons (we call it the Learning Studio). Our other main library has largely remained a traditional research library—it's far quieter and has a more studious environment. In both, though, we've opened up group/individual study zones, along with quiet zones.

We were late to the learning commons game, and so benefitted from what others had done. We made a conscious decision for it not to simply be a big computer lab, and instead concentrated on including lots of open and closed group study spaces and classrooms that supported peer-to-peer learning and problem-based learning. As we participate in discussion for what other parts of the campus need in terms of classroom and learning space, we find that we are already on the cutting edge, and essentially have designed a great next-gen building. We will incorporate some of what we've learned into renovations of our main library building.

While we are focused on growing and developing learning spaces and the variety of learning space options within the library, we are also using (or making) learning spaces that are not within the library walls. One of our special collections events involves film screenings at a local restaurant on Friday evenings, and it has a great following! We also have a "home movie" event that we hold at the local public library. Sometimes, getting outside the library enhances collaboration and increases the visibility of library holdings and services beyond the immediate user community.

Without our learning spaces, we would be unable to command the kind of gate count we do (it has doubled and remained steady). We would also be unable to get the attention of academic departments and collaborators as easily. Having event spaces further assists the library in promoting academic events of interest to all, including the greater community—but it helps the library to support graduate student activities in particular.

RESPONDING INSTITUTIONS

University of Arizona	McMaster University
Auburn University	University of Manitoba
Boston University	University of Maryland
Boston College	University of Massachusetts Amherst
Brigham Young University	University of Miami
University of British Columbia	University of Michigan
Brown University	Université de Montréal
University of Calgary	University of Nebraska—Lincoln
University of California, Davis	University of New Mexico
University of California, Irvine	New York University
University of California, Los Angeles	North Carolina State University
University of California, San Diego	Northwestern University
University of Chicago	University of Notre Dame
University of Colorado at Boulder	Ohio University
Colorado State University	Oklahoma State University
University of Connecticut	University of Oregon
Cornell University	University of Pennsylvania
University of Delaware	Pennsylvania State University
University of Florida	Purdue University
Florida State University	Rutgers University
Georgetown University	University of Southern California
University of Georgia	Southern Illinois University Carbondale
Georgia Institute of Technology	Syracuse University
University of Hawaii at Manoa	Temple University
Howard University	University of Tennessee
University of Illinois at Chicago	Texas A&M University
University of Illinois at Urbana-Champaign	University of Utah
Indiana University Bloomington	Vanderbilt University
University of Iowa	University of Virginia
Iowa State University	Virginia Tech
Johns Hopkins University	University of Washington
University of Kansas	Washington University in St. Louis
Kent State University	University of Waterloo
University of Kentucky	University of Wisconsin—Madison
University of Louisville	Yale University
McGill University	York University