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Innovation on a Shoe String: High Impact Space and Technology Updates in a Low-Funding Environment

Joan Petit

Portland State University, jpetit@pdx.edu

Thomas Bielavitz

Portland State University, bielavit@pdx.edu

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Citation Details

Petit, Joan and Bielavitz, Thomas, "Innovation on a Shoe String: High Impact Space and Technology Updates in a Low-Funding Environment" in *Cases on Higher Education Spaces: Innovation, Collaboration, and Technology* ed. Russell G. Carpenter (Hershey: Pennsylvania, 2013), 248-264.

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Cases on Higher Education Spaces:

Innovation, Collaboration, and Technology

Russell G. Carpenter
Eastern Kentucky University, USA

Information Science
REFERENCE

Managing Director:	Lindsay Johnston
Editorial Director:	Joel Gamon
Book Production Manager:	Jennifer Romanchak
Publishing Systems Analyst:	Adrienne Freeland
Development Editor:	Christine Smith
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Typesetter:	Nicole Sparano
Cover Design:	Nick Newcomer

Published in the United States of America by
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: <http://www.igi-global.com>

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Library of Congress Cataloging-in-Publication Data

Cases on higher education spaces: innovation, collaboration, and technology / Russell Carpenter, editor.

p. cm.

Includes bibliographical references and index.

Summary: "This book highlights key innovations and collaborative ventures in space design from across campuses and institutions, including writing and communication centers, studios, libraries, digital media labs, learning commons, and academic learning spaces"--Provided by publisher.

ISBN 978-1-4666-2673-7 (hardcover) -- ISBN 978-1-4666-2704-8 (ebook) -- ISBN 978-1-4666-2735-2 (print & perpetual access) 1. Campus planning--United States--Case studies. 2. College buildings--United States--Design and construction--Case studies. 3. Universities and colleges--Environmental aspects--United States--Case studies. 4. Space (Architecture)--United States--Case studies. I. Carpenter, Russell, 1979-

LB3223.3.C42 2012

378.1'961--dc23

2012029128

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book is new, previously-unpublished material. The views expressed in this book are those of the authors, but not necessarily of the publisher.

Chapter 13

Innovation on a Shoe String: High Impact Space and Technology Updates in a Low-Funding Environment

Joan Petit

Portland State University, USA

Thomas Bielavitz

Portland State University, USA

EXECUTIVE SUMMARY

Even in a low-funding and space-constrained environment, Portland State University (PSU) Library has created and renovated new technology-rich learning spaces for students. Collaboration with other campus departments and an entrepreneurial spirit were essential for many of these efforts. First, the library developed a list of desired improvements and space use ideas. Then, the library used a phased approach, taking advantage of opportunities and planning for others as possible, resulting in a series of high-impact space updates. PSU Library offers a space-planning model that allows academic libraries to be agile, entrepreneurial, and collaborative, and to improve learning spaces in a difficult economic environment.

DOI: 10.4018/978-1-4666-2673-7.ch013

INTRODUCTION

In 2010-11, PSU became Oregon's largest university, with more than 29,000 enrolled students. In the same year, Oregon ranked 43rd in the nation for state fiscal support for higher education (Palmer, 2011), a situation exacerbated by the economic downturn, which reduced our already limited funding for capital improvements. Also, the university's urban location in downtown Portland means available real estate is scarce and expensive. The net result is that the library serves more students than ever, but with fewer funds and reduced optimism for an expansion or large-scale renovation.

Yet even in this challenging environment, PSU Library has, over the past several years, updated group study rooms and created new technology-rich learning spaces for students. Collaboration was essential for many of these efforts, as was searching for funding in all sorts of places.

This case study illustrates how PSU Library has created several emergent collaborative and technologically enhanced learning spaces in a low-funding environment. From these experiences, we have implemented a planning model that enables academic libraries to be agile, entrepreneurial, and collaborative in improving learning spaces. This chapter includes strategies for developing a long-term vision; examples of small, achievable, high-impact projects that can fit into the larger vision; suggestions for identifying collaborative funding partners; and a model of planning for renovation in an entrepreneurial way.

LITERATURE REVIEW

A recent trend in higher education has been to build or renovate academic library spaces to incorporate new technologies and collaborative study and work environments. These spaces reflect the ways in which modern scholars and researchers learn and communicate. In the 1990s, many libraries began to adopt the information commons model. Beagle, Bailey, and Tierney (2006) provided a historical perspective as well as a definition: "Information Commons is used to denote a new type of physical facility or section of a library specifically designed to organize workspace and service delivery around an integrated digital environment and the technology that supports it" (p. 3).

In the 2000s, the information commons movement continued as many leaders called for greater collaboration between the library and other academic units. Wilson (2002) outlined a clear rationale for this: "Collaboration is key if librarians are to educate their clientele to be critical and self-sufficient users of information. No one alone has the expertise to address the full range of information literacies..." (p. 1).

Lippincott (2004) emphasized the difference between true collaboration and the simple co-location of the library and other student learning and support departments, such as tutoring, writing centers, media centers, and information technology. Most usefully, Lippincott identified barriers to collaboration and provided examples of successful partnerships.

Sinclair (2007) defined key elements of evolving information commons, named “Commons 2.0.” The guiding principles of this new wave of information commons are that they are “open, free, comfortable, inspiring, and practical” (Guiding Principles, para. 1):

Technologies, media formats, and gadgets will certainly come and go, but our continued investment in computer-enhanced pedagogy is critical. We have only just begun to understand the impact that the Internet and interactive technologies will have on education and learning. In this global community, where information can be shared instantaneously and the ability to work together and understand each other is critical to our collective future, the trend toward collaboration and group learning may be one of the most important issues facing universities today. We must be willing to understand and be responsive to the needs of our community of learners. Our library spaces must continue to evolve if we want to have a place in tomorrow's university and world. (Guiding Principles, para. 7)

In 2009, EDUCAUSE identified five top challenges facing the educational community, including “creating learning environments that promote active learning, critical thinking, collaborative learning, and knowledge creation.” A higher education consulting agency, the Education Advisory Board, issued a report (2011) that questioned the necessity of the “long tail in the stacks,” noting the imbalance of space allocated for decreasingly used material collections versus user study space, a 3.5:1 ratio (p. 49). The report asserted the need for “new libraries to support a range of academic activities” through learning commons, collaborative study lounges, reading rooms, and media labs (p. 13).

In this environment, the logical progression of the information commons model, accelerated by the continued influence of technology on library spaces and the evolution of learner behavior, is to repurpose underutilized library spaces by infusing collaborative technologies throughout the library and to seek partnerships which expand the services offered from within the library. At the same time, the global recession that began in late 2007 has made an impact on colleges and universities. Even prior to the recession, funding for higher education had been in trouble, resulting in several national initiatives addressing the problem, including the Project on the Future of Higher Education (PFHE). Brewer (2004) described a retreat attended by 13 academic library directors and focusing on the work of Guskin and Marcy,

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participants in the PFHE. According to Brewer, Guskin and Marcy researched typical higher education reactions to the repetitive cycle of budget cuts, particularly the myopic response that they call “muddling through,” when administrators assume that the financial situation is of limited duration and make incremental mitigating decisions instead of engaging in long-term planning. Guskin and Marcy provided a model for moving beyond this reactionary stance to creating a transformed university. As Brewer detailed, the group of 13 library directors adapted this approach for academic libraries to offer a model that identified several principles for transformation, including partnering with other campus agencies to achieve university goals and developing new and innovative learning environments through collaboration with other campus units. The overarching theme is that libraries and higher education must adopt a proactive stance and plan for long-term success.

Barton and Weismantel (2007) provided a case study of their experience in designing and assessing a new collaborative space but noted that they could find funding only from a campus renovation grant. Fox and Stuart (2009) primarily discussed techniques for incorporating user input into the design process as well as how they partnered with the campus Office of Information Technology and achieved a significant library renovation phased over seven years and consisting of three separate projects. Doan and Kirkwood (2011) offered a case study similar to PSU Library’s in that, due to funding issues, they pursued phased renovation and received funding from a variety of sources, including a campus renovation grant and fundraising.

The 2010 Association of College & Research Libraries *Environmental Scan* reported that “budget cuts in higher education will continue to impact library budgets,” “administrators will need to be creative in planning and developing solutions for funding,” and “cuts in budgets may lead to more collaborative efforts for sharing resources” (p. 6-7). This fiscal environment has made it challenging for academic libraries to upgrade their facilities to meet the current needs of existing users, and near impossible for libraries to exploit the potential of emerging technologies. Libraries need to be creative and look beyond the usual funding mechanisms to achieve their space improvement goals.

PORTLAND STATE UNIVERSITY LIBRARY

The PSU Library is housed in the Millar Library building in the heart of the university’s picturesque Park Blocks; most technical services functions and offices are located in another nearby building. The original Millar Library structure, built in 1967, grew with an addition in 1991 that brought the total net assignable square footage to 136,000. Other than a space reorganization in 2000, the Library had few significant updates over the years. Students were frustrated: LibQUAL+ surveys in

2006 and 2008 indicated they felt the library lacked adequate, comfortable space for individual study and collaborative work. In 2008, then, the library began a small-scale effort to improve popular but outdated study rooms, including one for use by student families, and began work with new partners to collaborate on these spaces.

As in many academic libraries, our students seek out library study rooms for group projects and studying with classmates. However, until recently, the few existing study rooms offered minimal technology and were furnished with only tables and chairs. Lacking the funds for a comprehensive renovation, the Library began a slow process of updating these rooms one and two at a time, as salary savings were available. Library administration eventually developed a menu of technology and furniture options for study rooms so that, if and when funds become available, we can quickly facilitate a renovation. We also sought and received supplementary funds from the Associated Students of PSU (student government) and campus OIT to transform two rooms into practice presentation rooms. New technology includes the same computing and presentation equipment as is in the campus's technology-smart classrooms. The furniture, including modular conference tables and comfortable chairs, is easily moved and reconfigured to suit students' needs (Figure 1).

Eventually, the Library allocated additional salary savings to create more study rooms with new furniture and current technology including computers and mounted LCD screens. And a new group viewing room provides a collaborative, living room theater-style experience for students to view and discuss films and other media.

Figure 1. The practice presentation room includes the same technology as in the smart classrooms on campus



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PSU's urban location attracts many non-traditional students; during the 2010-11 academic year, the average age of an undergraduate student was 26. Many PSU students are also parents whose childcare responsibilities overlap with their time on campus. The Assistant University Librarian for Public Services sought to create a space for student-parents to work in the library while also caring for their children. He contacted the director of the PSU Helen Gordon Child Development Center and proposed that, to meet the needs of this non-traditional demographic, the library would provide funding if the center could design the room and furnishings. Then, with the support of the university Office of Information Technologies (OIT), the library and Helen Gordon Center transformed a low-tech study room into a space dedicated to student-parents and their children. The Family-Friendly Study Room accommodates up to two family groups at time, with two computer workstations for students and a play and reading area for their children. A small but loyal group of student-parents uses this room regularly; it also generates significant good will and appreciation from other PSU students, who see the challenges faced by their classmates with children. Helen Gordon Center contributions are acknowledged on a plaque in the study room, and their staff members routinely check the child-focused amenities and refresh the room.

The technology in these spaces is not particularly innovative, but the improvements have been significant for students. Since beginning this process in 2008, the library has updated several old study rooms and added five more, all of which are heavily used by students.

Decreasing Budget, Increasing Space Pressure

These were the only updates done for several years, however. The Oregon University System slated PSU for a capital construction project, a new Knowledge Commons, to complement the outdated library building, and so, despite budget cuts in 2004 and 2006, the library focused planning efforts on a new building or large renovation. In late 2008, drawing on LibQUAL+ data and informal space-use conversations, library administration drafted a space-planning document consisting of opportunities, challenges, ideas for improving student success, and space-assessment goals. In Spring 2009, library faculty and staff participated in an affinity grouping exercise resulting in a document identifying challenges due to current space; strengths of the current space; and priorities for library space in three different scenarios: the construction of a new facility; a significant renovation of the current facility; or a small, limited budget renovation of the current facility.

The combination of budget cuts, especially those that continued during the economic downturn of 2007-2009, and the enticement of a potential new building caused library administrators to de-prioritize building renovation and remodeling

projects for several years. However, in 2010, library administration acknowledged that the fiscal situation was unlikely to improve, that the capital construction project was not imminent, and that the library facility was suffering due to deferred maintenance and lack of improvements in learning spaces.

Elsewhere on campus, university administration grappled with other space needs: the Center for Online Learning was created out of two previously separate units and sought to house the combined staff together; Student Affairs added 16 new advisors and hoped to move them into the nearby offices of the Center for Academic Excellence; and the Instructional Development and Support Center was critically short on space. Informal interdepartmental conversation revealed that the Library, with its large building and central location, was being viewed as a potential home for some or all of these departments. Library faculty and administration became concerned about the co-location of non-student centered services in the library.

Creative Solutions

An unexpected surplus fund balance in 2010, the result of retirements and resignations, provided the library with the opportunity to think beyond the budget crisis. The library returned to documents generated in the space-planning exercises in 2008-09, and we began work on the only scenario we could control: renovating the current library building on a limited budget. Thus, library administrators opted to initiate some small renovation projects with the larger goal of significant improvements in learning spaces. The emphasis here was on high-impact projects that would benefit the largest number of users, a priority given our space-crunched learning areas. The library also continued to seek collaborative funding partners.

Third Floor Study Area

In direct response to LibQUAL+ survey results, we used salary savings to overhaul a large and lightly used open study area on the library's third floor. Previously the space held several large, wooden tables and chairs. Now the newly carpeted, modern space has large tables and comfortable seating—a rarity on our urban campus—with integrated power outlets. This simple update has transformed this space into one of the library's most popular study areas.

White Boards and a Collaborative Workstation

In the Library Resource Center (LRC), our open-plan reference area on the second floor of the library, we added relatively inexpensive rolling, double-sided dry-erase white boards, which students now regularly move throughout the building, to use

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as writing surfaces as well as barriers to create some visual distance from other groups in crowded study spaces. We never could have guessed how popular the white boards would be, nor that students would drag them into the elevators to bring them to other floors of the building. Calculating use per dollar, the white boards may have been our most successful purchase.

We also installed a collaborative workstation, the media:scape by Herman Miller, in the LRC. The integrated table and dual large-screen monitors allow students to plug in up to four laptops and share their work on two screens, making this workstation ideal for group projects. Because of the location near other large tables that are popular with groups, we were concerned that this high-tech work area might be used as a table rather than for its technology. Thus, we tasked student technology workers with recording observational statistics on the use of the workstation. Data taken during October and November 2011 revealed that the monitors were used about 40% of the time, a level of use worth the investment, in our calculation. The collaborative workstation and white boards were funded by salary savings.

Faculty Reading Room

PSU employees are unionized, with faculty represented by a local chapter of the American Association of University Professors (AAUP). In 2010, the PSU-AAUP membership negotiated for one-time additional funding for the library, most of which was then allocated to acquiring materials to support faculty research. A small percentage of the AAUP dollars went to the creation of a faculty reading room, benefiting in particular faculty members without private offices. The library emptied out an old storage room and furnished it with two networked workstations, scanners, art, and comfortable armchairs. This new, welcoming space opened to faculty in 2011; anecdotally, it seems new, tenure-track faculty have been especially appreciate of having a place to work away from their offices. A plaque in this room credits the AAUP for its funding of the space. This collaboration, however, seems primarily to have been a one-time partnership, based on funding and opportunity.

Updating and Repurposing Spaces

Small-scale collaborations provided the foundation for our two largest and most recent projects: the Learning Ground and Learning Center.

The Learning Ground

The library's main floor includes a large computer lab managed by campus OIT. Because of its location and hours, this lab traditionally has been the most popular on

campus, often with long lines of students waiting to use the computers. An overhaul and expansion of this space is our largest project to date, and one that incorporates lessons from several smaller projects (Figure 2).

In 2009, two opportunities presented themselves simultaneously: the Adaptive Technology Center, which occupied an enclosed space adjoining the computer lab, moved to a different building, leaving a vacant room behind; and the Associated Students of PSU (ASPSU) was accepting applications for the use of student fee money. At this point, we still anticipated a new building, and library administration envisaged that a renovated computer lab with new technology could serve as a demonstration project for university administrators and potential donors. The library then took advantage of a positive working relationship developed over several years by the Manager of Library Technologies with the Chief Information Officer in OIT to quickly develop a joint proposal for ASPSU's Student Building Fee funding. The grant application described a transformation of the roughly 3,000-square foot lab and now-vacant room into "The Learning Ground," an updated computer lab that would include a collaborative, experimental technology space known as the "Sandbox." Student government accepted the proposal to fund the Learning Ground with a budget of \$700,000 with \$500,000 from ASPSU, \$120,000 from the Library, and \$80,000 dedicated to technology from OIT.

The original proposal was structured around the existing lab architecture, with rows of tables and computers in the same configuration, but with newer furniture and décor; the Sandbox was to be placed into the area recently occupied by the Adaptive Technology Center. The layout changed, however, when the Learning Ground

Figure 2. The OIT-managed computer lab on the Library's first floor, in early 2010



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Implementation Team, comprised of faculty and staff from the Library and OIT and including the authors of this chapter, began meeting regularly with architects to formalize the space design. The architects envisioned a learning space that went beyond the existing walls and traditional lab set-up; when library administration saw these early professional renderings, they decided to dedicate even more square footage to the Learning Ground, bringing the total to about 3,900 square feet. And here we saw the true benefit of this collaboration, which was the foundation of the success of this project. Although OIT had long operated this computer lab in the library building, this was one of the first formal project teams that included librarians and library staff working with OIT staff. The library contributed its expertise in the big-picture use of the library building itself, knowledge of technology in demand throughout the building, and insight into well-functioning service desks; OIT staff contributed their expert front-line knowledge of technology and the workings of the computer lab (Figure 3).

And thus we began a project that ultimately re-invented the space completely. By moving the lab assistants' desk and borrowing space from the library's former new books browsing lounge, the refreshed lab area, which opened in fall of 2011, now has more—more space, light, computers, scanners, tables, and more comfortable furniture, along with better software and accessibility for assistive-technology workstations. Students quickly rediscovered their favorite lab, and the improved layout and increased hardware in more use with less (and often no) waiting.

The 700-square foot Sandbox, which opened in January, 2012, is where we focused our efforts in technology innovation. We sought to create a flexible space

Figure 3. The lab area of the renovated Learning Ground, in fall of 2011



that encouraged collaboration and experimentation with new technology, with the intention that the technology would be updated regularly. The DIRT Wall System creates the structure of the Sandbox and supports the technology within, currently two integrated flat-panel LCD screens that display from students' laptops; two lab computers with touch-screen monitors and touch-screen apps; and floor-to-ceiling integrated dry-erase boards. We chose lightweight tables and chairs that students can easily move and configure, and we deliberately under-furnished the small space, to provide maximum flexibility.

To access the Sandbox, students walk through the Learning Ground and by the lab assistants' desk. While our urban building is open to the public, all Learning Ground computers require a PSU account to use, which, in effect, limits use of this lab to PSU students, faculty, and staff, and which further helps control access to the Sandbox. This more secure environment allows us to experiment with implementing new and sometimes portable technologies in the Sandbox. Additionally, inside the Sandbox, two large pivot doors can open to the library lobby. Typically, these doors are locked and functioning as walls rather than as doors, but this extra flexibility is a real benefit to the library, as we have the option to open the pivot doors and use the Sandbox as a space for presentations, exhibits, and other special events, as we have already done for lectures and events this spring (Figure 4).

Figure 4. The Sandbox on opening day in January 2012



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We also left open the pivot doors at the start of winter term in 2012, when construction was completed and we opened the Sandbox for the first time. These open doors encouraged students to explore their new space. We used the dry-erase boards to explain various features and technologies and invited students to respond via the same boards, which they did, in droves. Most left positive notes, and a few made specific improvement suggestions that we were able to implement quickly. And here we see an advantage of designing a space to be flexible: mistakes are lower cost, as they are expected and part of the experimental design. In the Sandbox, we can see what technologies are of most relevance and interest to students before we make a large-scale investment.

A new Sandbox Steering Committee, smaller than the Learning Ground Implementation Team but still comprised of people from the library and OIT, meets monthly to discuss the use of the space and explore new furniture and technology options. Other technology branches on campus have expressed interest in using the space to test technology, and we have already decided to purchase computers for the LCD-displays for use by students without laptops. Recently we began regular observational assessments of the space. Four times a day, a student lab attendant notes the approximate number of students in the Sandbox and the technology being used, along with any reoccurring questions or issues. Moving ahead, we will use this data to assess the space, to find gaps and opportunities, and to help us decide what technologies and furnishings are most appealing to students. We expected the Sandbox to be used primarily by groups wanting to take advantage of the technology in the space, which has happened. However, we have been surprised to see people working individually in the Sandbox, especially to take advantage of the very popular dry-erase boards.

Ultimately, the collaboration between students, OIT, and the library made this project a success in three important ways: we could afford the design and construction because of student fee money; OIT added essential technological input; and the library now offers much improved learning spaces for students.

The Learning Center

The Learning Center, not to be confused with the Learning Ground, provides tutoring services to students and is the newest resident of the library building. Starting in 2006, the Learning Center, which was housed on the low-profile fifth floor of the campus student union, used a large table on the library's second floor as an outpost for tutoring services; the campus writing center had space as well. These small service points led to several years of positive collaboration. In 2011, with increasing space pressure on campus, the library pro-actively invited the Learning Center and writing center to move permanently to the Library's second floor. The

Learning Center accepted our invitation and successfully applied for ASPSU Student Building Fee money (the same source of funds as for the Learning Ground) to pay for the relocation and renovation.

The relocated Learning Center now occupies approximately 2,000 square feet adjacent to the reference desk in the library's Learning Resource Center, an area formerly used for study carrels and a small collection of current newspapers, which have been moved to a different part of the floor. While there was some concern about the proximity of the Learning Center reception area and the reference desk, the first few months of co-location have shown these to be complementary service points. An additional benefit comes from the Learning Center's renovated space, which has individual carrels and large tables that are open to all students when not in use by tutors. The Learning Center reports increased use from heightened visibility and a more convenient location, and we are now planning for meetings between Learning Center staff and public services librarians to transform this co-location into collaboration.

None of these efforts has been without challenges. While our collaboration with ASPSU has been a success, it can be difficult to work on long-term projects with student government which, by nature, has regular turnover, and thus relationships need to be developed annually, and plans may need to be re-worked to reflect the different concerns of different students. Another challenge of small projects has been our dependence on campus facilities to do much of the work: we have faced some significant delays and disruptions in public space when facilities staff have been called to work on higher-priority projects.

Ultimately, however, despite the extra time and work, our collaborations have been a success. The library building is a significantly different place than it was even just a few years ago, and our students have benefited greatly from our incremental, phased approach.

Recommendations

Reflections on Practice, and a New Model

The literature on space planning in libraries recommends conducting needs assessments before implementing technology or space updates (Fox, 2009; Foster & Gibbons, 2007), and we agree with this strategy. Indeed, given adequate time and resources, the needs assessment should drive a comprehensive and long-range envisioning of the library's spaces and services, and not having this is less than ideal as we have seen in our own library. For example, we located a new practice presentation on the library's fifth floor, one of our building's few quiet areas, because the space available on that floor matched the parameters needed for the

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new furniture and technology. In retrospect, a more appropriate location may have been found on a floor already heavily populated with groups. However, some of our partnership and funding opportunities had small windows that did not allow for formal assessment beyond we already had through LibQUAL+, and we moved quickly to take advantage of potential support and funds. We feel our students are better served by the new spaces, which we might not have been able to implement had we risked slowing the process.

Having said that, the success of early projects did lead to a more focused and planned approach for later efforts. Under pressure to bring non-library services into the building, library administration, in conjunction with library faculty, formalized a space use policy that detailed our long-term vision for the building and the units housed within, with an emphasis on student-focused, academic services. We then used this policy to look for collaborative campus partners rather than having them chosen for us, which led us to invite the Learning Center and writing center into the building, as discussed above.

Thus, the library's space planning policy has become our key document, as it provides the framework for us to move ahead when opportunities arise. For other libraries, we recommend assessing user needs in the early stages of planning, before opportunities arrive, and incorporating those priorities into the space plan.

There are several steps libraries can take to follow this model of entrepreneurial innovation and collaboration:

1. Formalize a space use policy that details your vision for your building.
2. Conduct an assessment of user needs.
3. Create lists of space needs and improvements with people outside of library administration. Brainstorm through staff meetings and brown bags. Nothing is too small or large for these sessions.
4. Avoid writing a formal plan. Be entrepreneurial: when funds or funding partners are available, consult your space use policy and list of needs.
5. Plan a series of small, low-cost, high-impact updates you can afford on your library's budget.
6. Look for collaborative campus partners, using the space use policy as a guide to add services to the library.
7. Look for funding collaborators and other funding mechanisms for larger or higher-cost spaces.

FUTURE RESEARCH DIRECTIONS

The financial reality of higher education forces us to reconsider our long-term planning process. Opportunities for new buildings and comprehensive renovations may elude us, yet we must move ahead with transforming outdated facilities into dynamic learning spaces.

These financial challenges may drive research into high-impact technologies with a sustainable life cycle. Hardware and applications become obsolete at an alarming rate, and few libraries can afford to be early adopters and to risk allocating budget dollars to technologies that may not be embraced by learners. The Sandbox at Portland State Library offers a small, controlled area for new technology implementation, allowing us to experiment with space and technology innovations on an affordable and sustainable scale. As we assess this program, we hope to offer further models.

Future research also may examine how best to conduct user needs assessments while remaining entrepreneurial as well as how to balance our desire for innovation with our commitment to providing traditional services.

CONCLUSION

Despite severe budget and space pressure, Portland State University Library implemented several high-impact updates to learning spaces and technologies. We did this first by seeking out collaborative funding partners for small, achievable projects. Then, we crafted a space-planning policy that outlines our vision for the library and invited into the building selected student-focused units whose services match our vision. By acknowledging the current fiscal reality and the improbability of large budget infusions in the years ahead, we have created a sustainable, entrepreneurial, collaborative space-planning model that allows us to improve learning spaces in a difficult economic time.

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KEY TERMS AND DEFINITIONS

Assistive-Technology: Technology, both hardware and software, that facilitates the use of the technology by people with disabilities. Also known as adaptive technology.

Collaborative Learning Spaces: In academic libraries, study rooms, media rooms, and other areas designed to facilitate two or more students working together on assigned projects.

Deferred Maintenance: A practice of postponing repairs and maintenance of a building or property, generally to save funds. At Portland State University, the library deferred building maintenance when they thought a new building was forthcoming.

Learning Commons/Information Commons: In academic libraries, a study space designed to encourage students to interact with technology and each other. These spaces often include additional technology or research support.

Learning Ground: Portland State University Library's newly remodeled computer lab on the first floor of the library.

LibQUAL+: Designed by the Association of Research Libraries, a survey program that enables academic libraries to solicit and track user opinions of library services.

Sandbox: A self-contained space within the Learning Ground (see above) designed to encourage students to use new and experimental technology.