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The Tombros and McWhirter Knowledge Commons at Penn State

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This article describes the Tombros and McWhirter Knowledge Commons at the Penn State University Park campus and its use by library patrons. The Knowledge Commons required a major renovation of the first floor of the Pattee Library. In addition to providing attractive and inviting new spaces for students to study and collaborate, it includes library, tutoring, information technology, and multimedia support services. Many of these services existed prior to the Knowledge Commons but were not used to the extent they are now. As this article shows, increasing the accessibility of services and offering them in an attractive new setting will increase their use.

Introduction

Nearly a decade ago, Acker and Miller (2005) wrote that "academic libraries [were] at a significant turning point" as their emphasis was shifting "from being primarily for the storage of books to primarily supporting learning" (p. 4). They believed that digital collections, along with improved access to collections worldwide, would reduce the need for shelving and permit libraries to concentrate on creating "collaborative spaces appropriate to the active learning styles necessary for class teams and study groups" (p. 5). New construction and recent renovations suggest that many libraries have successfully navigated this turning point. Libraries at colleges and universities—public and private, large and small, in all regions of the country—have built new areas for students to study, collaborate, and create. Along with these new spaces, libraries have also introduced or expanded services to assist students in their academic endeavors. As students utilize these areas—which are typically light-filled and feature comfortable seating—they will likely encounter information technology consultants, writing tutors, multimedia specialists, and academic advisers, all working alongside librarians. Several studies report that students find these new spaces very attractive and welcoming (Bryant, Matthews, & Walton, 2009; Schmidt & Kaufman, 2005;

Whitchurch, Bellston, & Baer, 2006). This article describes the recent renovations of the Pattee Library, on Penn State's University Park campus, and the success it has enjoyed with the addition of its new Knowledge Commons.

Many libraries have named these new spaces "information," "learning," or "knowledge" commons. The choice partly reflects when the renovations were done as well as the services being introduced. In the 1990s, "information commons" was widely adopted. It emphasized the connection between libraries and information technology and the related resources needed to support students' navigation of online networks (Beagle, 2010). At the turn of the century, many favored "learning commons" to emphasize the library's commitment to the institution's academic mission by concentrating academic services, including tutoring, under one roof to help students not only attain the information they need but also to present what they have learned in new and innovative ways (Beagle, 2010; Bonnand & Donahue, 2010). More recently, "knowledge commons" has been adopted by some to reflect access to the range of resources—physical, virtual, and human—that students need, in order to gain a meaningful and enduring understanding of a subject (Ren, Sheng, Lin, & Cao, 2009). Although much has been written about the choice of these names (Beagle, 1999; Beagle, 2010; Bonnard & Donahue, 2010; Cowgill, Beam, & Wess, 2001; Halbert, 2010; Leeder, 2009; Malenfant, 2006; Ren et al., 2009), in practice there is considerable overlap in their use. As Lippincott (2010) wrote, "There does not seem to be a generally agreed-on definition of each variation" (p. 30). Nonetheless, all are identified as a "commons." The choice is appropriate: The term *commons* arose in Middle English to designate resources beneficial to all members of a given group ("Commons," 2014). This goal, all agree, is the intent of those who have introduced commons within academic libraries.

Literature Review

Since 1992, when the University of Iowa opened its Information Arcade (a term that did not catch on), librarians have been describing their new facilities. Dozens of profiles have appeared in such sources as the *ARL SPEC Kit: The Information Commons* (Association of Research Libraries, 2004), *The Information Commons Handbook* (Beagle, Bailey, & Tierney, 2006), *Learning Spaces* (Oblinger, 2006), and *A Field Guide to the Information Commons* (Forrest & Halbert, 2009). Information on commons can be found online as well: David Murray at Brookdale Community College in New Jersey maintains the *InfoCommons and Beyond* blog (infocommonsandbeyond.blogspot.com). Some commons provide links on their websites to their annual reports, including usage statistics. Notable examples include Queen's University, [1] University of Connecticut,[2] and Georgia Tech.[3] These resources serve as a primer for any library planning to add a commons at its institution.

There are fewer sources that explore the impact of these spaces. One exception is Shill and Tonner (2003, 2004), who used library gate counts as their primary indicator to determine whether new library construction attracts more students. Their study examined projects between 1995 and 2002. In their survey, they did not ask institutions about the inclusion of a commons but inquired instead about physical spaces typically associated with them—computer labs, cafés, multimedia production and writing laboratories, and group study rooms. Although many libraries they surveyed were adding such facilities, they found that "there is no indication . . . that their presence has a significant impact, either positive or negative, on facility usage" (p. 143). Yet, in their recommendation for future research, they acknowledge the need to explore this further and posed this question, "Does the creation of an Information Commons [as such] . . . affect building use?" (p. 150). A few scholars have subsequently addressed it. In describing the new information commons at Westminster College, for example, Malenfant (2006) reported a 17% increase in the gate count in the academic year following the opening of their commons (p. 282). Dallis and Walters (2006) compared fall semesters before and after they opened their information commons at Indiana University-Bloomington. They reported a 10% increase in gate count but also found that the number of reference interactions actually decreased by 8% (p. 251). The authors speculated that one of the reasons for the decline was that new IT services were handling technology-related questions that were once taken to the reference desk.

This article adds to the existing literature a detailed description of the Tombros and McWhirter Knowledge Commons at Penn State University and its use. Unlike earlier studies, however, the focus is on before and after utilization of specific services in this Knowledge Commons.

Background and History

The Tombros and McWhirter Knowledge Commons opened on January 2, 2012. In 2004, Sally Kalin, then the Associate Dean of Libraries, began discussing the possibilities of what she believed should be a strategic priority. Two years later, she created teams to explore a wide range of possible features. Over the course of six years, 20 working committees developed plans for the Commons. The working committees were composed of more than 80 individuals, including library and information technology staff, multimedia specialists, and students. All library employees as well as campus faculty, staff, and students were invited to comment on the plans as they developed. In addition to updates that appeared in library and campus publications and communicated via open forums, the library lobby showcased furniture and architectural renderings that informed the campus and also generated excitement for the project.

Throughout the planning years, members of a steering committee visited or consulted with several institutions with commons, including Northwestern University, the University of Chicago, the University of Delaware, the University of Pennsylvania, the University of Tennessee, and the University of Virginia. Visits were also made to the Steelcase University Learning Center and the Herman Miller Furniture Showroom. These visits reinforced what Penn State students had been saying in surveys and personal comments for several years: Libraries need comfortable furniture, areas for group work, more technology, available food and drink, and 24/7 accessibility.

All of this resulted in a 54,000-square foot renovation of the first floor of the Pattee Library. These renovations created a number of named spaces. They include:

- the 132-seat Foster Auditorium, an ideal venue for library meetings and campus presentations;
- Franklin Atrium with comfortable chairs and sofas;
- Sidewater Commons, a computer lab with 50 desktop computers;
- the Commons Service Desk in the Weltmann Lobby, where library users can pick up books, interlibrary loans, course reserves, and a range of equipment, such as laptops, iPads, calculators, and headphones;
- the Marion McKinnon Office of Adaptive Technology and Services, which ensures that Penn State students across the Commonwealth have equal access to University resources;
- and the yet-to-be-named leisure reading room, which contains best sellers, mysteries, science fiction, cookbooks, and other "fun" reading to help students and faculty relax.

However, it is the west end of the floor that has the greatest concentration of new features and services and that has drawn record numbers of students and visitors. It is the west end—henceforth referred to as either the Knowledge Commons or simply the Commons—that will be described below.

Description

The Knowledge Commons offers several seating areas, as well as computer workstations, group study rooms, multimedia production rooms, practice presentation rooms, and an instruction room (Figure 1). The "living room" areas have comfortable lounge chairs and coffee tables that are easy to arrange in whatever configuration students want. These appear along the perimeter, often near windows, to take advantage of natural light (Figure 2). Plants are plentiful, either in single containers or as part of a green wall and a living wall.

Figure 1

Tombros and McWhirter Knowledge Commons. See the interactive floor plan at securaps.libraries.psu.edu/content/kcpublic

Forty-eight desktop personal computers with 24-inch monitors sit on tables large enough for students to place their personal devices, books, or food alongside the keyboard. All tabletops contain electrical outlets to allow students to plug in the numerous devices they bring with them (Figure 3). Based on the computer usage reports, students spend more time at these computers (average of 90 minutes per log-in) than at computers in a traditional lab (average of 45 minutes). Students' comments have also been positive: "I had room to spread out"; "The table is really big, the screen is really big. Two people can work together"; and simply, "Love the desk space" (Donahue, 2013, p. 136). An upper-level student wrote me, "I like to come here because the desks have enough space that I can spread out and not get into anyone else's way[;] also the computer screen is very large so I can do multiple things at once" (R. P. Mack, personal communication, March 7, 2014).

There are nine group study rooms, with white boards and interactive monitors (Steelcase's Mediascape units). The group study rooms can be reserved through the university's Event Management System software. Students are able to reserve a room for three hours per day, two weeks in advance. Reservations can be made in person at the library service desk, by phone, or online. The rooms are very popular and in high demand. As one student commented, "Here we could schedule a time and know that people won't come in" (Donahue, 2013, p. 53). Students appreciate this ability to secure a convenient and quiet space for their groups. These rooms are usually fully booked in the afternoons and early evenings, especially during midterms and finals. Because of the high demand, we were unable to fill 611 of the 10,445 requests made during the fall 2013 semester. The group study rooms are clearly one of the most popular and widely appreciated features of the Knowledge Commons. We anticipate that demand will remain high, and we have plans for additional rooms in a future expansion.

Figure 2
Living room area, Knowledge Commons

In addition to these rooms, there are six production rooms where students can edit video and audio recordings. These rooms are managed by the multimedia consultants as part of the Media Commons @ the Knowledge Commons. When not scheduled for editing a video or podcast, students can use them as group studies.

The multimedia consultants also oversee the One Button Studios (OBS) in this space. The OBS is an easy-to-use video production room. By simply inserting a thumb drive into a USB hub, students can access lights, camera, and microphone. Once they load their PowerPoint presentations, drop the green screen, or place themselves in the middle of the screen, they need only to touch a button to activate all of the equipment required to record their presentations.

In its first year, 4,200 people created more than 270 hours of video. Faculty appreciate the ease with which students can record a presentation and then critique themselves. University instructors have also recorded lectures and presentations that can then be placed on the course management system for their classes to view when the instructors are traveling or when snowstorms necessitate class cancellations. Because of its popularity, the OBS has been replicated in other departments and computer labs on the University Park campus as well as on several other campuses in the Penn State system.

Finally, there is a 40-seat iMac instruction room. Its "X"-seating configuration eliminates rows and positions each student within 15 feet of one of the five projection screens. Instructors control the number of projectors and screens in use via a Crestron room management system. They can teach from a podium in the center of the space or use Doceri software to advance slides or project websites from anywhere in the room.

Throughout much of the academic year, the Knowledge Commons is open 24/5 (Sunday through Thursday). During the last two weeks of the fall and spring semesters, the Commons and the entire library are open 24/7.

Figure 3

Larger monitors and surfaces proved popular with students. A living wall can be seen in the background.

Figure 4

Student using the One Button Studio

Services

The Knowledge Commons includes writing tutors, technology tutors, information technology lab consultants, information technology service desk consultants, and multimedia specialists as well as librarians and library staff. Many of the non-library units mentioned had been part of the library before the Knowledge Commons opened but on a much smaller scale. Each of these six units has its own Knowledge Commons service point. All together, these service points are staffed by nearly 150 employees. The largest numbers are students employed by Penn State's Information Technology Services (ITS). After a detailed description of each service, data from the fall 2013 semester is provided to illustrate its present use. When possible, I have also included data from the fall 2010 semester (pre-construction, pre-Knowledge Commons opening) to assess the apparent impact of this new academic facility (Table 1). This table also identifies the number of hours in a typical week each service has been available, before and after the Commons opened.

Table 1

Service Hours per Week and Semester Service Requests, Pre- and Post-Knowledge Commons

Service desk	Service hours per week (Fall 2010)	Service hours per week (Fall 2013)	Semester service requests (Fall 2010)	Semester service requests (Fall 2013)
Writing Tutors	15	10	255	210
ITS Lab Consultants	93	96	NA	3,517
Tech Tutors	NA	35	NA	207
IT Service Desk	40	74	4,050	6,365
Media Commons	45	73	375	4,724
Library Service Desk	95	148	3,720	9,783
Total	**288**	**436**	**8,400**	**24,806**

Note. *NA = Not available*

The library's partnership with the Learning Center and its writing tutors dates back to 2006. These tutors arrive in the Commons after the Learning Center, which is located elsewhere on campus, closes at 10 p.m. Typically, two to three student tutors work until midnight in the Commons, Sunday through Thursday, every semester (in 2010, prior to the Knowledge Commons, tutors were available for an additional hour, until 1 a.m.). Since the Knowledge Commons opened, a group study room in the leisure reading room has been reserved for their use. Prior to this, the tutors sat at a table in an open area on the first floor of Pattee Library. The group study room provides a quieter and more private space for students to meet with their tutors.

During the fall 2010 semester, 255 students met with a writing tutor in the library. In the new location, this number actually decreased, but so did the number of hours the writing tutors offered. The drop in use (about 15%),

however, was less than the drop in hours (about 33%). The Director of the Penn State Learning Center and I believe that the numbers can be increased with adding service hours and/or with better marketing and promotion.

Information Technology Services (ITS) hires and trains students to work as lab consultants, tech tutors, and service desk consultants. ITS Lab Consultants have been in the library since 2007. The Tech Tutors and IT Service Desk Consultants were introduced when the Knowledge Commons opened in 2012. Initially, all three units were located behind one IT service desk. To distinguish the services, each unit assigned t-shirts of a different color to its workers. The service desk was too small to house multiple teams, however, so each unit was moved to a separate service point several months after the Commons opened.

ITS Lab Consultants provide technical support for public computers in the library as well as another 40 computer labs elsewhere at University Park. Having an established presence in the library, they were early partners in the planning of the Knowledge Commons. They have a service desk in the Knowledge Commons and one in the Sidewater Commons. A third service desk, opposite the multimedia classroom, was added during summer 2012. In addition to troubleshooting any problems with printers in these areas, they roam all floors of the library, putting paper in printers and resolving other hardware problems. Four consultants usually work each shift. The hours are reduced during the summer, but during the fall and spring semesters, they are extended until midnight daily. During the fall of 2013, 112 student workers responded to 3,517 user requests and serviced the 21 printers in the libraries 17,842 times. Data is not available for the fall 2010 semester.

The Tech Tutors assist students, faculty, and staff in the use of software and web-based application tools. They are housed in a very visible group study room (W122) in the Knowledge Commons. They also have a space in a large computer lab located elsewhere on campus. They are available Monday through Friday, 11:00 a.m. to 6:00 p.m. Like the writing tutors, this service is not available in the Knowledge Commons during the summer. Between 10 and 15 Tech Tutors support the two locations.

Tech Tutors were added to the Knowledge Commons at the start of the 2012-2013 academic year. They did not exist before then. Thus, there is no comparable fall 2010 data. In the fall of 2013, the Knowledge Commons' Tech Tutors assisted 207 students and faculty. Help with Excel, Word, WordPress, network storage, and coding/programming questions were most frequently requested by students. ANGEL, the university's course management system, was first among the faculty. Sessions ranged from a few minutes to greater than one hour that semester, with an average of 35 minutes per session (this increased to 46 minutes in the spring 2014 semester). As indicated, the Tech Tutors service is new, not only to the library but to the campus as well. They were not considered during the planning and development of the Knowledge Commons. Once formed, however, the library and its IT partners saw how they complemented the range of IT support provided in the Commons. Nathan Culmer, who oversees this group, appreciated the value of developing a new service in a busy area: "Having boots on the ground so to speak in a high profile, high traffic area is worth its weight in marketing gold [and] the association with the library is an asset" (Donahue, 2013, p. 97). I decided to place them near the entrance where they are very visible in order to help this new service establish itself.

IT Service Desk Consultants handle problems that users have with their personal electronic devices, such as phones, iPads, laptops, and home computers. The most frequent requests concern problems connecting to the Wi-Fi network, removing viruses, or installing new software, but they have also fixed problems with jammed keys and cracked screens. The service is available to anyone with a Penn State affiliation—students, faculty, staff, alumni, and retirees. Forty students work at this desk. Their hours are the same as those of the ITS Lab Consultants.

Prior to the Knowledge Commons, the IT Service Desk was located in the basement of a major classroom building. As the former head of this service, Mark Warren, said: "This location was less than ideal" (personal communication, July 28, 2014). Few knew that it existed; many could not find it. With the move to the Commons, IT Service Desk staff were able to add more hours, almost doubling the time the desk was staffed. At the same time,

service requests increased by 36% from 4,050 to 6,365. Although the increase in hours did not result in a corresponding increase in requests, all of those who use this service appreciate its new central location. Library administration anticipates that the demand for IT support will grow as the number of personal electronic devices students bring to campus increases.

From the beginning, the university's Media Commons was a key partner. This unit in the Knowledge Commons occupies approximately 1,200 square feet in the northwest corner of the first floor. Two full-time multimedia consultants, supported by additional part-time and student employees, oversee its operations. During the academic year, it is open until 9:00 p.m., Sunday through Thursday, and until 6:00 p.m. on Friday. The consultants advise faculty on ways to add multimedia projects to their course requirements and assist students with ways to complete such work, through individual consultation and classes. Examples of multimedia class assignments and faculty testimonials can be found at the Media Commons website (mediacommons.psu.edu). Students can reserve one of the six production rooms to meet with a consultant or to work on creating and editing their audio and video recordings. The Media Commons also includes the two practice presentation rooms called One Button Studios (OBS). According to Ryan Wetzel, Media Commons Manager, "By removing the uncertainty of using unfamiliar media technology like lights, cameras, and microphones, students can concentrate on their content and delivering their best presentation" (personal communication, July 31, 2014).

The Media Commons had been in the Pattee Library since March 2009, but it was housed in a much smaller and less visible space on the second floor. The new, expanded, more attractive and functional space with the addition of the OBS has resulted in a dramatic increase in utilization. Although the Media Commons' hours are currently 1.6 times greater than in fall 2010, the number of requests increased a remarkable 12.6 times. During the fall 2010 semester, when it was on the second floor, 375 patrons used the Media Commons. Three years later, as part of the Knowledge Commons, 4,724 students, faculty, and staff did. The Media Commons @ the Knowledge Commons provides the best testimonial to the impact new technology and improvements in physical design can have on students' learning activities.

Technical details, room requirements, and the software application needed for all of the OBS equipment to work together are available online (onebuttonstudio.psu.edu). As a result, dozens of universities in the United States have created their own studios, and the American Library Association recognized the OBS in 2014 with an award for "cutting-edge technologies in library services"(Wright, 2014, para. 7).

The services identified thus far are provided by students and staff hired, trained, and supervised by either Penn State's Learning Center or the ITS Department. They are not library employees. Each of the five units above has its own supervisor. As Head of the Knowledge Commons, I routinely meet with these supervisors as a group. There are no formal reporting lines. Yet, we often discuss problems that have arisen and explore solutions to ensure that our users receive good service. I also participate in their employee training and orientation programs for these units. When students and staff provide exceptional customer service, I make it a point to praise them to their supervisors. During tours and presentations, I ensure that visitors and guests hear from the students who are sitting at the service desks. All of these steps contribute to the successful partnerships established in the three years of operation.

The last unit in this description is the library service desk. Whenever the Commons is open, there is at least one library employee stationed there. Since it opened, its staffing model has changed several times in response to the skills needed and the volume of traffic. The current model appears to be working well: Staff and student workers rotate between the library service desk in the Commons and two other reference desks, which are located on other floors of the library. Based on our observations, hourly head counts, and data on when we receive the most questions, we added additional staff in the afternoons and most evenings from Sunday through Friday (we have not found that a second person is needed on Saturdays). A reference librarian was hired to provide coverage on Sundays and weeknights. When that person is not available, full-time library employees provide the additional support. These

individuals are often information support specialists whose primary duties include desk coverage at one of the six subject library desks in the complex. A few librarians from these areas also provide support. The information support specialists are advised to refer patrons to the appropriate subject librarian for complicated reference needs.

We use DeskTracker, a data collection program, to track patron questions and whether they are asked in-person, by phone, or online. When comparing fall 2013 desk activity with fall 2010, the most suitable desk for the comparison is the one that previously existed on the first floor of Pattee Library. Admittedly, there are problems with this comparison. The Knowledge Commons library service desk is in an area with higher foot traffic. Its staff now provides more hours, and they are also the primary point of contact for students making reservations for the group study rooms. On the other hand, the staff in its previous location answered all phone calls to the general number for the library. Keeping these differences in mind, the total number of questions asked at the old desk was 3,720 (fall 2010) versus 9,783 (fall 2013)—increasing 2.6 times. Much of this increase can be attributed to making room reservations and providing directions. As the supervisor of the IT Service Desk noted, "Their arms [those of staff at the library service desk] are permanently cocked with their finger pointing towards our desk" (Donahue, 2013, p. 89). Since the Commons opened, there has been only a slight increase in the number of reference questions, which rose only 3%. As students discover the online reservation systems and the IT Service Desk, we hope to see fewer reservations and directional questions, thus, freeing staff to devote more time to reference questions.

In addition to these usage statistics, there are other indicators that the Knowledge Commons has resulted in heavier use of the library itself. The library's entrance counts are 16% higher (1,021,692 in fall 2010; 1,186,434 in fall 2013). The head counts indicate that the library is often at capacity (2,750 users), especially at midterm and the end of the semester. In addition, computer usage reports indicate that the Knowledge Commons computers are very heavily used, with a higher number of log-ins per machine than any other public computers on campus. Furthermore, anecdotal student comments have confirmed the Commons' popularity and that of the library housing it. As I have given tours, I have heard comments like "very nice upgrade," "about time—I actually use the library now," and the colloquial "freaking sweet." A graduate student completing her studies expressed her appreciation to me, writing: "I used the Knowledge Commons every day for the last year while I was job hunting, teaching, and writing. The environment provided a beautiful setting which gave the necessary atmosphere to produce good work" (A. Kazeem, personal communication, August 11, 2014).

Conclusion

Although these before-and-after comparisons of student use must be viewed with caution, they provide consistent evidence of a positive impact on library utilization at University Park. Unlike Shill and Tonner (2003, 2004), this study offers evidence that the addition of non-library facilities and services, such as those included as part of the Knowledge Commons at Penn State, can increase student library use. The increased visibility of these services and their location in more attractive and accessible spaces have been associated with an increase in library gate counts. More importantly, and more directly, when use of specific services is compared before and after their inclusion in the Knowledge Commons, we find that all but one has increased—in some cases, dramatically. When the changes in the numbers of hours are considered, three of the four services for which there is data appear to have benefitted from inclusion within the Commons.

My colleagues and I recognize that usage reports alone are not sufficient to assess the success of this new space and have begun to further explore how students are using the Commons and what impact it has on their academic success. My research assistant and I are now examining students' use of the Commons and comparing it with their use of a traditional space elsewhere in the library and also with a computer lab in a classroom building on campus. During November and December of 2014, we conducted "seating sweeps" of these spaces, using Given and

Leckie's (2003) methodology. Beginning in the spring of 2015, we will distribute a survey and interview students on their choice of study space. With this data, we hope to better understand why students chose a particular place to work and how physical settings influence their learning behaviors.

Notes

[1] *Transforming the Learning Experience: Queen's Learning Commons First Annual Report*, http://library.queensu.ca/learningcommons/QLCannualreport_0506.pdf

[2] See *Learning Commons Team Report,* http://homercommons.uconn.edu/about/Learning_Commons_Report_Abridged.pdf

[3] See *G. Wayne Clough Undergraduate Learning Commons: The Academic Crossroads of Campus. 2013 Annual Report,* http://clough.gatech.edu/clough_report2013.pdf

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