Learning Space Service Design

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Much progress has been made in creating informal learning spaces that incorporate technology and flexibly support a variety of activities. This progress has been principally in designing the right combination of furniture, technology, and space. However, colleges and universities do not design services within learning spaces with nearly the same level of sophistication or integration. Nor do they adequately assess their services. This paper calls for a focus on designing services to facilitate better learning experiences. It describes the fundamentals of service design practice, a selection of exemplary spaces, and the implications for design, budgeting, and staffing.

Services Within Spaces, Two Approaches

Lofty ceilings, sleek design, great technology. These characteristics describe the typical Apple Store. And yet, they leave a crucial part of the stores out – their services like the consultations at the Genius Bar, how-to classes, events, and roving staff that help customers. The spaces and the services of Apple stores are inseparable; you cannot fully describe the store with a floor plan alone but need a calendar of events and list of services as well. This is because the stores were conceived as "public spaces like libraries" that support the "ownership experience" not just the "buying experience" (Johnson, 2004). This integration of space and services helps Apple build loyalty and community among its customers while helping them be more productive.

Based on my experience consulting with over 20 academic institutions and a broad literature review, higher education lacks this integrated approach to designing services and spaces. For instance, most institutions' space guidelines and classroom guidelines fail to mention services and those that do generally refer only to technology support (Felix, 2011). The design of learning spaces is focused mostly on the first aspects we described of the Apple Store: the proportion and configuration of the space, the materials and furniture, and the technology. When services are considered – such as in learning commons spaces within libraries – they are often developed after the space, designed from the provider rather than user perspective, and considered individually rather than as a system.

The Importance of Services in Learning Spaces

Services within learning space might include clinics, readings, tutorials, classes, meet-ups, meeting facilitation, research consultation, writing and presentation coaching, or technology lending and support – to name a few. As an interface between people and the spaces they inhabit, services can determine what kind of experience a student or faculty member will have as much as physical characteristics do. Poorly designed services are not only unpleasant to use but may also be more costly or difficult to deliver such as when additional staffing is needed within a library because of the sightlines within a space.

Services also create opportunities to contribute to student engagement as measured by surveys such as the National Survey of Student Engagement (N.S.S.E.) because attendance at an event like a reading or use of a writing coaching service promote interactions and social learning experiences among students and faculty that are correlated with higher engagement (Kuh and Gonyea, 2003). Exemplary spaces, like those described later in this paper, have shown that services can build knowledge, skills, and community. They can provide for a more personalized experience that accommodates different learning styles. In addition, they can enable better sharing of resources and ensure spaces are active and well-utilized, even as needs change.

Keeping Pace and Assessing Progress

Indeed, there are fundamental shifts in mobility, personalization, and interaction to which institutions must respond (JISC, 2006) if their spaces are to keep pace and

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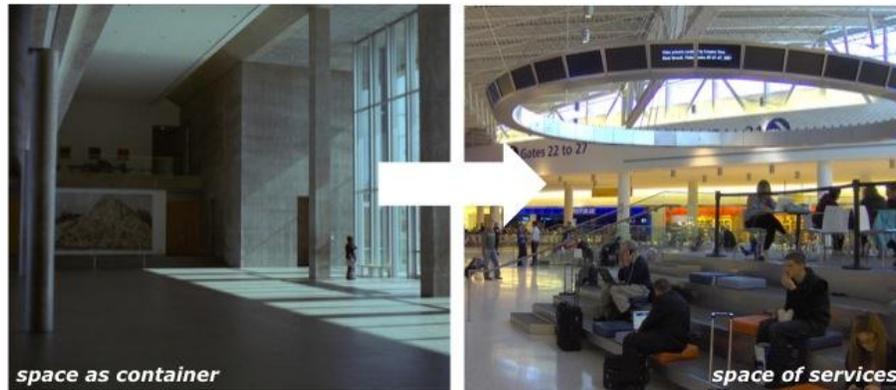
Figure 1. Moving from space as a container to a dynamic system of services.
Note: Modern Art Museum of Fort Worth and Jetblue Terminal at JFK Airport, New York City, by Elliot Felix

support how people learn as Bransford, Brown, and Cocking have described (1999). Learning is happening everywhere, enabled by ubiquitous connectivity to the Internet for mobile devices like laptops, tablets, and smartphones. As Joseph Pine showed, we are in an age of mass-customization (1993), and in higher education this means moving from a "one-size-fits-most" philosophy to one of personalization to individual student needs (Department of Children, Families, and Schools, 2011). Andrew Milne argued that we have entered an "interaction age" where collaboration is the norm and where activities, services, and spaces exist to support communication among students, faculty, and information (2007). These shifts apply to both formal spaces like classrooms as well as to informal spaces like libraries, lounges, cafes, and other study spaces, whose importance Jamieson has described (2009).

Prompted by economic and environmental pressures and the habit of sharing on the web, we're moving from a culture of ownership to one of membership, as seen in services like co-working where members can use shared office space rather than having to rent or own it – other examples include Zipcar, NetJet, bikeshare programs like Velib, or even FlexPetz. Resource constraints and calls for accountability have also ushered in an era when institutions must measure their effectiveness and demonstrate their value, illustrated by initiatives like The EDUCAUSE Learning Initiative's Seeking Evidence of Impact (SEI) (EDUCAUSE Learning Initiative, 2011) or the Association of College and Research Libraries' "Value of Libraries" study (Association of College and Research Libraries, 2010).

As institutions try to keep pace with change, they are also faced with the difficulty of assessing how well they are doing, especially in terms of their services (Lippincott, 2006). Libraries are improving their assessment efforts but still fall short. For instance, LIBQual+ is the most commonly used library assessment tool but it measures services in a limited way: in terms of "affect" (empathy, responsiveness, assurance) and access to information.

Danuta Nitecki has also provided a overview of the current state of library assessment and noted a shift is required to keep pace as libraries move from reader-centered to book-centered to learning-centered paradigms (2010) as identified by Scott Bennett (2009).

To assess their spaces and services, institutions can think about three tiers of evaluation. They can measure *usage* as Dotson and Garris have done (2008), *satisfaction* through instruments like LIBQual+ (Association of Research Libraries, 2011), and *impact*. As each successive measure is more difficult to quantify, institutions can start with usage (quantifying the attendees, check outs, and logins), then move to satisfaction measures (assessing services through surveys and interviews), and then measure impact (correlating use of a service with a learning outcome) such as what the Noel Studio for Academic Creativity is doing, linking participation in communication consultations with higher achievement (R. Carpenter, Personal Communication, September 2011).

Service Design and How It Is Practiced

Service design can enable institutions to respond to these changes and enhance the experience of students and faculty by embedding services within learning spaces – services that promote interaction, provide access to experts, and respond directly to user needs. Some colleges and universities are beginning to use service design to help them research, plan, prototype, implement and evaluate services such as at University of Derby for the student enrollment process (Baranova, Morrison, and Mutton, 2010) and North Carolina State in designing its library service model.

As an emerging practice, no consensus definition of service design exists. Some define it by analogy: designing services as you would material products (Mager, 2010). Others define it not as a design discipline but more as a mindset or way of thinking that includes approaching services from the user perspective, thinking holistically in

terms of systems, and considering sequencing and time (Stickdorn and Schneider, 2010). For the purposes of this paper, we'll advocate for this shift in thinking (Felix, 2011) and define learning space service design as the process of holistically designing the service interactions among people, information, technology, and space so that services are usable, useful, desirable, and effective.

"touchpoints" of the journey and look for innovative ways to support the students at each: booking a room online, entering the commons, finding each other, locating the room, being oriented and trained for the room, getting help facilitating the discussion, collaborating, and giving feedback on the service afterwards. Having created several
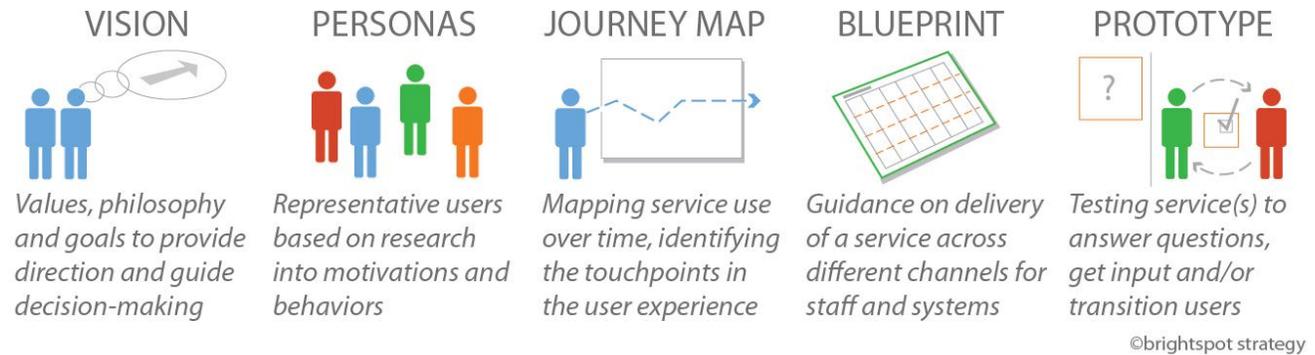

SERVICE DESIGN PROCESS AND TOOLS

VISION — Values, philosophy and goals to provide direction and guide decision-making

PERSONAS — Representative users based on research into motivations and behaviors

JOURNEY MAP — Mapping service use over time, identifying the touchpoints in the user experience

BLUEPRINT — Guidance on delivery of a service across different channels for staff and systems

PROTOTYPE — Testing service(s) to answer questions, get input and/or transition users

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Figure 2. Service Design Process and Tools. *Note:* **Service Design Tools, Persona courtesy NCSU Libraries; Journey Maps and Blueprints by Elliot Felix.**
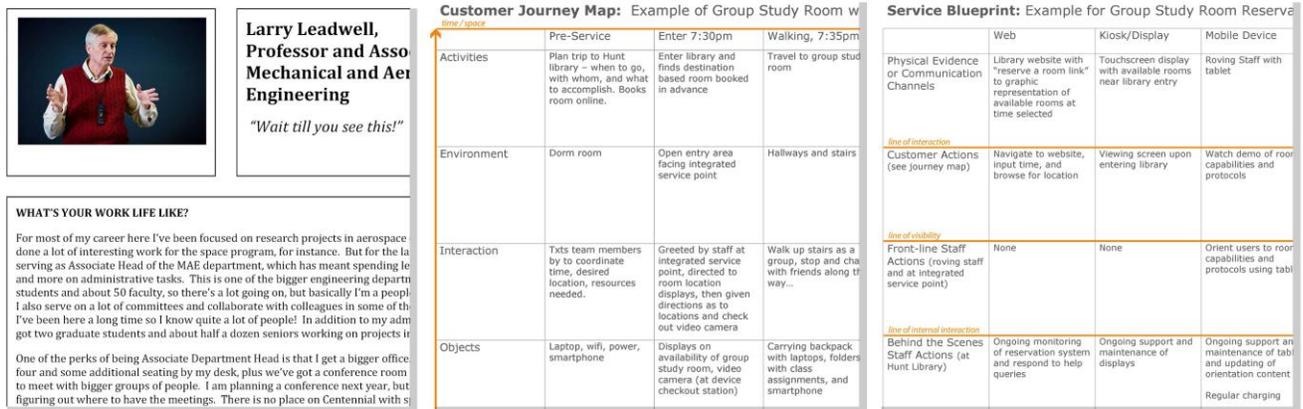

Figure 3. Service Design Tools. Copyright Elliot Felix.

There are a variety of tools that may be applied to the practice of service design (Tassi, 2010). Among these tools, three are core to the process: personas, journey maps, and service blueprints. To see these tools in practice, let us imagine designing a new learning commons that brings together information resources, technology, and services in a variety of flexible spaces. The design team and client conducts interviews, observational studies, and/or surveys and uses these to create *personas* that capture the motivations, behaviors, and expectations of key user types. Then the team creates journey maps that chart the experience of their personas before, during, and after they use a service. For example, to support a group of students meeting to work on a project, we would map all the

maps for a range of experiences and brainstormed the different services needed to support users on their journey, the team then combines findings from the personas and maps to create service blueprints (Shostack, 1984) that provide comprehensive direction on how services will be delivered on the frontline, behind the scenes, and in terms of infrastructure and systems.

Interactions and Services in Space

Employing service design for learning spaces means that we are not only designing space, but also time– conceiving the different activities and interactions that occur in spaces and how to holistically support people along their journey.

The interactions might include the following: *entering* a space or service, *locating* resources and other people, *hosting* people and events, *advising* people, *facilitating* meetings and discussions, *capturing* activity and work, *sharing* scheduled resources, *connecting* devices and infrastructure, and *exchanging* information and devices.

There are many services which may be offered to support students and faculty considering these interactions. Two fundamental types are events and consultations. Unlike space programming measured in square feet, planning events within learning spaces is a kind of operational programming measured in hours for an event that involves a group of people; for instance: a beginner-level clinic on video editing being held Thursday at 6pm in the learning commons. On the other hand, consultations are assistive services for individuals or small groups to gain knowledge and skills required for their learning. These include *consultative* services such as research assistance, *transactional* services to exchange equipment and devices (such as laptop lending) and *informational* services that provide access to information. These services are key ingredients for making *places*, not simply spaces, just as a home is more than a house.

Spaces as Dynamic Service Systems

As with the Apple Store example, retailers now commonly design the service offering within their spaces to include events and consultations that provide an enhanced experience for their customers. This gives people additional reasons to come to the store and builds community. For example, Home Depot offers how-to classes for home improvement projects, Orvis stores offer fly fishing classes,

particularly as we try to support learning as a social process in which students collaborate and construct knowledge as they interact with information and peers (Honebin, 1996) and as we follow established best-practices like those of Chickering and Gamson (1987). There are several exemplary spaces that show the service design mindset in practice – these are indeed places that are represented not only by their floor plan but also by their calendar as well. They also tend to be places that are actively "hosted" (Felix, 2010) – in each there is a group of people who actively manage the space and community through events and consultations. These examples include the following:

Figure 5. Consultations (L) and events (R) at Weigle Commons.
Note: **Photos by Weigle Information Commons,
http://www.flickr.com/photos/pennwic/.**

The Weigle Information Commons at the University of Pennsylvania provides a variety of technology-rich settings for students to work in, including booths, group study rooms, open study areas, and a digital media lab. They organize contests with awards and provide online tutorials and resources. The commons actively fosters community and collaboration by hosting events, offering student

Events	Consultations
Programmed activities delivered one-to-many or few-to-few or many-to-many	*Assistive services delivered one-to-one or one-to-few*
Writing clinics	Research consultation
Presentation clinics	Speaking/Presentation consultation
Software Training / Tutorials	Writing consultation
Hardware Training / Tutorials	Tutorials
Information literacy sessions	Technology support
Subject-based meet-ups	Lending devices
Readings and Performances	Information delivery
Social Events	Branded consults (e.g.: "Laptop Guru")

Figure 4: Examples of Services to be Designed for Learning Spaces, by Elliot Felix.

Whole Foods offers cooking classes, Trek Stores offer seminars on bike maintenance and repair and Joann Fabric stores offer sewing and craft classes.

More academic institutions can learn from these retailers' emphasis on designing services integral to spaces,

assistance workshops ("WICshops"), and bringing in partners like the writing center, learning resource center, and communication initiatives. For instance, in 2010, WIC provided "over 200 public workshops served over 1,560 attendees from around campus" and "over 60 training

sessions were conducted at faculty request for over 750 students."

The impact of these kinds of services can be seen in statements like this one from a faculty member about a training session: "I know the students learned a lot, and they are off and running now on their short films. So, please know that I really appreciate what you did today." (Penn Libraries, 2010).

General Assembly is a new kind of campus that provides educational programming, space, and support to facilitate collaborative practices and learning opportunities across a community, inspired by the entrepreneurial experience. General Assembly has a range of spaces, including work areas (shared and dedicated), a library, classrooms, seminar rooms, media rooms, and social and event spaces. These spaces and support services are accessed through a tiered membership model of access to space and services including classes on topics ranging from software development to start-up law.

These events enable the constant mixing of members and the public. The classes in particular have been well received with over 220 participants now attending them each week and one participant stating "This is 21st Century education

Figure 6. Workspace and event programming at General Assembly. *Note:* from SAI Business Insider Photo Tour: **http://www.businessinsider.com/general-assembly-tour-2011-1 Accessed June 2011.**

done right." (B. Hargreaves, Personal Communication, August 2011).

The Learning Grid at the University of Warwick "provides an exciting, innovative, integrated, flexible space that supports students by facilitating independent learning in new and changing ways." The Learning Grid features an innovative, student-run service model along with online resources and referrals to other University services. It offers a range of technology for students to learn collaboratively and to create multimedia projects, along with drop-in workshops and one-on-one consultations with student advisors. The success of the Learning Grid is perhaps best seen in its high utilization (often 50% full at 2am) and by quotes from students who call the Learning Grid a "utopian learning experience." (R. Woolley, Personal Communication, August 2011).

The Scholars Commons at Florida State University within Strozier Library facilitates the research and study of

graduate students and faculty by providing space and services. It has a reading room, a computer lab, and smaller

Figure 7. Student-led, mobile services at the Learning Grid. *Note: By* **JISC InfoNet, http://www.flickr.com/photos/jiscinfonet/with/146841784/**

rooms for presentations and discussions. Its services are designed to meet the needs of a specific community and include the request, delivery, and purchase of information resources; research consultations; statistics consulting; media assistance; and equipment checkout. It also hosts programs such as lectures, discussion groups, graduate research fairs, and symposia. Gloria Colvin, one of the creators of the Scholars Commons notes that assessment of the spaces and services is planned, but in the interim, "A walk through the Scholars Commons testifies to the success of the concept" as you can see students collaborating and faculty working with library staff (2010).

Shifting to Learning Space Service Design

In all these examples, the service offering has been intentionally designed to create a better user experience – one that is integral to the space and designed from the user perspective. Making this the rule rather than the exception for informal learning spaces will require a shift among colleges and university planners, administrators, and staff.

First, the role of design has to be reconceived from a practice that is about one-time delivery of a design product to ongoing support for use. Second, rather than thinking of space as an inert container, we must consider space as a dynamic system of services that mediate between people and the environment. Third, capital and operational budgets – often separately controlled now – will need to be considered simultaneously; for instance, considering the
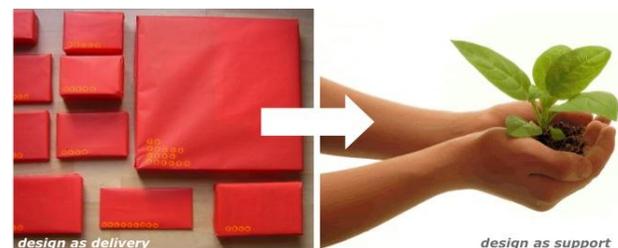
Figure 8. Moving from Design as *Delivery* **to Design as** *Support,* **by Elliot Felix.**

Conventional Thinking	Service Design Thinking
Design the container and its contents	Design the activities and interactions
Design once, completed when occupied	Design is an ongoing, iterative process
Operational and Capital budgets separate	Operational and Capital budgets linked
Use standards of what worked in the past	Invent new models, working with users
Focus on consistency, one-size-fits-all	Focus on personalization, responsiveness
Design from institutional perspective	Design from user perspective
People will ask for whatever help they need	Proactive research / service uncovers needs

Figure 9. The Shift from Conventional Thinking to Service Design Thinking, by Elliot Felix.

purchase of another high-end projector versus increasing staff time for better services within the space. Lastly, this shift will mean new staff roles, skills, knowledge, and training.

Staff supporting learning spaces – either on the frontline interacting with students and faculty or behind the scenes supporting the systems – will thus do and prepare for their jobs differently. New roles will be created, such as roving staff that proactively deliver services rather than waiting for people to approach a desk. Old roles will need to be rethought so that space managers understand that services like events and consultations fall within their purview as "hosts" ([Felix, 2010](#)). New skills will be needed to design, implement, and evaluate services, such as user empathy, mocking-up or prototyping ideas through tools like sketches and skits and embracing ongoing evaluation and refinement. Needs for new knowledge and skills will translate into new recruitment, training, and service practices; for example developing routines for frontline staff to "get into character" (C. Tonkinwise, Personal Communication, March 2011).

The Impact of Learning Space Service Design

Service design can help colleges and universities keep pace with change by supporting learning with staff that are proactive and services that are more targeted, efficient and personalized. Service design can contribute to student engagement, help foster community with events and activities that bring people together, and use this programming to ensure that spaces are activated and well utilized. Service design can also help institutions be more responsive since services can often be changed faster and more economically than physical spaces. Service design can enable the sharing of resources, using membership models and doing more with less. Lastly, Service design can align the construction and operation of spaces so that spaces are not built in ways that are difficult to support or larger than an institution can afford to keep sufficiently open.

These benefits will only be realized if we view services as something integrated into the design process rather than scrambling after the fact to understand how to support and activate a physical design. We must also integrate planning and assessment into the process so that we can understand how well spaces and services are working – and working together – as well as what future needs might be. Along the way, services could serve as a useful stepping stone as we endeavor to link space to learning outcomes because one can more directly correlate use of a service with academic success than one can with a space, where many more variables exist.

As learning space professionals, we'll know we've made these shifts when we no longer think of it as space we are designing, but rather as experiences in time. We'll no longer be able to represent a space with floor plan alone but will need its event calendar, service list, and staff profiles as well. Student and faculty will be supported and surprised, informed and inspired – all made possible by dynamic systems of spaces and services that are continuously evaluated and improved.

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