

Lost Spaces as Hidden Assests: A Reflection on a Current Campus Design Issue

Torina Wilson

Senior, BSCRIP; Cal Poly San Luis Obispo.

Amir Hajrasouliha

PhD; Assistant Professor,
City and Regional Planning, Cal Poly San Luis Obispo.

University campuses face two common problems: lack of facilities for the expanding enrolment numbers, and inadequate spaces for the changing education and recreational needs. Wilson and Hajrasouliha discuss the potential of adapting left-over campus open spaces to respond to these needs, adapting their physical and technological capabilities to encourage multiple academic and non-academic functions.

Physical planning for higher education institutions is loaded with uncertainties, due to the volatile nature of higher education in the twenty-first century. The great campus planners of our time have implemented innovative design strategies to keep the American tradition of the campus alive and relevant. However, there is a growing disconnect between the concept of the “learning community” of past centuries, with the feasibility of providing the essential amenities to every campus. Higher education is experiencing a financial crisis, with federal and state funds increasingly diminishing over time. Existing facilities for most universities are over-utilized and crumbling while resources shrink, and the student population increases faster than improvements can be made.

The shifting nature of the way we learn is challenging modern campus planning as much as a lack of funding is. Some university facilities can become underutilized as the switch to online schooling becomes increasingly popular. As a result, the prospect of constructing new facilities, as much as they are needed, is not without huge risk.

Without the resources and funding in place to construct state-of-the-art facilities, the needs of students are going unmet. For an educational institution, especially a public university, funding can be tight, and updates to existing facilities can be nearly impossible. Furthermore, with constantly evolving technology, it is essential to be creative regarding designing learning environments. The bottom line is that the campus environment should address the academic and non-academic needs of students in cheaper and more efficient ways.

These challenges evoke a question regarding what type of facilities an institution should invest in, and whether it would have a significant impact on students’ well-being both academically and personally, without becoming a financial burden? One of

the solutions is rethinking the role of outdoor spaces on campuses; the patches of campus ripe with opportunity, practically begging for programmatic planning and a visual upgrade.

Although urban design scholars – most well-known among them being Trancik (1986) - have raised the problem of “lost spaces” in cities, this issue is much less explored on college and university campuses. The concept of “lost space” is about the inadequate use of outdoor spaces, which leads to the loss of value and meaning of space. Examples of lost spaces in the urban context are “ the leftover unstructured landscape at the base of high-rise towers....the surface parking lots....the no-man’s-lands along the edges of freeways that nobody cares about maintaining, much less using...” (Trancik,1986, P 3). The creation of lost spaces should be avoided from the beginning; however, they can be redesigned into valuables spaces with meaningful connections to their surroundings. Turning “lost spaces” on campus into “learning environments” can be an added value and meaning to campus as a whole.

Figure 1: Example of a lost-space in Cal Poly's campus.





Figure 2: Underutilized space across the street from Cal Poly's library.

An increasing number of planners and architects have been working with schools worldwide, particularly in elementary schools, to activate outdoor spaces and transform them from places of play to places of learning. However, these spaces go beyond a learning environment, and they foster collaboration, creativity, and can improve overall social wellbeing. In areas with a mild climate maximizing the use of existing outdoor spaces- instead of constructing new facilities- can save millions of dollars, act as an aesthetic reprieve, and enhance the overall cohesion and imageability of campus. What may have been previously considered a “lost” space, a lonely patch of dirt between two otherwise attractive buildings, can become a dynamic space that can foster student success, and can have the amenities needed to support it.

Campus Open Space and Student Success

There is a body of literature supporting the idea that outdoor learning environments contribute to overall student success. Strange and Banning (2001) suggest a ‘Hierarchy of Learning Environment Purposes’ where the three characteristics of an outdoor learning environment must foster (presented as tiers):

Tier 1: Safety and Inclusion - allows users of space to feel both safe and welcomed in their environment, encouraging a user to feel comfortable using and interacting with space;

Tier 2: Involvement - encourages a user to engage in a meaningful role, which can range from leading a group discussion to participating in local activism; and

Tier 3: Community - the presence and feeling of community is integral to a user's positive reaction to others in the space, being comfortable sharing thoughts, feelings and ideas.

Each of these tiers is essential when planning an outdoor space, whether educational or social. An ideal campus open space should provide safe, inclusive, interactive places that foster a sense of belonging among students. We need to study students’ daily needs and behaviors on campus to provide such an environment, fully maximizing the use of outdoor spaces. In other words, we need to see outdoor spaces as behavior settings. A behavior setting is a concept devised by ecological psychologist Roger Barker to explain a set of environmental and physical features that tend to generate the same types of social and human behaviors (Barker, 1968; Schoggen, 1989).

Behavior setting principles are successful when a user arrives in space and immediately knows its purpose. It is the practice of designing spaces that influence certain behaviors through cues. Educational spaces, when implemented through behavior setting, provide features and tools for users to interact with space educationally. Such spaces can have outdoor whiteboards, electrical outlets, and varying table sizes with moveable seating to support any size group with any need. Alternatively, if an outdoor space has no furniture and no shade, such lack of amenities will likely discourage the use of the space as a destination.

How to make it happen?

The question then becomes how can we design dynamic open spaces that encourage not only educational and social uses but also accommodate multiple activities, multiple needs, and various sized groups. No matter the institutional context, this space must be able to accommodate multiple uses, from a semi-formal classroom to a group study space, to social uses like getting lunch with a friend or perhaps an open-mic night. These activities can be categorized into two broad categories:

Academic: activities related to education and scholarship;

Non-Academic: activities related to students’ everyday lives, which are not directly related to their learning activities.

Some academic and non-academic activities can coexist in one space. For example, a small table and chair can be supportive of eating lunch or drinking coffee (non-academic) while also supporting studying or working on a project with a partner (academic). The design attributes within a space can allow for fluctuation in its nature and accommodate the needs of those wanting to use it, whichever their intended use. Therefore, it is critical to allow for a dynamic use of space, which can accommodate both academic and non-academic uses interchangeably.

Any learning environment should be designed as a behavioral setting for one or more of the following academic activities (Schuell, 1986):

Content Focus Learning (students are receivers): Activities which involve student interaction with content can include listening and watching a live or recorded talk, engaging with a written or visual text, engaging with multimedia, or a combination of these. Example: Live lecture.

Interactivity Focus Learning (students are interactive participants): Activities which involve social interactions, peer relationships, informal support structures, and teacher-student interactions. Example: Group Assignments.

Production Focus Learning (students are doers): Activities which involve design, application, creation, and production of something. Example: Studios and labs.
Reflection (students are thinkers): Activities which involve studying, memorizing, and thinking about what they already know and have experienced concerning the topic being explored/ learned. Example: Studying alone.

Learning environments should have some of the following qualities, based on the academic activities that they support. The qualities provided below are by no means an exhaustive list but will guide designers to consider various learning experiences of students.

Elastic: A space that is flexible, and open to various learning activities and promoting learning through manipulation of the environment.

Inclusive: A space that is welcoming to students of all disciplines, demographics, and backgrounds.

Interactive: A space that engages students in scientific activities and learning practices with others.

Innovative: A space that incites excitement, interest, and motivation to observe, explore, learn and interact with space, and promote creation, innovation, and exhibition.

Restorative: A space that allows for memorizing, reflecting, as well as relaxing.

Although it is easy to understand the importance of these qualities for learning environments, it is not easy to identify the environmental characteristics that create those qualities. For example, “inclusive space” is about creating a welcoming space for all students, but what that means regarding the physical manifestation of inclusivity is yet to be explored in its context. Although there is existing literature discussing how to design an outdoor learning environment at schools, there are very few examples of how to design such a space at higher education institutions. University campuses are typically larger with more specialized facilities and amenities. A comprehensive plan is needed to vision a spatial organization for campus open spaces and their function. Due to the larger size of university campuses, a hierarchy of spaces is needed to address various needs



Figure 3: A flexible space that supports multiple activities.

across campus. However, the most dynamic spaces of campus should be centrally located, in the middle of, or near a space where students and professors can easily access.

This physical connection also applies to the uses around them. Locating a space meant for active use next to a vacant building or other open space that is not frequently used will discourage users from accessing the space. These spaces should be placed between and in the vicinity of buildings or stores, such as a library, café, or classroom building, where there will be people in and out at all times of the day. Having active uses on the perimeter of an outdoor learning environment will encourage a sense of activity and can incentivize maximization of the space. Additionally, these spaces should have adequate size to accommodate all the necessary activities for a space to allow for both social and academic use, and there must be enough space for all the activities to coexist in one area while also having room for privacy when needed.

In addition to the size and location of these spaces, there must be design elements that blend it to the adjacent environment, while also being distinct. A space that is visually appealing can incentivize a user to interact with space before they can make a judgment on its functionality. Some ways this type of space may be designed to support social and academic use:

Flexible Urban Furniture. Furniture that is light enough to move when needed encourage users of space to manipulate the position of urban furniture to fit any need at any given moment.

¹ Georgia Institute of Technology Office of the Provost | Georgia Institute of Technology | Atlanta, GA. (n.d.). Retrieved August 21, 2018, from <http://www.provost.gatech.edu/educational-innovation/reports/lifetime-education/initiatives/distributed-worldwide-presence>

Landscaping. The presence of landscaping in outdoor areas brings natural elements into the space reducing stress, increasing the sense of privacy, and providing much-needed shade while blending the built and the natural environments. These benefits also support a sense of safety.

Performing Spaces. These can be for either academic or social uses, learning or socializing: presentations and lectures, or can concerts, theatre, or club meetings for instance.

These design attributes exemplify only a few ways how these spaces can be planned. Ultimately, the goal is to create an inviting space that attracts individuals and groups, accommodating various simultaneous activities. While a corner can accommodate a large group discussing club activities, another may serve a small group studying for an exam, while in between the two a solitary person might be studying. These spaces must accommodate different types of academic needs while remaining flexible enough for non-academic needs such as a rally, a small concert, eating, or relaxing.

The emerging concepts for outdoor spaces are technologically rich. The affordable nature of using outdoor spaces as new facilities can mean that resources be invested in having them incorporate advanced technology. Emerging technologies such as Virtual Reality, Augmented Reality, and Artificial Intelligence can be incorporated into a site for recreational, educational, or experimental use. These concepts revolve around “an open space that can be programmed to suit the needs of learners, a venue for performances and events, and a way to provide social glue for learners, professors, and others.”¹ This will be a gathering space for all: a place for professors, staff, and students to meet, for typically remote students to gather and work on projects and a to access university resources such as a bookstore or library. The purest form would be room in a co-working space that students in remote locations can use for chats and group meet-ups. A more developed model, which is currently under developed by Georgia Tech (Georgia Tech atrium), would have some staffing and specialized areas, such as a maker space, enhanced Virtual Reality or an Artificial Intelligence interface.

Haggans (2018) highlights the changing physical landscape of universities and how they are dealing with design and programming conflicts in the age of technology. Typical university design is around place-based classes, which is now challenging as classes move online, and students can work remotely. Some scholars are pointing towards how to use physical facilities interwoven with technology, and transform the traditional learning environment to meet current student and faculty needs. These are dynamic spaces meant to serve as hubs for various activities instead of serving only singular activities. The

use of technology can generate a classroom space so dynamic that its use is entirely up to those who choose to interact with it. These spaces can tremendously enhance student success and can lead to a holistic learning environment that doesn't necessarily have to depend on indoor facilities since the use of technology can transcend any physical space and move classes to the outdoors and even to our homes.

Particularly if a university has limited space and cannot accommodate a sizeable programmatic area in one spot on campus, this need can be dispersed in smaller areas around campus, creating a hierarchy of dynamic spaces. One central location can be the hub where more advanced technologies meet academic and social interactions. A smaller outdoor space next to a library or classroom building can accommodate group discussions and can offer technology such as Virtual Reality, charging stations, or interactive screens. Another small left-over space near the campus cafeteria can be used for social gathering, and for students to interact with technology, and test the limits of how to use them recreationally. No matter the size of the space, the potential for using it as a dynamic behavior setting incorporating technology is limitless, especially when considering how dynamic technology is.

Final Remarks

To utilize existing “lost-spaces” as successful learning and recreational behavior settings, educational and social goals should be addressed simultaneously. These spaces must blend aspects of learning environments, social environments, and technological capabilities all in one to maximize their potential.

These spaces have not been adequately conceptualized and planned for by both public and private universities and educational institutions. The implementation of such spaces can save money, improve efficiency and student success rates, and provide for innovation in education and research. The first step in creating a dynamic outdoor campus space that fosters creativity, collaboration, and success is to start studying the most critical users themselves: the students. It is essential to survey the student body; assess their needs, their habits, and their environmental preferences; figure out where they choose to hang out; and understand which design attributes can support their campus life. At the same time, we must look at emerging technologies and decide how they can be plugged into an existing curriculum, create new ones, and maximize the educational and recreational uses of open spaces. Such an analysis can begin to form an understanding of how each space can be designed and programmatically implemented to foster success in universities.