Mapping the Hot Spots: Zoning Approaches to Space Analysis

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Abstract

This poster examines a preliminary approach to space design developed and implemented in Eastern Kentucky University's Noel Studio for Academic Creativity. The approach discussed here is entitled "Hot Spots," which has allowed the research team to observe trends in space usage and composing activities among students. The Hot Spots approach has yielded valuable insights into the design of flexible learning spaces that provide a point of reflection for the future.

Introduction

Space design is an important topic for higher education institutions across the United States and internationally. Recently, a number of articles, chapters, and collections have examined the design of learning spaces from many perspectives (Carpenter, 2013; Doorley & Witthoft, 2012; Martin 2010). For good reason, too, as space provides the environment in which learning takes place; through this important role, space either promotes or inhibits learning (Oblinger, 2006). Bemer, Moeller, & Ball (2009) suggest that the mobility of the space that they study might be incorporated into the design of future active-learning spaces. This mobility is an aspect of the space that promotes learning but also one that makes space design and usage challenging to examine.

While space design in higher education environments is not necessarily a new topic, the methodologies and approaches employed to examine these spaces need further and constant development. Although empirical methods serve programs and campus spaces well and provide data that help to shape the design or redesign of future academic spaces, such as Lee and Schottenfel's recent study of library spaces (2014), we argue that provisional methods--those that are in development and are somewhat experimental--can play a significant role in the approaches that academic leaders from a variety of disciplines play as they develop and solidify future methodologies. With this point in mind, we examine and reflect on the "hot spots" research project that assessed the space of the Noel Studio, a 10,000 square foot, active-learning environment in the heart of EKU's historic Crabbe Library.

About the Method

The authors offer a preliminary approach to space design developed and implemented in EKU's Noel Studio for Academic Creativity. The approach discussed here-- "hot spots"--involved several developing research methods used to establish a more robust understanding of the space and its activities, including the following:

- Semester One: Space observations - hourly walking rounds of each space noting the activities of students

- Semester Two: Space observations part two - hourly walking rounds of each space noting the activities of students
- Semester Three: Surveys administered to students after consultations

These methods, although provisional, allow the observation of spatial trends in usage and composing activities among students. The “hot spots” title suggests that we are interested in tracking patterns of space usage among students or spaces where continued or consistent activities occur over time. That is, this method highlights communication activities that occur regularly. Furthermore, these activities have also prompted the research team to separate the large, complex space into “zones” using the following breakdown of spaces in particular:

- Greenhouse: a large, open space at the center of the facility and freely available without reservation
- Media Wall: a wall of touch-screen monitors in a high-traffic area of the space connected to the Greenhouse
- Invention Space: a space connected to the Greenhouse with wall-to-wall dry-erase boards, magnetic tiles, and “manipulatives,” low-tech resources that facilitate learning in creative ways

Results

The results offered here suggest trends in the in the ways students plan projects and compose in a flexible learning environment.

1. Students tend to consciously select the space in which they choose to work. The project revealed that 75 percent of students intentionally chose the space they used. Additionally, those who purposefully chose a space had higher productivity scores and greater experience scores than those who did not intentionally choose a space. There was also a significant relationship between intentionally choosing a space and technology, as people who were purposeful about choosing a space tended to utilize technology. We contend that this observation suggests that students are thoughtful when selecting the spaces where they choose to think, create, and communicate. If students are choosing spaces deliberately, this data can also yield further developments and spatial decisions when redesigning or reinvisioning zones where activities occur.
2. Students tend to cluster around large, touch-screen monitors on the periphery of the space (the Media Wall). The majority of technology used by students in the Noel Studio was group-oriented, as 42 percent of students used the desktop computers and 37 percent of students used the large flat-screen monitors. The choice of large screen, group-oriented technology highlights the value of kinesthetic and visual communication-design spaces. Furthermore, visualization activities had a significant impact on students’ composition and productivity as those who came to the Noel Studio for this purpose had higher composing and productivity scores than those who did not. Moreover, these “visually inscribable” (Carpenter, 2014) spaces promote moving learning off of the page and into the social and kinesthetic space of large, highly public monitors. The space is

designed in such a way that it promotes visualization activities from invention stages to final polishing, creating a public gallery space for communication design and related activities.

3. Students tend to design communication as individuals and in pairs in larger, open, flexible spaces. In particular, 48 percent of students used the Greenhouse space when they visited the Noel Studio, and 56 percent of students entered the Noel Studio individually. This suggests that more students who were by themselves used the Greenhouse space than expected. Noting trends in collaborative activities will allow us to shape zones for these activities in future iterations of learning spaces.
4. Students tend to invent in small groups of two to four around low-tech dry-erase boards (the Invention Space). Specifically, 38 percent of students engaged in brainstorming activities while in the Noel Studio, and 26 percent of students came to the Noel Studio in small groups (two to four students). Furthermore, there was a significant relationship between groups of students coming and the technology they used, as fewer small groups were using technology than expected. The relationships between the space and technology employed might suggest the design of future zones and priorities for the incorporation of technologically sophisticated spaces and low-tech spaces, including how these two intersect and complement one another.

The trends noted here will help those working in the Noel Studio better articulate the relationship between space and activity. These trends will also assist administrators (and students working in the space) in making important decisions about not only future iterations of zone designs within the Noel Studio but also how the university community teaches and learns within this flexible environment. While much research that examines the intersection of space and pedagogy remains to be done, these observations provide an excellent basis from which to design and develop pedagogical models that facilitate effective composing practices among students.

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