Spring 5-1-2023

# Behind The Design

Natalia C. Smith
natalia_smith124@mymail.eku.edu

Follow this and additional works at: https://encompass.eku.edu/honors_theses

Natalia C. Smith

College of Letters, Art and Social Sciences, Eastern Kentucky University

Honors Program

Dr. Clint Stivers

May 1, 2023

**Table of Contents**

**Abstract**

Higher education is a place of learning and such a space requires the optimal design for a learning setting. While classrooms are an important space for learning in higher education, they are not the only place, where learning occurs on campuses. These spaces outside of the classroom are referred to in ways such as "private study areas," "writing centers," and "third spaces," but in this paper, these spaces are referred to as informal study spaces. These spaces are identified as any space, outside of a formal classroom setting, where students regularly congregate for academic purposes. Eastern Kentucky University (EKU) has a myriad of informal study spaces, old and new, spread throughout the Richmond, KY campus. In order to narrow the study and develop area-specific observations, this study focuses on three select informal study spaces on EKU campus. The informal study spaces analyzed include the Noel Studio, the Powell Student Center, and the Center for STEM Excellence. This research seeks to highlight the history of the identified informal study spaces, their progress through design, and the design's impact on the users of the spaces. The study also identifies what students and staff envision for the future of these spaces. To gain both the staff and student perspectives, a student survey is implemented alongside in-depth interviews, which are administered to voluntary faculty respondents. The progress of the design intents and impacts, significant and observable behaviors, thought processes, or changes in the observed parties, are documented in an ephemera book to give members of EKU tangible documentation of this research.

*Keywords: Informal, Study, Space*

**Literature Review**

Collaboration and Independent Study

When designing informal study spaces, designers need to take into account how students learn and study material (Harrop and Turpin, 2013; Hedge et al., 2018; Kim et al., 2021). Collaboration in the learning environment has become more prevalent over the years but has not eliminated the need for independent learning or study (Carpenter, 2013; Cox, 2018; Hedge et al., 2018; Kim et al., 2021). Thus, informal study spaces have the task of trying to serve students with both independent and collaborative motivations for studying within the space (Harrop and Turpin, 2013; Hedge et al., 2018). Research shows students study alone, in groups, or alone together, meaning that students would remain in a study space with others but not collaborate with them (Hedge et al., 2018; Kim et al., 2021). Despite the rise in collaborative study, research has found that independent study is still the most common form of study students engage in informal study spaces (Hedge et al., 2018; Cox, 2018). So, the need for a balance of private and open spaces is needed to serve the population as a whole rather than creating informal study spaces for each type of study. When creating these spaces, the differences students have noted is that independent study spaces are associated with enclosed areas or seating sections away from the center of the space, while collaborative space is associated with openness, uninhibited access, and larger space where students can spread out (Harrop and Turpin, 2013; Hedge et al., 2018). Another level of collaboration in these informal study spaces includes the collaboration between students and the resources offered in the informal study space, specifically staff and student staff (Carpenter, 2013). Collaboration with the resources within the space on a social communication level creates a stronger connection to the space, its resources, and its objective. Students' needs are constantly fluctuating and thus their space must be adaptable to those changes.

Space Flexibility

When choosing an informal study space, students' reasoning will differ depending on the day, time, and need. (Harrop and Turpin, 2013; Choy and Goh, 2016; Webb et al., 2008; Zaugg and Belliston, 2020). Creating flexibility in informal study spaces means giving a certain level of control to the students utilizing the space;  making the spaces easily changeable allows students this control (Bailin, 2011; Choy and Goh, 2016; Cox, 2018; Webb et al., 2008; Zaugg and Belliston, 2020). A successful study space is identified as a space that supports the distinction between socializing and studying, provides chairs with flexible use, allows territorial claims, and fosters a sense of community (Cox, 2018; Harrop and Turpin, 2013; Webb et al., 2008). Spaces that students identify as comfortable and capable of being controlled by students, and encourage interpersonal communication as preferable learning spaces (Choy and Goh, 2016; Harrop and Turpin, 2013; Webb et al, 2008; Zaugg and Belliston, 2020). Designers and users are encouraged to think of these spaces as "third spaces," a space outside of work and education that encourages connection between and is actively shaped by the users (Bailin, 2011; Webb et al., 2008). So, furniture that is lightweight and mobile is preferred to the sturdier and more difficult-to-maneuver furniture of the past.

Beyond furniture, the technology in the space must be adaptable to student needs (Choy and Goh, 2016; Zaugg and Belliston, 2020). So, including various outlets or charging stations along with access to desktops and the Internet is considered a must in these informal study spaces. Students desire control over their environment even when using the space individually. Access to things such as whiteboards, markers, individual study desks, and electrical outlets are

just a few amenities students have been found to advocate for in their study spaces (Choy and Goh, 2016; Zaugg and Belliston, 2020).

Environmental Factors

In addition to amenities, students also desire optimal environmental factors such as noise, lighting, spacing, and foot traffic in their informal study spaces. When it comes to noise level, silence is not the absolute preference. As informal study spaces are used for more than private independent work, a type of ambient noise or background noise is appreciated by a large population of students (Bailin, 2011; Harrop and Turpin, 2013; Ojennus and Watts, 2017). Ambient noise does not remove the studious nature of the study spaces, it is easily blocked out by the headphones of the users in the secluded study locations. Students have also come to prefer the lighting of their study space, leaning toward well, naturally lit spaces (Habre and Kammourié, 2018). Fluorescent lighting was never made to support the high technology usage of today's students and has grown outdated (Ojennus and Watts, 2017). A more in-depth view of student environmental needs, such as safety and security, friendliness, cleanliness, adequate lighting, adequate noise level, adequate space for study, a comfortable temperature, and a comfortable atmosphere, are needed to consider a study space a good study space (Bailin, 2011; Harrop and Turpin, 2013; Habre and Kammourié, 2018; Ojennus and Watts, 2017). The flexibility of these spaces allows student users to self-manage the spaces and thus designate or find areas of appropriate noise levels and outside lighting to suit their individual needs (Bailin, 2011; Ojennus and Watts, 2017).

This research will investigate the EKU study spaces over time and outline how their future will be shaped. Previous studies created a solid foundation of expectations for study space design but neglected to consistently evaluate study spaces over the years and their impact on

users of the space. The previous studies also neglect to create a clear idea of how often study spaces should be updated. Updates include flexibility of the spaces, environmental factors, and their orientation toward collaboration or independent study. I will address these gaps by examining three EKU informal study spaces from a staff and student perspective to gauge the space design impact, satisfaction of the space, and future planning of the spaces. The physical display, the ephemera book, that will accompany this research will be an artifact designed to be updated by students and faculty alike so that analysis over time is more readily accessible, tangible, and overall achievable. To clarify, the ephemera book will stand as a visual guide of updates and changes to the informal study spaces over time, accompanied by the student and staff-inserted commentary that will help future space designers determine what did and did not work for the spaces.

**Methods**

The perspective of students and staff was investigated in regard to the impact of design on study space. The student perspective was attained through conducting a student survey. The survey determined students' status as EKU students, their study habits, and their perspectives regarding the design of the Powell Student Center, Noel Studio, and Center for Stem Excellence. The survey was advertised via physical flyers within the informal study spaces specified in this research, sharing of links, and by word of mouth. The survey was made available to students for approximately two weeks before being closed and the results were reviewed.

The staff perspective was gained through the implementation of in-depth interviews. The staff interviewed were selected due to their expertise fo the space and the insight they had the potential to provide regarding the initial design of the space, the space's current uses, and the assessment of the space over a period of time. The interviews took place via Zoom and were

recorded with the subject's permission. These methods were used in an attempt to answer the following questions.

1. Does the original intent of the space design match the current impact on students?

2. Do the informal study spaces in question require a design update that is constructed for and by the populations it is intended to serve?

**Outcome**

There were 24 respondents to the student survey, 100% of them being full-time students. Most of the respondents (25%) were juniors, an equal distribution were sophomores, seniors, and freshmen (20.8%), and a small portion of the respondents were graduate students (12.5%). Of all the respondents, half indicated they study daily, 29.2% study weekly, and 20.8% study as needed. A majority of students (58.6%) prefer to study alone, while the rest are equally divided (20.7%) between a preference for studying alone but together or in groups. In regard to preference of location when studying an equal amount of students (35.5%) prefer to study at home or the library. 22.6% of students prefer to study at the Noel Studio and 6.5% prefer to study in the Science building.

The respondents indicated their favorite aspects of the Noel Studio were the environment or the energy of the space, the openness in the design, the natural and artificial lighting, background noise, and the physical resources offered within the space. The respondents' least favorite aspects included the seating options in the main area of the Noel Studio. To clarify, they did not indicate the arrangement of seating to be the problem, but the physical seats themselves as the issue. The improvements suggested by respondents included increasing the number of outlets available throughout the studio, changing the seating options, and introducing a more user-friendly scheduling website.

The respondents' favorite aspects of the Powell Student Center included the background noise within the space, the sociability of the space, the different space designs of each floor, and the physical resources found on the ground floor of the Student Center. The respondents' least favorite aspects of the space also include background noise, which conflicted with other respondents' view of noise within the space, the atmosphere of the space, and the lack of understanding of the space's purpose. The improvements respondents suggested for the space included providing more resources within the space, increasing the number of outlets in the space, creating more personal study spaces, and including more seating areas within the space.

A majority of respondents did not know of or use the Center for STEM Excellence but their responses were still taken into account, as their lack of response provided useful data. The lack of knowledge of the space alluded to a problem with the advertisement of the space and its uses, and that the space is aligned toward a certain demographic of users rather than the average EKU student. The respondent's favorite aspects of the Center for STEM Excellence were the furniture and charging stations. The respondents' least favorite aspects of the Center for STEM Excellence included the visibility and noise level of the space. The improvements for the space based on the respondents' responses include better advertisement of the Center and the private study spaces offered elsewhere in the Science building.

Based on all respondents' responses their ideal study space would be versatile and flexible. The space would cater to both collaborative studies with booths, open tables, and encouraging group work that would create background noise, and private studies with isolated seating, study rooms, and the ability to put on headphones to block out the surrounding background noise. The entire room would have natural lighting, comfortable seating, access to snacks and drinks, outlets, charging stations, and a reliable wifi connection. The color scheme

should be bright and enjoyable but not overbearing and uncoordinated. At least one respondent would enjoy a study area outside with the comforts of inside study areas available, such as comfortable seating and tables.

Both experts who were interviewed gave permission to be identified for quotes but not for anything else so their names will not be stated here, they will be referred to by the space in which they have expertise. The expert on the Noel Studio identified the space as a highlight of the EKU campus that focuses on encouraging students' creative approach to communication. The space design prioritizes fluid movement, technology accessibility, and functionality. An evaluation of students revealed the space had a positive impact on student communication decision-making and creative thinking. The expert suggested creating zones for cutting-edge technology, expanding the classroom spaces to serve more students in one sitting, and updating the classroom furniture to improve the space. The expert indicated that a rethinking of the break-out spaces in terms of updated furniture and updating technology to make a more collaborative space for a small group of students is currently in progress. The Noel Studio expert indicated that collaboration between students and other leadership is necessary for the evolution of the space and the evaluation for a redesign of the space should happen on an annual basis with the updates happening on at least a three-year cycle.

The Expert of the Center for STEM Excellence indicated that the informal study space was not integrated into the original design of the Science building but came about after observing the science atrium and student behavior in the science building over the course of several years. The space is constantly being reorganized by students as the furniture is mobile and students are encouraged to change the shape of the space or move resources as needed. The space is not meant for private study but does not prohibit independent study;  the private study spaces located

in other areas of the building are designed for the privacy commonly desired for independent study spaces. The current focus for the design of the space is to acquire and implement more mobile furniture and technology, such as whiteboards. The improvements the expert of the Center for STEM Excellence suggested include better use of display cases and an off-center sitting area that is currently underutilized.

**Discussion**

This research is the key to future informal study space design on EKU campus through student and staff collaboration. By understanding the original intent of a design, reviewing the actual impact, and discussing avenues for improvement with original designers future designers will have more information at their disposal when designing study spaces. Without understanding the underlying reasoning and impacts, study space design is largely based on "common sense" assumptions about students' wants and needs. Designs rooted in proven research, especially when tailored to a specific location, like EKU, will have a more predictable and controlled impact on students and other informal study space users when these users are able to voice their wants and needs to the designers responsible for the informal study space. The Noel Studio is already aware of the need for student voices to be involved with the evolution process of the informal study space design and is actively making plans to include students' and staff leadership opinions in the future. The Center for STEM Excellence has already prioritized student voices when considering the design of the space but the space has not existed long enough for them to have implemented a long-term plan for student evaluation of this space. Moving forward those in charge of the Center for STEM Excellence should create an annual evaluation process of the space from a staff and student perspective to reinforce design update plans that take place.

The core takeaways of the research include students wanting to be involved in the design of informal study spaces and should, and informal study spaces should be reviewed and updated regularly for the best student impact and the informal study spaces should be advertised to students better and more intentionally.

A physical culmination of this research, aside from a paper and presentation, was created to display and make accessible the results. An ephemera book, of sorts, was created. It is a faux leather bound binder filled with hand-cut pages. The pages have been filled with images documenting the design, renovation, and construction of the Noel Studio, Powell Student Center, and Center for STEM Excellence. The pictures are accompanied by handwritten facts and quotes about the spaces. There are three purposes of this ephemera book: documentation of the past, preservation of the present, and a basis from which to plan for the future. This ephemera book is meant to document the visual changes EKU informal study spaces transition through as their designs are created, updated, and initiated. This visual documentation of the change, accompanied by quotes from relevant parties, such as users of the space, designers of the space, design contributors, architects, and so on, is meant to make analyzing changes more accessible. Through this ephemera book and its notes, future designers or users of the space can reflect on the visuals of the space, what worked, what didn't, and why. The preservation aspect can be seen in photographs of the spaces as they stand today. This ephemera book is meant to be added to over time. It is the hope of researchers that the ephemera book takes on a life of its own and expands into a series continued by the students and staff of EKU. Thus, assuring that a present phase of each informal study space will be added to the ephemera book as time passes and new designs are implemented. This allows students and staff alike to gain a more rounded perspective of the space as the notes of the space will come from both of their perspectives. By putting both

perspectives into one space, both parties are better able to understand one another, their intentions, and the impact of the design. This leads well into the purpose of future planning in this book. This ephemera book should also be filled with users' desires for the spaces, their ideal design for the informal study spaces should be written in the intentional white space of the ephemera book. This way designs, along with user surveys, can analyze the ephemera book for what users want and need in future space designs. There are blank pages in the current ephemera book and this is intentional. These blank pages represent the pictures, notes, and quotes that have yet to be added to the ephemera book by future students and staff members.

**Limitations**

The limitations of this research include a lack of time or poor time allocation and poor documentation. The survey and interviews in this study were conducted over fewer than three weeks. Future research would likely benefit from a longer survey lifespan and a greater amount of interviews taking place over a larger period. Follow-up interviews would also have been ideal if time had been allowed. There was a distinct lack of documentation of these informal study spaces changing over time. The Noel Studio had the most documentation of change over time and was easily accessible to the public. The other study spaces did not photograph the spaces before or during renovation. After renovation pictures were captured in the Powell Student Center and the Center for STEM Excellence

**Further Study**

Possible avenues for further study lie in the virtual informal study spaces, the human resources within the informal study spaces, and the bureaucracy of the implementation of these informal study spaces. The virtual world has become a large part of our formal and informal

study spaces. Meeting spaces now include Zoom and Microsoft Team Chat rooms. The virtual

space is expanding and must be investigated in relation to informal study space. Our informal

study spaces have a human element to them, such as the Noel Studio consultants, or the tutors in

the Center for STEM Excellence. The impact of these human resources should be investigated.

Designing, redesigning, renovating, and constructing informal study spaces are no simple tasks.

There require time, energy, money, and expertise from various people within and outside of a

university. This ignores the amount of paperwork that must be completed and the approval that

must be given for these spaces to exist. The bureaucracy of space design must be investigated.

Reference List

Bailin, K. (2011). Changes in academic library space: A case study at the university of new south wales. *Australian Academic & Research Libraries, 42*(4), 342-359.

Carpenter, R. (2013). Cases on higher education spaces: innovation, collaboration, and technology. Hershey, PA: Information Science Reference.

Carpenter, R. (2023) Research participant.

Cox, A. M. (2018) Space and embodiment in informal learning. *Higher Educations: the International Journal of Higher Education, 75*(6), 1077-1090.

Choy, F. C., & Goh, S. N. (2016). A framework for planning academic library spaces. *Library Management, 37*(½), 13-28.

Habre, C., & Kammourié, H. ( 2018) Redesigning spaces for effective learning: challenges facing riyad nassar library in meeting users' perceptions and expectations. *Journal of Library Administration. 58*(5), 519-544.

Harrop, D., & Turpin, B. (2013). A study exploring learners' informal learning space behaviors, attitudes, and preferences. *New Review of Academic Librarianship, 19*(1), 58-77.

Hedge, A. L., Boucher, P. M., & Lavelle, A. D. (2018). How do you work? Understanding user needs for responsive study space design. *College & Research Libraries, 79*(7), 895-915.

Jenkins, J. (2023) Research participant.

Kim, Y., Hong, S., & Yang, E. (2021). Perceived productivity in open-plan design library: exploring students' behaviors and perceptions. *Journal of Learning Spaces, 10*(3), 28-42.

Ojennus, P., & Watts, K. A.(2017) User preference and library space at whitworth

    university library. *Journal of Librarianship and Information Science, 49*(3), 320-334.

Webb, K. M., Schaller, M. A., & Hunley, S. A. (2008). Measuring library space uses and

    preferences: charting a path toward increased engagement. *Portal: Libraries and the*

    *Academy, 8*(4), 407-422.

Zaugg, H., & Belliston, C. J. (2020). Assessing old and new individual study desks.

    *Performance Measurement and Metrics, 21*(2), 93-106.

Appendix A

*Staff Interview Questions*

This interview is a part of the research for an honors thesis: Behind the Design. The following questions pertain to [insert study space]. All questions will be answered on a voluntary basis. You may skip a question or end the interview at any time. Your name and title will not be used in the research report, final creative product, and during thesis presentations, in an effort to retain confidentiality, unless given explicit permission for the purpose of crediting quotes. The interview will be conducted via Zoom. You are responsible for selecting your physical location during the Zoom call and the level of confidentiality your chosen space offers. The same is expected of the interviewer. The Zoom call will be recorded. The video recording will not be shared and will be held in confidentiality by the researcher and the research mentor. The quotes from the recording transcript may be used in the research report, final creative product, and thesis presentation, but will be de-identified.

What was your involvement in the recent design of the [insert informal study space]?
How have the goals of the design evolved over time?
How was the goal of the space determined?
 How long did it take to solidify the goals of the space?
 What were the underlying motivations for the goals of the design?
Have the goals of the space been met?

What are the significant impacts the space has had on students?
What, if any, were the unexpected impacts? Were any of them undesirable?

What are the key features of the design? Why are they key features?
What has been the student response to the design of the space?
How much space, if any, is wasted within the [insert informal study space]?

Is there any dissatisfaction with the design of the space?
What updates or improvements could be incorporated into the space?
 How often should the design of [insert informal study space] be reviewed and updated?
 How should the changes or improvements be decided upon? Who should be involved?

Appendix B

*Student Survey Questions*

The following survey is entirely voluntary and offers no incentives to the participant. This survey is a part of the research for my honors thesis: Behind the Design. The survey contains open-ended questions about student study habits, opinions, and preferences in relevance to three identified informal study spaces on Eastern Kentucky University's campus. Participants are asked to answer the questions to the best of their ability. Student identification is not needed for the completion of this survey. Any identifying data will be held in confidentiality by the survey curator and the research mentor. Student responses may be quoted in the survey curator's thesis paper and creative project.

1. Are you a full-time student at Eastern Kentucky University?
   a. Yes
   b. No
2. What year are you?
   a. Freshman
   b. Sophmore
   c. Junior
   d. Senior
   e. Graduate
3. How often do you study?
4. Do you prefer to study alone, in a group, or alone but with others? Why?
5. What is your preferred place to study?
6. What do you think about the Noel Studio? (What are your least favorite features of this space? What are your favorite features of this space? What changes or improvements, if any, would you like to see in the space? Include your reasoning.)
7. What do you think about the Powell Student Center? (What are your least favorite features of this space? What are your favorite features of this space? What changes or improvements, if any, would you like to see in the space? Include your reasoning.)
8. What do you think about the Center for  STEM Excellence? (What are your least favorite features of this space? What are your favorite features of this space? What changes or improvements, if any, would you like to see in the space? Include your reasoning.)

9. What does your ideal study space look like? Please be descriptive.