

Sustainable Spaces On Campus:

Kottman Reading Room & EnCORE Solar Decathlon House



Image taken by Will Sullivan

*Solutions to be found in community
sustainability initiatives and activities*

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Executive Summary

The main goal of this project was to actively encourage the expansion of sustainable spaces for students at The Ohio State University (OSU), which led to the development of two sub-projects. One project aimed to develop the groundwork for a sustainable reading room in Kottman Hall 333A, a room with no current use. The objectives of this project were to understand the management of similar rooms, learn about the benefits of similar spaces, and determine successful marketing strategies. The other project focused on determining recommendations for improved use of EnCORE House, the 2011 Solar Decathlon House on OSU's campus. This project had three main objectives: to learn how other Solar Decathlon Houses are used, understand the history and future vision for EnCORE House, and develop recommendations for best future use.

For the Kottman Reading room, this report recommends renovating the space with a biophilic style, adding new furniture, and seeking ways of sourcing reading materials. Biophilic design focuses on human affinities with nature, and correlates with sustainability themes in many ways. Additionally, we recommend spreading awareness of the renovation, and encouraging the expansion of other campus reading rooms via The Lantern, SENR Newsletter and other publications. In terms of operating the reading room, SENR building management should develop a system for staffing and cleaning the reading room. Moreover, this report stresses the need for establishing funds for the reading room renovation, and sourcing reading materials through a book donation drive and through the OSU library gifted resources program.

For the EnCORE house we discovered that pre-COVID, EnCORE House held monthly open houses and regular tours, had two paid student workers, and was used for research and workshops. These programs diminished during the pandemic and lost funding. However, we

believe that many of these programs are worthwhile to revitalize for future use of the house. Additionally, our collaborator, Dr. Lingying Zhao, expressed interest in improving maintenance and care and researching current qualifications for livability. We have decided to recommend the creation of an internship program, where student interns are assigned to the EnCORE House to fulfill future programming. Dr. Zhao has volunteered to work with these interns for training and guidance, and we have begun arranging a coordinator to organize the program.

This report highlights several barriers and limitations facing the EnCORE House and Kottman Reading Room projects, and presents solutions for moving forward. Additionally, we express the need for and potential benefits to the university of implementing such projects.

Introduction

This student led capstone project was done in collaboration with Ohio State's Sustainability Institute Exploratory Research Group: Intentional Sustainability Community. This exploratory research group aims to improve student well-being outside of academic programming through an "experiential Intentional Sustainability Community for OSU students interested in sustainable living and environmental citizenship" (Hitzhusen, n.d.). The goal of our project is to encourage the expansion of sustainable student spaces on The Ohio State University's Main Campus through two sub-projects. The first project aims to initiate the development of a sustainability-based reading room on the third floor of Kottman Hall, a hub for students in the School of Environment and Natural Resources (SENR). The second project aims to reinstate the use of the 2011 Solar Decathlon EnCORE House on Ohio State's West Campus.

The overall research objectives for the Reading Room are to understand how other universities set up and manage similar rooms, gain an understanding of the benefits of similar spaces to students, and determine successful marketing strategies for the room. Extensive

research and key informant interviews with Ohio State personnel helped determine steps for implementation and recommendations for renovations. Our group specifically researched the best uses for these spaces and how to maintain the use of the reading room over time. Recommendations include: renovating the space using biophilic aspects; organizing a book donation drive; and marketing the room via social media, the school newspaper, or email newsletter.

The U.S. Department of Energy Solar Decathlon “challenges students to design and build high-performance, low-carbon buildings that mitigate climate change and improve our quality of life through greater affordability, resilience, and energy efficiency” (Solar Decathlon, n.d.). In 2011, Ohio State students participated in the Solar Decathlon competition, which led to the development of the EnCORE House. Since the Covid-19 pandemic, use of the EnCORE House has gone down exponentially. Our capstone group believes that revitalizing the house would be in line with the scope of The OSU Sustainability Community Exploratory Research Group. The overall research objectives for the EnCORE House are to learn how other universities have used Solar Decathlon houses, understand the history of EnCORE, and develop recommendations for the best future use of the home. After close collaboration with the previous director of EnCORE House, Dr. Lingying Zhao, our group discovered that the house was formerly maintained through a student worker program. This collaboration and research of Solar Decathlon homes on other campuses led to the recommendation to develop a new internship program aimed to carry out future programs for EnCORE. Overall, our group believes that developing the Kottman reading room and EnCORE House will encourage the expansion of sustainable spaces on Ohio State’s campus.

The Kottman Hall 333A Reading Room: Methods and Results

Initial Research

Reading rooms are present in universities across the United States and other non-academic institutions. However, no specific example could be found of a reading room with a sustainability theme, marking this project as possibly the first of its kind. Therefore, we focused our research to explore multifaceted categories of existing reading rooms and sustainability-themed rooms and designs.

We discovered that the connection between humans and nature is crucial for the betterment of mental health and well-being. This can be achieved through biophilic design, which proves to have a number of benefits, including improvements in happiness (Marques, n.d.) and reductions in stress (Weir 2020). Biophilic design helps one become in touch with the natural world, even in an interior space; promotes building valuable connections to the environment around us; and contributes to creative problem-solving through placemaking.

Case Studies

Case studies were conducted to gain an understanding of how other universities and organizations develop and maintain similar rooms. They provided inspiration for our recommendations to develop the reading room and what materials to supply in the room.

The Durland Alternatives Library: Cornell University

The Durland Alternatives Library located on Cornell University's campus in Ithaca, New York, is a small library collection of “alternative” materials. This library is what sparked the initial inspiration for Dr. Kristi Lekies to develop the proposed reading room in Kottman Hall. Farah Nuruzzaman from the Cornell Chronicle shared that “Durland Alternatives Library offers ‘issue-oriented’ resources...that promote social justice and are difficult to find in other libraries”

(Nuruzzaman, F., 2012).

The use of alternative materials allows the library to draw attention



to pressing issues and highlight marginalized communities. This has inspired the type of material that we propose be included in the Kottman reading room.

Highbanks Metro Park Nature Center: Lewis Center, Ohio

Highbanks Metro Park in Lewis Center Ohio is a 1,200-acre park with bluffs and ravines



surrounding the Olentangy River (*Highbanks, n.d.*). The park contains a spacious and immersive nature center with a comfortable and inviting reading space that served as inspiration for the proposed Kottman reading room. The space provides nature-themed reading material from

native flora and fauna to outdoor recreation.

Key Informant Interviews

Key informant interviews with Ohio State personnel were performed to gain further insight on the process of developing a new room for the College. The goal of these interviews was to understand the fundamental processes our group must go through to begin the development and renovations of Kottman 333a. We were able to gain key information regarding permits, limitations, and possibilities for the Kottman reading room.

Dr. Kristi Leikies: Exploratory Research Group Partner

The first key informant interviewed was Dr. Kristi Lekies, our Exploratory Research Group partner for the Intentional Sustainability Community. Lekies sparked the initial idea for the reading room in 2022 and talked to directors of SENR to spread awareness. Dr. Gregory Hitzhusen then decided to turn the idea into a senior capstone project. We met with Lekies early on in the project to discuss the room and understand her initial vision, and she shared key ideas for aspects of the room she would like implemented. She was also helpful in providing contacts of Ohio State personnel who may be interested in providing assistance for the development of the proposed reading room. *See Appendix for in depth notes on our meeting with Dr. Lekies.*

Meredith Luikart: Kottman Hall Building Coordinator

The next person we interviewed was Meredith Luikart, the Kottman Hall Building Coordinator. Meredith shared that Kottman Hall is actively working to expand student spaces, and our proposed reading room aligns with their aspirations. She also helped us understand the limitations and rights that students have in developing a new room for Ohio State. Meredith introduced us to Continental Furniture Vendor, the only place Ohio State uses to source furniture. Additionally, she gave us contacts to individuals who can personally help set up the room and would know how to gain the right permits and resources for the renovations. She suggested we contact Ohio State project coordinator Brian Smith. *See Appendix for in depth notes on our meeting with Meredith.*

Brian Smith: Ohio State Project Coordinator

Brian Smith is the Ohio State project coordinator who helped us develop a tangible plan for renovations by supplying us with the necessary information for development. He shared that he would develop an estimated budget for our project based on our initial vision and

recommendations. Brian was also helpful in developing a tangible scope for the project and the next steps in the process. *See Appendix for in depth notes on our meeting with Brian.*

Figure 1. Tentative Timeline given by project coordinator Brian Smith



Dr. Florian Diekmann: Head of CFAES Library

Dr. Florian Diekmann is the head librarian for the Food, Agricultural, and Environmental Sciences Library and provided recommendations for materials to add to the room and ways to source them. Dr. Diekmann recommended circulating monthly displays of different sustainable and environmental-related reading materials to encourage students to utilize the material. He provided the contact for the Ohio State Libraries Gift Program Coordinator, Christen Ireland, who can provide reading materials that have been donated to the libraries but are not currently being used. Lastly, Dr. Diekmann was helpful in providing information on how to develop a book donation drive and the benefits of using second-hand materials. *See Appendix for in depth notes on our meeting with Dr. Florian Diekmann.*

Discussion

Initially, consideration of this room was a challenge, as many aspects do not align with our ideal vision due to its small space of 272 square feet and lack of natural light from windows. However, despite these barriers, we took creative strides to design the space around what it provides in the best way possible to ensure comfort and tranquility for its users. It is important to note that due to time constraints, our capstone group will be unable to carry out the development of the Kottman Reading room to full completion. To complete our project, we recommend that a

future capstone group focus on bringing these plans to completion. Upon approval of the reading room proposal, the next capstone group could then collaborate with the assigned project manager to carry out the room renovations. The group could also be responsible for organizing a book donation drive to provide reading materials for the reading room.

Though we cannot control what will happen in the future, and this is a project that will require ongoing management, we hope our in-depth research will kickstart this project so that other student teams can work on it in the future. The small size of the room (and correspondingly small number of people it can serve) may limit the amount of money the university will want to spend on it, but on the other hand, a smaller room is less expensive to renovate. And there may be particular value in smaller spaces for the mental health and well-being benefits they can provide. Regardless of size, the room is currently not being used at all, so turning this space into a reading room reduces wasted space. With a small investment from existing renovation and grant funds, OSU can make this a more usable area that provides several benefits, and might spark further development of similar spaces. Grants and funds are available, but sourcing them has been a challenge. In addition, our group discovered there is only one supply source for furniture, and it must be university approved. This furniture, therefore, is also an added expense, which prevents purchasing used or upcycled materials. Also, any decorating or appearance changes must be done through OSU contractors, which is known to take time. While the project itself is multifaceted, and there are many moving parts, our recommendations will help make implementation possible.

The EnCORE Solar Decathlon House: Methods and Results

Initial Research

The goal of our initial research was to determine how houses from past Solar Decathlon competitions are being used at other universities. This was intended to give us a better understanding of possible uses of Solar Decathlon houses that could be implemented at EnCORE House. We found that some houses were sold or donated for residential use, and others were dismantled and recycled. However, many of these houses are still being utilized at universities and several place a strong emphasis on sustainability.

Case Studies

After compiling data about the uses of each house, we looked for specific examples that featured successful sustainability programs involving students. We found two examples that particularly stood out that featured programs designed for students and student living. Results from case studies were then presented to key informant Dr. Lingying Zhao to obtain feedback and discuss the implementation of similar programs at EnCORE House.

“Self-Reliance,” Middlebury College, Vermont

Self-Reliance rests on Middlebury’s campus in Vermont. It is used for a student residency program where two or three students per year live in the house and host community outreach projects associated with sustainability. The group of students in the program receive a budget of \$1,100 per year to use for outreach projects. Some of the projects completed in the past include green-building workshops, cooking locally sourced meals, and inviting classes to



visit Self-Reliance. This program proves that Solar Decathlon houses can be used for student housing. Additionally, it shows successful sustainability-based community outreach programs at another university. This case study helped inspire us to consider an internship program at OSU where students can engage in research and host community outreach projects at EnCORE House.

“Solar Village,” Missouri University of Science & Technology

Solar Village is a collection of Solar Decathlon houses from multiple years of competitions that were all built by students at Missouri University of Science and Technology.



These four houses operate as living laboratories that house the student researchers involved in research within them. During their stay, the students also participate in workshops for community outreach and host daily tours.

Our team loved Solar Village’s integration of research, community outreach, and sustainable student living.

Collaborator Interviews with Dr. Lingying Zhao

Our main collaborator for the EnCORE House was Dr. Lingying Zhao. Dr. Zhao was the director of EnCORE House before the official title was removed, yet remains heavily involved in dealings with EnCORE House.

EnCORE’s History

An important component of our collaborator interviews was learning the history of EnCORE and its associated programs. We learned that pre-COVID, EnCORE House was used frequently for research and workshops, and had monthly open houses and two student worker positions. The student workers were involved in research at EnCORE House, performed

maintenance, and helped organize and give tours of the house. We also learned that there is currently no one in charge of the maintenance of the house despite Dr. Zhao's requests.

Future Vision

We also had multiple discussions with Dr. Zhao regarding her vision and opportunities for the future of EnCORE. She expressed interest in increasing research opportunities and student participation in future Solar Decathlon competitions to create a village similar to Solar Village at OSU. She also discussed the possibility of acquiring student workers for tours, maintenance, research funding, researching EnCORE's livability, and community outreach. She was very interested in the case studies we presented to her and thought that both programs could be useful models for OSU. However, she also informed us of past issues obtaining a living permit for student residency. Overall, she hopes for help with maintenance, grant writing, obtaining a living permit, and outreach to make EnCORE more visible to students and the community.

Discussion

Through our initial research, case studies, and interviews with Dr. Zhao, we determined that a student internship program would be the most useful implementation for EnCORE House. These interns could work towards completing several projects proposed by Dr. Zhao. This program could eventually mirror Self-Reliance by achieving student residency, which would be beneficial to Dr. Zhao and her long-term vision for the future of EnCORE.

Recommendations

Kottman Hall 333A Reading Room

Substantial research was completed to create a set of valuable best practices that will contribute to our goals of initiating a new sustainability-related project on campus. To make

Kottman Hall a more welcoming space for students, we wish to utilize an existing space to make the most of room 333A and to generate a one-of-a-kind shared experience (Little Red Reading House, 2022). We provide several recommendations to make the establishment of a successful reading room possible by putting purpose in an unused space in order to enhance student understanding of sustainability (Decorilla, 2022). Key administrators have shown significant interest, and these recommendations serve as stepping stones toward further progress.

Specific Suggestions

In order to optimize the sustainability theme, we suggest the incorporation of biophilic design elements. Biophilia entails a human and nature connection (Kellert, 2015) using thoughtful materials (Lamar, 2022). A relationship with the natural world has been shown to benefit well-being and mental health while improving the resilience of students (Mental Health Foundation, n.d.). This environment can be achieved through thoughtful design elements to brighten the space through natural elements, cool colors, and art (Sabrina, n.d.). The lack of natural light can be combated through the use of a projector, along with white noise or ambient music to imitate natural scenes and landscapes. We advise using software such as RoomStyler or SketchUp to render renovations (see dataset #7 in the Appendix for preliminary mock-up) before starting on development (House Beautiful, 2022). To revitalize the room, we propose painting the brick walls, replacing the carpet, and swapping in new furniture. This renovation will transform the uninviting dull and bare space into an ideal area for students to congregate, relax, and reflect.

In a separate room connected by a door in the back, an entire kitchen space is available for expansion and the potential implementation of a coffee bar, which would allow students to enjoy refreshments while they relax in the space. Indeed, if the room gets a lot of use, its small

size will seem like a limitation, and the opportunity to expand into the adjacent kitchen area might provide a future opportunity to develop even greater benefits of this reading room plan.

We believe it is crucial to set up a book donation drive as receiving books from students and staff will help save money and allow for a sustainable source of second-hand books. Physical books in particular are crucial, as they invite a more in-depth emotional connection, and help to limit distractions created by electronic reading devices (BookNookNYC, 2022). A distraction-free zone will further the experience of a tranquil space (Howlifeunfolds, 2023).

Marketing is important to spread awareness of the room and encourage use and expansion. Partnering with the Lantern (OSU's student newspaper) and the SENR newsletter will help to inform students across campus about this one-of-a-kind reading room. Once the decoration is complete, photos and a video tour will also help to market the space.

Lastly, staffing the room is also critical to ensure the long-term functioning of the space. Because of the room's size, it would only require a small team, which can be achieved through student groups, organizations, or volunteers. Some of their responsibilities may include keeping the space clean, tending to the books, watering the plants, and ensuring the projector is working correctly.

Prioritization

We wish for The Ohio State University to be champions of sustainability. Creating a sustainable reading room will be a step in the right direction. Enhancing the sustainability culture at OSU will enable our school to serve as a role model for other Big Ten schools and universities throughout the United States. Our reading room recommendations provide a well-thought-out proposal that provides a space for comfort, relaxation, reflection, and socialization.

The Kottman Reading room should be prioritized because it converts an unused space into a highly desirable space, and no further construction is needed aside from the renovation, the scale of which will reflect available grants and funds. Financially, there are numerous benefits to be gained for minimal costs that can be covered by existing renovation and grant funds. Currently, the room itself is usable, but the renovation we propose will make it a more inviting space, allowing possibilities for future opportunities and goals. Implementing this project will put Ohio State ahead of the game in not only reading rooms but showcasing what student influence can accomplish to address sustainability goals and the needs of the future.

This is a unique chance to create a reading room tailored to OSU lifestyles that does not require a lot of space. It would serve as a physical manifestation of what it means to appreciate and immerse oneself in sustainability, an experience not possible in most indoor spaces. As such, we request OSU take advantage of this current window of opportunity to improve this room.

Limitations

Based on the research we were able to gather, our case studies were not as representative as they might have been; we were not able to find any in-depth studies related to sustainability-themed reading rooms. While this invites us to be creative, it is also challenging to pioneer a concept like a sustainability reading room, and this might make administrators hesitant. We also did not interview as many people as might otherwise have been helpful. However, the overall ambition is to bring awareness and encourage future engagement by Ohio State students. This project can go in different directions and is intended to proceed along a number of different lines of possibility, many of which can accomplish the goals we find important for a space like this. The limitations of our specific suggestions need not obstruct the possibilities for implementing this project.

Future Possibilities

For further research, we recommend additional searching for funding and grants, and creating a designated renovation team (Little Red Reading House, 2022). There could be an opportunity to partner with the Knowlton School of Architecture for the design aspects of the project. One route would be for collaboration between the School of Environment and Natural Resources and architecture students. A collaboration among SENR and architecture students could be achieved through a capstone class or a design and build course. Regardless of exact path, continued communication with facilities management is essential to assure further progress.

The EnCORE Solar Decathlon House

Through researching the original intentions and past uses of EnCORE House, it became clear that there are many ways to better utilize this resource. When we approached this space we had a broad goal of developing a sustainability-centered community at OSU. Below we provide several recommendations regarding the utilization of the EnCORE House and its contributions to building sustainability within the OSU community. We aim to reignite the EnCORE House's pre-COVID educational opportunities as well as initiate further utilization of this incredible resource.

Proposed Internship Program

After discussing the objectives and history of EnCORE House with Dr. Zhao, we concluded that it would be beneficial to have at least one person responsible for maintenance and tours of EnCORE House. Dr. Zhao used to manage the house, but there is no longer an official position supplied by the university, so it has become a challenge to maintain everything herself. Despite this, Dr. Zhao has been volunteering her valuable time caring and administrating for the house. In conjunction with Dr. Zhao, we established several long-term goals for the house.

However, due to our limited time frame and the lengthy time periods associated with our goals, many of our goals are beyond the scope of this report. To fill the space of an administrator of the house as well as establish an approach to long-term goals of the EnCORE House, we came to the conclusion that there should be an official OSU student position focused on the use and development of EnCORE House. As such, it is our recommendation to launch an internship program dedicated solely to EnCORE House. An intern will be able to accomplish long-term goals as well as manage day-to-day operations of the house.

Before the COVID-19 pandemic, EnCORE House provided monthly open houses and regular tours to showcase the multitude of green technologies present in the home. Dr. Zhao has graciously offered to train an intern to schedule and host EnCORE House events and tours.

Interns in this program could also work towards the long-term goal of making EnCORE House livable. As we saw in case studies, some solar decathlon houses are being used as student living spaces. EnCORE House was built to be a functional living space and boasts a fully functional kitchen and two furnished bedrooms. Unfortunately, there are safety features and permits still needed for students to legally live in this house. The work to fund and obtain these permits will be lengthy and may require significant funding. A potential focus of the internship program could be to earn funding and permits to live in the EnCORE House.

Another possible goal of the internship program would be to market EnCORE House and spread awareness of this resource on campus. This is incredibly important for creating a sustainability-focused community at OSU. More awareness of educational opportunities and utilization of the house will expand student accessibility to sustainability-focused spaces at OSU. Additionally, awareness of the house may inspire additional entries into the U.S. Department of Energy Solar Decathlon competition. Interns could focus on initiating the development of more

sustainability-focused buildings on campus similar to EnCORE, and potentially create a village similar to Solar Village at Missouri University of Science and Technology.

There is no clear administrator or worker for the EnCORE House but there is need for a single point of contact for this space. The establishment of a dedicated EnCORE House intern would streamline use and communication regarding the house. Additionally, interns will have the opportunity to participate in projects related to their specific skill sets and interests. Ideally, interns can help Dr. Zhao obtain the long-term goals that have been established for EnCORE House. The first step to starting the internship program would be to appoint a coordinator to look into funding sources. However, the internship position could be left unpaid if sufficient funding cannot be identified. Additionally, Interns would work closely with Dr. Zhao to learn more about EnCORE House and determine their objectives to improve the space.

Discussion

There are a few challenges to our recommendation for an internship program. Firstly, there would need to be a department or group to oversee and manage the position. The previous internship position through EnCORE House was located in the Department of Energy and Environment at OSU, which now falls under OSU's Sustainability Institute. We have reached out to the Sustainability Institute about hosting this internship program, but we are still waiting to hear back from them.

Additionally, the timeline of establishing an internship program and working with Dr. Zhao to develop the position will be outside of our scope. This team will be graduating from OSU before an internship will be fully established. However, we believe that our work with EnCORE House has already started the ball rolling in creating the internship program. Dr. Zhao has reached out to her colleagues and students to find opportunities for an internship position in

the FABLE department as well as meeting with potential interns. Additionally, we have spoken with Dr. Zhao and our community sponsor, Dr. Hitzhusen, about continuing the work of this capstone project in the fall semester of 2023 with another capstone team.

Ultimately, it is our hope that the EnCORE House will serve as a space for Ohio State students to live in and learn about sustainability. By establishing a student internship position, there would be someone to focus on opening EnCORE back up to tours and workshops. Additionally, a student intern could work on projects to further develop EnCORE House such as obtaining research grants, gaining living permits for the house, and encouraging OSU student participation in the Solar Decathlon competition. Having a position dedicated to spreading awareness and developing uses of EnCORE House will bring life to the space and provide a place for sustainability to flourish at Ohio State.

Conclusions

Through our work with the Kottman Reading Room, we discovered the importance of biophilic design and ways to create a comfortable and inviting space through our renovations. We also worked with Ohio State personnel to create specific recommendations for these renovations. Our project was limited by its short time frame, but we believe a future capstone team can complete tasks surrounding grant funding, management, and specific implementation to see the room to completion.

Throughout this project, we also learned about the great potential of the EnCORE House. This sustainability-focused space could provide many opportunities for Ohio State students to live in and learn about sustainability on campus. Our recommendation includes an internship program to address further needs of EnCORE House and work on projects to further develop sustainability on campus. In the event that an intern cannot be hired to provide a coordinator for

the role, we encourage Dr. Zhao to continue development or collaborate with a future capstone group.

Our larger ambition was to promote an array of sustainable spaces on campus, through both the Kottman Reading Room and EnCORE Solar Decathlon House. To achieve this ambition, we explored a set of best practices for the sustainable utilization of existing spaces at Ohio State. These two projects can be a valuable asset in Ohio State's goal of becoming a national leader in sustainability initiatives that go beyond the energy realm. The EnCORE House could be especially innovative, since out of all of the solar decathlon houses nationally, few are used to their full potential. EnCORE could act as a model for the other homes. The implementation of a sustainable reading room would also make Ohio State the leader, as it would be the first of its kind in a university setting. This will thus allow OSU to be a steward for sustainability in a new and unique way, setting a precedent for other schools in our region and throughout the country.

The overall goal of these projects is to expand the availability of sustainable spots on campus for students. Key emphasis has been placed on long-term management and organization to ensure these spaces remain available for students as a place to enhance interactions involving sustainability. We hope that the development of these projects will also inspire more sustainable places on our campus and at other Big 10 Schools and universities.

Bibliography

- Durland alternatives library. (2023). Alternatives Library. <https://www.alternativeslibrary.org/>
- Highbanks Nature Center. (N.d.). Eat Play Cbus. <http://eatplaycbus.com/2017/02/08/highbanks-nature-center/>
- Highbanks metroparks. (2023). Central Ohio Park System. <https://www.metroparks.net/parks-and-trails/highbanks/>
- Hitzhusen, G. (n.d.). Intentional sustainability community. Ohio State University Sustainability Institute. <https://si.osu.edu/forfaculty/ERG/IntentionalSustainabilityCommunity>
- How can you make a reading place in your community, school or business? (2022). Little Red Reading House. <https://www.littleredreading.house/how-can-you-make-a-reading-place-in-your-community-school-or-business/>
- Kellert, S. R. (2015). What is and is not biophilic design. Metropolis Magazine. <https://metropolismag.com/viewpoints/what-is-and-is-not-biophilic-design/#:~:text=Biophilic%20design%20emphasizes%20human%20adaptations,health%2C%20fitness%2C%20and%20wellbeing>
- Lamar, K. (2022). 20 sustainable home decor ideas you'll love in 2022. Organic Cotton Mart. <https://www.organiccottonmart.com/blogs/sustainable-lifestyle/sustainable-home-decor-ideas>
- Marques, D. (2020). Connecting with nature: How it benefits our well-being, health, and relationships. Happiness.com. <https://www.happiness.com/magazine/health-body/nature-connection/>
- Nature: How connecting with nature benefits our mental health. (N.d.). Mental Health Foundation. <https://www.mentalhealth.org.uk/our-work/research/nature-how-connecting-nature-benefits-our-mental-health#:~:text=Research%20shows%20that%20people%20who,creativity%20and%20can%20facilitate%20concentration>
- Nuruzzaman, F. (2012). Durland Alternatives Library promotes social justice. Cornell Chronicle. <https://news.cornell.edu/stories/2012/04/alternatives-library-helps-promote-social-justice>
- Sabrina. (2021). 11 simple ways to turn any room into a calming space (free printable wall art included). The Budding Optimist. <https://buddingoptimist.com/calming-space/>
- Solar Decathlon. (n.d.). Retrieved April 11, 2023, from <https://www.solardecathlon.gov/>

- Solar Decathlon houses. (N.d.). Middlebury College. Retrieved February 15, 2023.
<https://www.middlebury.edu/office/franklin-environmental-center/sustainability-action/sustainable-design/solar-decathlon-houses>
- Solar Villages Living Laboratories. (N.d.). Missouri University Science & Technology.
<https://cree.mst.edu/laboratories/>
- Theron, T. (2022). Reading room ideas for a cozy place to curl up with a book. Decorilla Online Interior Design. <https://www.decorilla.com/online-decorating/reading-room-ideas/>
- Turning the page: Why reading physical books is vital to your child's education. (2022). Book Nook Enrichment.
<https://booknooknyc.com/turning-the-page-why-reading-physical-books-is-vital-to-your-childs-education/#:~:text=Reading%20physical%20books%20with%20your,page%20creates%20space%20and%20time>
- Weir, K. (2020). Nurtured by nature. American Psychological Association.
<https://www.apa.org/monitor/2020/04/nurtured-nature#:~:text=From%20a%20stroll%20through%20a,upticks%20in%20empathy%20and%20cooperation>
- Where are the solar decathlon houses now? (N.d.) U.S. Department of Energy Solar Decathlon. <https://www.solardecathlon.gov/past-where-now.html>
- 7 scientific benefits of reading printed books. (2023). Paper & Packaging.
<https://www.howlifeunfolds.com/learning-education/7-scientific-benefits-reading-printed-books>
- 8 of the best free home and interior design tools, apps, and software. (2022). House Beautiful.
<https://www.housebeautiful.com/uk/renovate/design/a28461218/best-free-home-interior>

Appendix

Dataset #1: Kristi Lekies Interview - [Kristi Lekies Interview2023](#)

Source: Krisit Lekies, Exploratory Research Group: Intentional Sustainability Community

Partner, Contact: Lekies.1@osu.edu

Description: Notes from the interview with Dr. Kristi Lekies regarding the development of the Kottman Hall Reading Room. The Zoom call meeting was held on February 8th, 2023. Kristi was allowed the floor to freely discuss her initial ideas for the reading room.

Dataset #2: Meredith Luikart Interview

Source: Meredith Luikart, Ohio State Kottman Hall Building Coordinator

Contact: Luikart.6@osu.edu

Description: Notes from the interview with Meredith Luikart regarding limitations and possibilities for the Kottman Reading Room. Phone conversation with Meredith was held on March 8th, 2023. Questions included:

1. Who from OSU do we need to contact to gain the right to alter the space?
 - a. (Note that HCS chair, who is the administrator whose unit is in charge of that room, is excited about turning it into a reading room, but also noted that any renovations would have to be done by OSU union workers, and assumedly there are various approved vendors for furniture, etc...so we want to understand that system better as we craft a plan for the room.
2. How could we allow students access to the room? (Key pad, unlocked, BuckID swipe)?
3. Is it possible that the kitchen space is also accessible from the room?
4. Could we take furniture out and put new furniture in?
5. What about hanging decorations and LCD screens?
6. What would be a rough timeline between now and when the reading room is up and running?
7. Are there permits required for food and beverages in the room?
8. Regarding how long it takes to get a room renovated, what would be a rough timeline between now and when the reading room is up and running?

9. Is there anything else you think we should know or consider as [GH1] we work on these plans

Dataset #3: Brian Smith Interview - [Brian_Smith_Interview](#)

Source: Brian Smith, Ohio State Project Coordinator

Contact: Smith.1067@osu.edu

Description: Notes from the meeting with Brian Smith regarding the layout and renovations of Kottman 333a. The meeting was held in Kottman Hall 333a on March 6th, 2023. Questions included:

1. Who from OSU do we need to contact to gain the right to alter the space?
 - a. (Note that HCS chair, who is the administrator whose unit is in charge of that room, is excited about turning it into a reading room, but also noted that any renovations would have to be done by OSU union workers, and assumedly there are various approved vendors for furniture, etc...so we want to understand that system better as we craft a plan for the room.
2. How could we allow students access to the room? (Key pad, unlocked, BuckID swipe)?
3. Is it possible that the kitchen space is also accessible from the room?
4. Could we take furniture out and put new furniture in?
5. What about hanging decorations and LCD screens?
6. What would be a rough timeline between now and when the reading room is up and running?
7. Are there permits required for food and beverages in the room?
8. Regarding how long it takes to get a room renovated, what would be a rough timeline between now and when the reading room is up and running?
9. Is there anything else you think we should know or consider as [GH1] we work on these plans

Dataset #4: Florian Diekmann Interview - [Florian_Diekmann_Interview](#)

Source: Florian Diekmann, Head Librarian for the Food, Agriculture, Environmental, Sciences Library

Contact: Diekmann.4@osu.edu

Description: Notes from the meeting with Florian Diekmann regarding reading materials and how to sustainably source books. The meeting was held via phone call on March 8th, 2023.

Florian took this time to educate our group on different options for sourcing reading materials.

Dataset #5: Dr. Linying Zhao Interview - [Dr. Linying Zhao Interview](#)

Source: Dr. Linying Zhao, Professor and Associate Chair of Research Department of Food, Agriculture, and Biological Engineering

Contact: zhao.119@osu.edu

Description: List of questions and responses, and other notes pertaining to the EnCORE House.

Dr. Zhao gave our group a tour of the EnCORE House and we discussed the history and management of the house. We talked about the group's ideas and Dr. Zhao's goals for the house.

Dataset #6: Kottman Reading Room images - [Kottman Room Images](#)

Source: iPhone XR

Description: These images were taken the first day our group toured the 333A room. The room is fairly bare and rarely used, with a few chairs and very little decoration.

Dataset #7: Kottman Reading Room - [Design Mock-Up](#) , [Design Mock-Up Legend](#)

Source: Planner5D website: planner5d.com

Description: This data includes a mock-up of a potential design for the Kottman Reading Room. The basic sketch incorporates natural elements through biophilic design, and contains a soft and earth-toned color palette.