Summary

Introduction
Campus Planning & Real Estate conducts post-occupancy evaluations (POE) of university projects with the goal of not only improving our planning process, but also gaining awareness of the projects’ successes and failures. We apply this knowledge, as well as the data itself, when making influential decisions for future university projects.

CPRE conducted a POE of its newest residence hall, the Living-Learning Center (LLC), built in 2006, with the intention of learning about the successes and deficiencies of the LLC now that it has been occupied for 2 years. The goal was to evaluate the physical built environment of the residence hall, as well as, the LLC’s mission, which included:

- blurring the distinction between residential settings and academic life,
- providing opportunity for more programmed events with academic connections, and
- promoting more frequent interaction between students and faculty.

The results of this evaluation will be influential for the new East Campus Residence Hall project, which began in April 2009.

Methodology
As a live-learn environment, the goal of the POE was to collect data from 6 population groups of the LLC:

- Past and current residents and resident assistants
- Past and current students who have attended or who are currently attending classes in the LLC
- Teaching faculty
- Food service staff
- LLC building staff (complex director, area desk, facilities maintenance/custodians)
- UO Housing staff

In addition to the building users, the financial performance and energy performance of the LLC were analyzed.

The post-occupancy evaluation was conducted via an online survey and 1-hour focus group sessions. An email with the survey link was sent to the 6 population groups. The voluntary survey was conducted April 6 through April 20, 2009. This summary analyzes the results of 205 responses of 2,383 current and past users of the LLC invited to participate in the survey, at a response rate of 8.6%. The respondent group was comprised of 85% students, 8% staff, and 7% faculty. The survey included rating-scale based questions, closed-ended questions and optional open-ended questions. As an incentive, there was a drawing for a $50 gift certificate to the UO Duck Store that was awarded to 1 faculty member, 1 staff member and 1 student.
Two 1-hour focus group sessions were held for the food service staff and UO Housing staff with LLC building staff members. The sessions were held in the LLC Bistro meeting rooms with 6 and 11 participants, respectively. Each session began with an introduction to the POE process followed by discussions concerning the parts of the built environment that help the users in their day-to-day work and aspects that inhibit their success. All comments were visibly noted on printouts of large-scale floor plans.

Summary of Results

LLC Survey

- The 3 most important things in the built environment that support the needs of students/employees are 1) Resident Rooms, 2) Study/Meeting Lounges, and 3) Dining. This reflects the large majority of student respondents (85%) whose basic needs include a place to live/sleep, study/gather, and eat.

Comments concerning Resident Rooms:
- Large rooms, tall ceilings, large windows.
- I like being able to move around my furniture.
- The rooms are perfect. Lot’s of space, lots of light.

Comments concerning Study/Meeting Lounges:
- Study rooms were comfortable with nice windows and space.
- Different study areas like the study alcoves.
- The study rooms are handy for big study groups.
- Study areas on the upper floors with the chalkboards were absolutely invaluable.

Comments concerning Dining:
- The Bistro is so very successful for drawing people in. Its visibility features draw people in and make it a popular meeting area.
- The choices could have been expanded, but for its size, the selection was superb.
- As an employee I love the way that the Bistro is set up. It’s open and it makes for a great environment to work in.
- Closeness of food to classrooms.

- Overwhelming, Noise was the number one overall item that inhibits employees’ and students’ success. The second greatest inhibition was inefficient Study Spaces followed by a tie between Resident Restrooms’ locations and fixtures, and issues with Technology specifically audio/visual equipment and wireless internet service.

Comments concerning Noise:
- Noise-travels way too much in the LLC, thin walls.
- The noise travels too well between classrooms. I avoid teaching in LLC because of this.
- Sound permeation from outside into dorm rooms
Comments concerning Study Spaces:
- There could be more study rooms in quite places, separate from the upper floor lounges.
- No privacy in alcoves/study rooms.
- Small lounges in South building.

Comments concerning Technology:
- Poor Wireless Service in room 219 S!!!
- Unreliable internet access.
- Greater technology services in upper lounges.
- Easier interfaces within llc 101, with cords available for various AV connections.

Comments concerning Resident Restrooms:
- Toilets, sinks, showers in same room.
- Motion sensor sinks in bathroom, water gets very hot in the evenings.
- There should be a smaller male and female restroom/shower facility at each end of the hall.
- Bathroom very far away
- Water pressure in showers.

• The top three changes respondents would make to the LLC are, in order of importance, the Dux Bistro Menu and Operations, Noise Control, and Resident Restrooms.
Comments concerning the Bistro:
- *Dux bistro wastes paper when having to order sandwiches, could possibly make it electronic.*
- *It should be open later! Almost all of the other dining halls/cafes are open much later like Common Grounds.*
- *More diversity of food choices in the Bistro. (More like choices at Hamilton)*
- *Enlarge Bistro and diversify menu.*

Comments concerning Noise Control:
- *The lack of sound proofing the walls. I feel as though the walls are paper thin. I can hear people talking outside my door, the laundry machines, cars and buses outside, people’s music through the all from inside my own room.*
- *Fix the holes in between each room at the ceiling and carpet the rooms.*
- *The noise level in the rooms and concrete floor.*
- *When lecturing the noise from other classes is disrupting.*

Comments concerning Resident Restrooms:
- *Gender neutral/co-ed because it is very inconvenient to have to walk all the way across the building every time one has to use the restroom. The LLC was clearly meant to utilize co-ed restrooms and should thus implement them.*
- *From about 9PM on, you can only get scalding hot water, not usable. Also, they often malfunction and will remain on for 10+ minutes with no way to turn them off... Manual sinks would be better.*
- *Install different showerheads because the showers are simply inefficient and it takes a much longer shower to get clean due to the poor quality.*

- Faculty Touchdown offices are underutilized; 99% of respondents use this space 0-2 days per week. When asked to rate the Faculty Touchdown offices on a scale from poor to excellent, 71% chose “Not Familiar”.

![Faculty touchdown offices](image-url)
• The Bistro Meeting rooms are also used infrequently; 96% of respondents use these spaces 0-2 days per week. The survey did not include rating the satisfaction level of the meeting rooms.

• 92% of respondents use the Study Alcoves (Beaux rooms) 0-2 days per week, though 61% of respondents rated this space as either “Good” or “Excellent”. Respondents desired more study spaces because the three Beaux rooms in LLC North are always in use. In comparison, the Upper Floor Lounges are used more throughout a typical week, and yet 69% of the total respondents (including faculty and staff without access to the resident floors) use this space 0-2 days per week.
- 41% of respondents believe that the LLC is doing a “good” job of engaging residents in the intellectual life of the university.

<table>
<thead>
<tr>
<th>How well does LLC engage residents in intellectual life?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
</tr>
<tr>
<td>12%</td>
</tr>
</tbody>
</table>

- The following received no “poor” rating responses: Exterior Appearance and Materials, and Safety/Security.

- The following resulted in the highest approval ratings: Interior appearance, Classroom windows, Daylighting through windows, Bedroom size (square footage), Co-ed residence hall floors, and The courtyard between LLC-N and LLC-S.

**LLC Focus Groups**

**Food Service**

Dux Bistro has been wildly successful (designed for 1,000-1,500 students per day, now serves over 3,000 per day), causing the facility to become too small for the volume. The success can be attributed to the central location on campus, abundant daylight, variety of seating options, and the non-committal layout of the Bistro. However, the success has also caused congestion from multiple, long lines and increased theft because of the open U-shaped service area design.

The staff stations are designed for convenience, but behind the counter spaces get tight and cabinetry door swings interrupt the flow of traffic. There is also a shortage of storage space and lack of coordination with the building structure and functionality of the spaces (i.e., columns in the middle of traffic paths, electrical panel that decreases available storage space).

Cleanliness and maintenance is another concern due to the increased use of Dux Bistro. There is a lack of accessibility and coordination between the size of the trash bin inserts and their housing. Also, since the building was designed,
composting has become a popular alternative in dining areas, but it currently lacks a proper location.

Building and Housing Staff
Durability is the single biggest issue for the LLC staff, for example, the stained concrete floors, inaccessible windows, and sliding doors not intended for frequent use. The LLC is full of commercial grade paint, lighting and plumbing fixtures, which is not always durable or practical for a residence hall (i.e., many of the expensive fixtures have had to be replaced). Overall, the building staff believes they should be active participants in the testing and selection of the materials and products they maintain.

Operationally speaking, the location of resident assistant (RA) rooms and restrooms is ineffective, technical and lighting equipment in classrooms could be more logical, but the full height tunnel connection is a great asset. Even though many people have a hard time finding it, the performance hall has become an attractive space for interacting with the larger campus community.

Financial Performance
During the first year of operations, 2006 – 2007, the LLC met the initial building operations projections of costs per square foot. In the second year of operation, fiscal year 2007-2008, the repair and maintenance expenses were slightly higher than projected costs by $50,000, but utilities/custodial/garbage expenses were slightly under projected costs by $81,400. Some variance may be due to the fact that cost projections were based on a $27M total project cost; whereas, the actual total project cost was around $30M. Also, food service and administration labor are accounted for outside of the housing department’s pro forma and actual financial performance data for the LLC.

Energy Performance
The actual energy consumed was 91% of the total modeled energy use from July 2007 to December 2008. The 18 months energy performance data is attached at the end of this document.

Conclusion

Interaction and Meeting Spaces
The infrequent use of the Faculty Touchdown office (1 of the 2 has been converted into a private office) is almost certainly due to the lack of accessibility. The room is kept locked and must be scheduled ahead of time. A different department manages each Bistro meeting room and the Faculty Touchdown office, making scheduling difficult. The name “Faculty Touchdown office” may presume ownership by the faculty, thus excluding GTFs and student groups. To increase use and effectiveness, touchdown spaces should be located in proximity to, and with a clear visible presence from the classrooms. Information posted within the classrooms and a sign up sheet outside the office door may be enough to encourage faculty and students to utilize this space. The success of the Beaux
rooms can be applied to the academic hallways as additional study/meeting spaces.

The Bistro Meeting rooms are also infrequently used. Further research is needed to determine if this is due to similar accessibility issues as the Faculty Touchdown office or if the highly visible location off of the dining area is the reason. Neither room has a whiteboard or chalkboard and one has SMART Board technology. Further research should be conducted regarding the use of these technologies elsewhere on campus and whether the technology is accepted by students and faculty or if the mere visibility of the SMART Board room to the Dux Bistro is an intimidating deterrent for using that space.

Acoustics
Noise was overwhelmingly the largest distraction to users; however, the most important thing to change first was closely divided among Bistro Menu/Operations, Noise Control, Restrooms and Concrete Floors. Given a third choice to change, Noise Control was no longer an issue, whereas Concrete Floors was. The concrete floors may have some correlation with acoustic issues especially between floors, but there was also concern that the concrete floor “makes the room feel less livable/comfortable” and many suggested carpeting the resident rooms.

Study Spaces
It is difficult to draw conclusions on the frequency of use of the Beaux rooms by relying on the “0-2 days” majority response. It would be beneficial to place HOBO temperature sensors in the rooms to obtain a more accurate representation of use. The fact that there are only 3 of these spaces and they are all in the north building may add to the perception of constant use. Similarly, there are only 2 chairs in each room, which promotes individual study, but may also cause others to feel hesitant about invading a presumed sense of privacy.

Dux Bistro
The open U-shape design of the server area causes a bottleneck during peak hours with multiple serving stations creating the formation of long, tangled lines. The layout of the space should be reconsidered in order to form efficient lines of traffic and greater separation of space between the servery stations. Behind the counter workstations should be wide enough to allow two or more people to maneuver through the space.

Operations and Maintenance
For issues of durability and accessibility for maintenance, it is important to consult with the UO housing maintenance and operations facilities staff as active participants in the design process and selection of products to be used in the building.

The single sex community restrooms should be centrally located on the resident floors or be converted to co-ed community restrooms in their current corner locations.
The location of the RA rooms should also be located at the 2 interior corners of the “U” floor plan, in order to provide increased surveillance of and availability to the residents.

Survey Structure
Future surveys should expand the “0-2 days per week” option to include a “0 days” and a “1-2 days” option to collect more accurate information regarding the frequency of use in the surveyed spaces.

LLC’s Mission
- Blurring the distinction between residential settings and academic life,
- Providing opportunity for more programmed events with academic connections, and
- Promoting more frequent interaction between students and faculty.

The LLC created a successful live and learn environment by bringing academics and faculty to the residence hall. It has created opportunities for programmed educational and entertaining events especially in the Performance Hall (LLC-S Classroom 101), which often exceeds capacity during popular activities. However, opportunities for student and faculty interaction outside of the classroom can be improved by providing easily accessible spaces and an increased awareness of this opportunity.

Overall, respondents are pleased with the central location and close adjacencies of places to eat, sleep, and learn. There is a high satisfaction rate with the size of rooms and abundance of daylight, accessibility of study spaces, and the overall aesthetics and flexibility offered at the Living-Learning Center.
### Actual vs Modeled Energy Use

**Project Name**: U of O Living Learning Center  
**SEED #**: 115

<table>
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<tr>
<th>Date</th>
<th>Actual kWh</th>
<th>Modeled kWh</th>
<th>Demand (kW)</th>
<th>Actual Natural Gas (therms)</th>
<th>Modeled Natural Gas (therms)</th>
<th>Actual Steam (lbs)</th>
<th>Modeled Steam (lbs)</th>
<th>Actual Total Energy Use (MMBtu)</th>
<th>Modeled Total Energy Use (MMBtu)</th>
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<tr>
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<tr>
<td>October-08</td>
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<td>266,793</td>
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<td>December-08</td>
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<td>561,461</td>
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<td><strong>2,489,800</strong></td>
<td><strong>255</strong></td>
<td><strong>0</strong></td>
<td>2,194</td>
<td><strong>12</strong></td>
<td>5,153,295</td>
<td><strong>4,298,000</strong></td>
<td><strong>11,679</strong></td>
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</tbody>
</table>

**Percent Energy Use Difference**: 74%

**Notes**:
1. Running Total based on the amount of Actual data
2. Percent Energy Use Difference based on Running Total

<table>
<thead>
<tr>
<th>Actual vs Modeled Energy Use</th>
<th>Actual Total Energy Use (mMbtu)</th>
<th>Modeled Total Energy Use (MMBtu)</th>
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</thead>
<tbody>
<tr>
<td>Design Annual Energy Use</td>
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<td>8316</td>
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<tr>
<td>Best Year Actual Energy Use</td>
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<tr>
<td>Code Annual Energy Use</td>
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1. Percent Energy Use Difference based on Running Total