WELCOME TO PORTLAND STATE
DEVELOPING A CAMPUS LIVING LEARNING LABORATORY (LLL)

INTRODUCTION TO THE JUNE 7TH – 9TH WORKSHOP
OVERVIEW

• The campus as a living, learning laboratory
• LLL at different scales
  • The city, the neighborhood, the campus
• Workshop participants
• History of the workshop
  • Background
  • Desired outcomes
• Agenda
  • Day 1
  • Day 2
  • Things to remember
THE CAMPUS AS A LIVING LEARNING LABORATORY

• University an innovator around….
  • Actions
  • Education
  • Research
SUSTAINABLE DISTRICTS: ECODISTRICTS

- Building blocks for sustainable cities
- Living laboratories for innovation
- **Principles:** transparency and inclusion, new models for action and power, residents are empowered to be the change and make the change, experimentation and failure is embraced
LLL AND SCALE

http://pedshed.net/?p=260
## WORKSHOP PARTICIPANTS

<table>
<thead>
<tr>
<th>University Name</th>
<th>Student Pop</th>
<th>Public/Private</th>
<th>Location</th>
<th>Campus</th>
<th>Acres</th>
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<td>Urban</td>
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**Students**

**Professors and instructors**

**Operations and Sustainability Officers**

**Leadership – Provosts and Deans**

**Businesses**
WORKSHOP PARTICIPANTS

Average: 28,890
Min: 800 (Centenary)
Max: 110,430 (Indiana)

AASHE: Campus Sustainability Living Learning Laboratory Workshop June 7-9 @ Portland State University, Portland, OR
Fletcher Beaudoin, Institute for Sustainable Solutions, Portland State University & Katja Brundiers, School of Sustainability, Arizona State University
AASHE SURVEY RESULTS

• AASHE professional development survey

Workshops that focus on the Transformation of the Campus into a Sustainability Learning Laboratory where academics, operations and facilities become collaborative planning opportunities and Service Learning and Student Services are support for academic curricular designs. (Multi-stakeholder curriculum design)

• Responses from over 500 sustainability professionals (a mixture of high level administration, staff and faculty)

  • Workshop on Campus as a Living, Learning Laboratory was ranked highest by staff and faculty in terms of interest to attend
  • High level administration placed the LLL workshop as number 2 in terms of priority
  • This was out of 9 options
AASHE: PROPOSED OUTCOMES

• Workshop goals:
  
  • Begin to build common language and strategies around LLL project and program development amongst workshop participants
  
  • An initial plan and immediate actions for participating universities to build or improve their LLL programs
  
  • Establish a learning network of Universities and colleges that are working to advance LLL programs
PARTICIPANTS: EXPECTED OUTCOMES

1. Strategy building for LLL
   - Tools & knowledge to develop a plan to turn campus into LLL
   - Resources, responsibilities, continuity, success factors
   - Learn about best practices of other institutions

2. How to engage stakeholders
   - Sell idea to community/campus partners, students, faculty
   - Partner with community/campus partners

3. How to design learning activities in sustainability
   - Motivate and support students
   - Planning projects – for classes, for individual projects

4. How this workshop is run: hands-on, case studies
OUR PREPARATION FOR WORKSHOP

• Background research
  • Term usage and different definitions

• Web searches
  • Significant usage of the term across multiple institution types
  • In many cases, the term had little content or rigor behind its usage
  • Prominently used in the product development community

• Interviews
  • Alignment around the value proposition of the concept
  • Key insights about different typologies of LLL
  • Identification of leaders in the space

• Case study development
AGENDA – DAY 2: LLL PROJECTS

• Now – 9:50am: *Introductions and overview of case studies from selected programs*

• 9:50am – 10am: *Break*

• 10am – 11am: "Taking stock” exercise, understanding where we are and where we are going

• 11am – 2:30pm: *Field trips to LLL projects, lunch and debrief*

• 2:30pm – 2:45pm: *Break*

• 2:45pm – 4:45: *LLL project design and designing new or existing campus LLL projects*

• 4:45: *Synthesis and preparation for Day 2*
AGENDA – DAY 3: LLL PROGRAMS

- **8:40am – 10am**: Transition management theory and the LLL, LLL programs and a review of success elements from other universities and colleges
- **10am – 10:15am**: Break
- **10:15am – 11:45am**: Applying the LLL success elements to your university’s context
- **11:45am – 12:45pm**: Lunch outside
- **12:45pm – 3:00pm**: LLL program development planning and report back
- **3:00pm – 4:00pm**: Synthesis and moving forward
THINGS TO REMEMBER

• Diversity of perspectives at each table
• Use “Expert Exchange” – write questions / answers on the flipcharts at the wall
• Work-shop approach: worksheets will build on each other
• Five facilitators will be with the groups, serving as resources and note-taker
• WiFi Address: http://www.pdx.edu/oit/guest
• Food: special dietary foods are labeled with individual names for Sunday Lunch
QUESTIONS?!
WORD OF THE DAY

Go around the room – please introduce yourself briefly
Please stand up and speak up 😊

• Your name, university, position
• 1 word capturing how you feel about today
LLL: CASE STUDIES

EXAMPLES FROM COLLEGES AND UNIVERSITIES
WHY THESE CASE STUDIES?

• Providing examples of some of the leading institutions in this space
  • Giving examples of different institution types/approaches
    • Top-down, multiple universities, state
    • Bottom-up, community college
    • Bottom-up, multi-campus, state school
    • Others
• Extract some of the key project and program elements being used
• Discuss commonalities and unique features that could be applied to other contexts
Context

- Twin Cities: Minneapolis/St. Paul
- Student Population: ~52,000
- 4 Satellite Campuses
- Land Grant Institute
- STARS Rating – SILVER

Sustainability Overview

Campus Sustainability

- 2004 – Energy and Sustainability Policy
- 2009 – System-wide Sustainability Plan
- 2009 – Campus Mater Plan

Living Lab

“As a living laboratory, the University provides opportunities to develop, test, and share with others novel approaches as sustainability is integrated into teaching, research, outreach, and practice.” (System-wide Sustainability Plan, 2009)
PROGRAM ELEMENTS

1. Organizational Structure
   - Sustainability Committee/Sustainability Office
   - Regular Communication

2. Online Information Hub
   - Project Eligibility
   - Living Lab Map

3. Evaluation Process and Criteria
   - Support of University Mission
   - University & Community Stewardship
     - Impact/Benefit
     - Alignment with Existing Plans, Operation, Activities & Goals
     - Scalable/Replicable
     - Safety/Compliance
   - Academic Alignment
   - Financial Plan

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PROJECT EXAMPLE

Water Resources

• Sarita Wetland Restoration Project
  • Purpose – improve biodiversity, research and implement stormwater management techniques.
  • Provides natural environment for coursework, independent study, and curriculum related to wetlands plantings, stormwater management, and species identification.

• Stormwater Linkage Committee
  • Faculty, professionals, students and campus operations
  • Advise on stormwater policies, develop educational materials, and provide a forum to share best practices to improve watershed health.
UNIVERSITY OF BRITISH COLUMBIA

CONTEXT

- Vancouver, British Columbia
- Student Population: ~54,000
- 1 Satellite Campuses (Okanagan, BC)
- Public Land Grant Institute
- STARS Rating – Gold

“we view our entire campus as a living laboratory, a kind of giant sandbox in which there is the freedom to explore—creatively and collaboratively—the technological, environmental, economic and societal aspects of sustainability.”

SUSTAINABILITY OVERVIEW

1. Sustainability Initiatives

- UBC Strategic Plan, Place and Promise
- Climate Action Plan

2. Current Direction

- Continuous Optimization of Campus Buildings
- Integrated Steam to hot water campus-wide energy system
- Bioenergy research and demonstration
- Center for Interactive Research in Sustainability (CIRS)
PROGRAM ELEMENTS

1. Organizational Structure
   • UBC Sustainability Initiative – Sustainability Committee

2. Partnerships
   • MOU’s
     • Private => Commercialize and Marketplace Integration
     • Public => Policies and Regulation
     • NGO => Social Systems and Community Engagement

3. Administrative System
   • Pipeline for Partnerships – online hub
UNIVERSITY OF BRITISH COLUMBIA

PROJECT EXAMPLE

Center for Interactive Research on Sustainability (CIRS)

• Research
  • Sustainable Building Design and Operation
  • Visualization Tools and Community Engagement
  • Regenerative Sustainability

• Partnerships
  • BC Hydro and Energy Management
  • Opportunities and Challenges
LANE COMMUNITY COLLEGE

CONTEXT

• Eugene, Oregon
• Student Population: ~38,500
• 4 Satellite Campuses

“real-world learning experiences for students to affect change and make positive impact on campus.”

SUSTAINABILITY OVERVIEW

• Strategic Direction Implementation Plan (2011)
• Sustainability Plan (2012)
• Climate Action Plan (2011)

LIVING LAB ELEMENTS

• Measure Impact
• Communications
• Key Actors/Resources

Solar panels installed by Lane's Renewable Energy Technician students.
LANE COMMUNITY COLLEGE

PROJECT EXAMPLE

Take Back the Tap

- Implemented bottle-filling stations around campus
- Demonstrate environmentally responsible behavior
- Research and communicated the large-scale global effects of bottled water
- Produced and posted maps of filling stations
- Cafeteria and Bookstore eliminated bottle water from their shelves.

END OF THE PLASTIC ERA

Do you know where to refill your reusable water bottle?
CALIFORNIA STATE STATE UNIVERSITY

CONTEXT

• Umbrella organization that hosts multiple universities
• Deep interest in academic as well as operational sustainability

SUSTAINABILITY OVERVIEW

• Efforts at the individual campuses as well as the overarching
• Strong support from high level administration for integrative sustainability actions
PROGRAM ELEMENTS

- RFP
  - Two options:
    - Learning community; or
    - Problem-based course
  - $12,000 to redesign a course or develop a new one
  - Partnerships between 1 faculty and 1 facilities/staff person
- Institutional support
  - Champion from the vice chancellor level
  - Significant staff allocation
  - Staff can understand and work across academics and operations
TRANSITIONAL LIVING LAB PROGRAMS

Campus Operations

McGill

“The Applied Student Research provides information regarding sustainability opportunities for students, staff, and faculty. ASR also offers a diverse range of benefits, to both the individual and the surrounding community….getting real-world experience in applying skills and knowledge…”

- Feasibility studies into energy efficient technologies for new and existing University buildings;
- Studies of human behavior in buildings;
- Monitoring the effects of measures that have already been taken.

U of Cambridge

“The 'Living Lab' has the goal of improving the sustainability of the University by using the Estate to test and research real world environmental problems while enhancing the educational experience of students attending the University.”

Brown

“aligning its operations, research, and teaching with the goal of sustainability”

- Students designed an experiment that used different phrases on stickers above light switches that encouraged students to keep them in the off position.
- Students developed and evaluated a Green Events protocol to encourage waste-reduction, composting and local food at University events.

Duke University

“Diverse educational experiences in sustainability with client-based projects for students on campus and highlighted living labs for sustainability “

- Evaluating the new solar thermal system
- Researching the disposal of non-traditional recyclables

- Marine Lab
- Campus Farm
- Duke Forest
TRANSITIONAL LIVING LAB PROGRAMS

Neighborhood-Scale

San Jose State

- **CommUniverCity** builds community by engaging residents and students in service learning projects that accomplish *neighborhood-driven* goals.
- Projects are based on priorities set by neighborhood residents and are accomplished through collaboration with central San José communities, San José State University, and the City of San José.

Boston University

“A cross-disciplinary, multi-stakeholder research, education, and innovation platform...for innovation and commercialization."

- Sustainable Neighborhood Lab - Living lab for sustainable urban development to improve the sustainability and quality of life in the urban environment.

Building-Scale

University of Vermont

Living Building – long-term integration of the living lab with student internships and class projects.

- Eco-Machine
- Green Roof Experiments
- Ecological Landscaping
PROJECTS V.S. PROGRAMS

Program:

*Institutional commitment to realize LLL projects over time and in a certain manner. Includes: goals, plan to reach goals, evaluation metrics, staff to carry out the program, and financial & other resources.*
DEVELOPING A BASIS FOR PLANNING CAMPUS AS LIVING LEARNING LABORATORY
DEVELOPING A BASIS FOR PLANNING


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WHERE UNIVERSITIES STAND – SURVEY REVIEW

• Current State
• Vision
• Strategies
WHO IS HERE?

• 75% are familiar with the concept of the LLL
  • Learn from and challenge each other; best practices
  • Range: full-fleshed programs to initial ideas
• 69% include all parties into their definition of a LLL
  • 100% focus on students and faculty
• 50% of participating universities have both: sustainability action plan and climate change action plan
  • Informs overall LLL vision and individual projects
  • Facilitates integration of academics and operations,
  • Provides leverage for your LLL program
HOW PARTICIPANTS DEFINE LLL
VISION: WHAT TO ACHIEVE?

“Ideally, to establish an integrated framework and program for working toward sustainability that fosters collaboration among faculty, students and staff”

1. Expand best sustainability practice implementation on campus (and beyond)
   • A laboratory to experiment, test, validate and transfer innovative, evidence based solutions for decision-making

2. Integrate Academics and Operations
   • Foster open mindsets, link research/practice

3. Encourage students to take ownership of the campus.
   • Enhance student learning to create sustainability leaders and allow for progress toward sustainability goals

4. Platform for establishing awareness about the concept of sustainability throughout the university
CURRENT STATE: VARIOUS ORGANIZATIONAL MODELS

- Teachers
- Operations & Academics
  - Sustainability Coordinator, Academic Sustainability Coordinator
  - Energy Manager & Dean of College of …
- Office of Sustainability (operational level)
  - Strategic level attached:
    - President, Provost, Research Center Directors
    - VP/CFO and chair of University of Sustainability Council
    - University-wide Groups of faculty and other units
- Provost and President (strategic level)
  - Operational level attached
    - Incl. Student affairs
- Sustainability Committees
- Student run organizations
- Academic units
- Operational units
CURRENT STATE: CHALLENGES (AND OTHER!)

1. Developing an organizational model (who’s in charge)
2. Securing resources (need upfront investment, realign)
3. Securing commitment from faculty and staff
4. Securing projects and continuation of program
5. Integrating cultures of academics and facilities
   1. Incentive structures dissuade this type of collaboration
   2. Major shift in how individual (faculty, students, staff, etc.)
6. Communication
7. Measuring impact
CURRENT STATE: CHALLENGES (AND OTHER!)

1. Developing an organizational model (who’s in charge)
   - Various models and pathways!
   - Similarities: institutionalized; strategic & operational level; involves academics & facilities; engages students (interns, volunteers); housed in sustainability office/committee, broker

2. Securing resources
   - Internal and external, one-time/revolving funding resources
   - Utilizing guiding plans – provincial, university

3. Securing commitment from faculty and facilities
   - Provide a broker “TIM” to reduce added out-of-domain work
   - Responsibilities of TIM: manage expectations, project set-up
   - Rewards and incentives (c.f., Campus Compact)
How to Address Challenges (Survey)

4. Securing projects and continuation of program
   - Getting projects → map out landscape, website, RFP
   - Selecting projects → criteria
   - Matching projects → mechanism and terms of collaboration, TIM

5. Integrating cultures of academics and facilities
   - Provide training and support for students (TIM)
   - Facilitate getting in touch, collaborate, communicate (TIM)
   - Develop and share timeline (e.g., SCYP)

6. Communication
   - Conclude each project with a project story, share success
HOW TO ADDRESS CHALLENGES (SURVEY)

7. Measuring impact

- Education
  - # of students and projects
  - Learning outcomes
- Real-world change
  - # of partners involved, hours worked, reports produced
  - Project objectives achieved
  - Measurable change achieved
    - Sustainability targets
    - $ Savings
    - Shift in mindset – innovation
ACTIVITY

Taking Stock Of projects
LLL: TOUR
INFORMATION

AGENDA, GOALS, DETAILS TO REMEMBER
GOALS

• Learn about LLL projects at PSU. Hopefully it will enable you to:
  • See the design criteria from PSU are reflected in a project or fail to be reflected in a project
  • Recognize how these projects incorporate elements of transition management theory
  • See how these projects reflect, or fail to reflect the LLL criteria
AGENDA

• 11:05am – 12pm: Urban Plaza and the EcoDistrict capstone project
• 12:00pm – 1pm: Lunch + presentation by Office Depot and B-Line
• 1pm – 2pm: Shattuck ecological learning plaza and the Cramer Ecoroof
• Dialogue is strongly encouraged, and we will not have time to interface with the presenters again, so make sure to ask any questions you may have.
GROUPS

Group 1 – with Jacob
  • FT1 on your name tag

Group 2 – with Fletcher & Katja
  • FT2 on your name tag