LLL: GUIDING CRITERIA FOR PROJECTS

ESTABLISHING A DEFINITION AND INSTATING KEY CRITERIA
PATHWAYS FOR HIGH IMPACT LLL PROJECTS

• Moving from non-rigorous and disconnected projects to rigorous and connected projects
  • Vision
  • Design criteria to prevent key problem areas
• A transparent and open process
  • To build social capital
  • Look honestly at past difficulties
  • Celebrate successes
DEFINITIONS OF LLL

“A living lab is a given place where problem-based teaching, research and applied work combine to develop actionable solutions that make that place more sustainable.

For PSU’s campus living lab, this requires a joint commitment from students, faculty, staff and local residents to design, implement, adapt and teach new approaches that address issues of equity, economy and ecology.”

Portland State University’s Living Learning Laboratory Definition
DEFINITIONS OF LLL

“The idea underpinning the living laboratory theme is that the entire UBC campus is an experiment in sustainability, a 402-hectare community in which staff, students and faculty can test, teach, learn, apply and share the outcomes of their inquiries.

Living laboratory projects--campus initiatives that combine operational needs, partnerships, research, and education components--are niche-level manifestations of this idea”.

John Robinson,
Associate Provost, Sustainability | UBC Sustainability Initiative
DEFINITIONS OF LLL

“The campus provides a real-world learning experience through sustainability demonstration and hands-on opportunities for students to learn and be involved in sustainability. The campus is a test bed for sustainability innovation and an opportunity to showcase solutions, conduct research, and pilot new technologies”.

Participant

“Using the campus as an opportunity to connect academic teaching and research with operational needs and functions of the campus [to improve sustainability performance]”.

Participant,
BENEFITS: SOME VALUE PROPOSITIONS

Businesses:

- Good test ground for their products and technologies
- Helps build a tighter partnership with the University

Government/NGOs

- Helping achieve the sustainability goals they are working towards
- Builds their partnerships with the university

Foundations and external funders

- Fostering student learning
- Leading to on-the-ground sustainability outcomes
- Establishing a new, innovative model for high education
BENEFITS: VALUE PROPOSITIONS

University administration

- Achieving multiple goals at once
- Fostering internal partnerships within the university

Faculty

- Enhanced student learning
- Relevant and impactful outcomes to their courses

Students

- Applied learning, strong skills to enter professional world
- Ability to connect their learning to real-world impact.

Staff

- Added support for implementing certain types of projects
- Providing a central approach for managing student interest
CRITERIA DEFINING LIVING LEARNING LABS

1. Sustainability
2. Fit
3. Place (salience, relevance, impact)
4. Scale
5. Collaborative action (participants)
   1. Professionals (on campus, off campus, both)
   2. Students
   3. Faculty
   4. TIM – Transacademic Interface Manager
6. Monitoring, evaluation, continuous improvement
7. Educational Design
4. SCALE

• Applicability and connection to partners
  • Usable information
  • Strong connection and collaboration with the partner

• Framing the work beyond the specific context
  • Relevancy for other places?
  • Capacity to expand the work beyond defined project boundaries
5. COLLABORATIVE ACTION

• Two-way learning and collaboration
  • Not just a client and a consultant
  • Partners seeing themselves as teachers
  • Partners using the opportunity to learn as well

• Understanding all of the players needed for success
  1. Professionals (on campus, off campus, both)
  2. Students
  3. Faculty
  4. TIM
6. MONITORING, EVALUATION AND CONTINUOUS IMPROVEMENT

- Systems for adapting and improving over time
- A commitment to review failures critically
- Looking at both student learning as well as community impact
7. EDUCATIONAL DESIGN

- Presentation and Discussion After the Fieldtrip
LETS GO ON TOUR!
MAIN INSIGHTS FROM FIELDTRIPS

Share your individual insights:

• What was your key insight?
• Did the fieldtrip inspire projects for your LLL?
• Did this fieldtrip provide information on how to go about doing a project?
• What questions did the tours raise but not answer?

Group discussion:

• Similarities and differences across campuses?
• Success factors or causes for failure?
EDUCATIONAL
DESIGN

CAMPUS AS LIVING LEARNING LABORATORY
Imagine what might happen if students were regularly assigned actual sustainability problems that were brought to higher education by cities, businesses, nonprofit organizations, and other institutions. If classroom exercises produced workable contributions to solutions, students would understand they can have a positive impact on the world through their academic learning.

TRANSLATING THE VISION INTO A MODEL


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
TIM
TRANSACADEMIC INTERFACE MANAGER

• Staff who understands operations and academics
• Prepares projects
  • Getting projects: outreach, acquisition, website
  • Selecting projects: explains process (criteria, committee), supports brainstorming
  • Matching projects: connects projects to classes to professors to project partners and vice-versa
• Manages projects: can range: kick-off to whole project
  • Facilitates collaboration btw faculty and partners
  • Supports students in engaging with operations
  • Neutral go-to-person and problem-solver

STUDENT CENTERED, EXPERIENTIAL LEARNING

PPBL = Problem- and Project-Based Learning

PPBL is a learning approach where students work
- on a rich sustainability issue
- in collaborative teams
- conduct self-directed research
- simulate/engage with real-world settings and partners
- reflect on learning strategies, group process, project outcomes

PPBL is a teaching approach where experts act as
- Experts: faculty & project partners (in various roles)
- “Guides at the sides” learning support and quality control
BUILDING CAPACITY ACROSS THE CURRICULUM

PROGRESSION OF CAPACITY BUILDING (CONT.)

1. Bring the world – Freshmen
   • Term paper on water, energy, food, waste, transportation
   • Skill building: team-work, project-management, real-world

2. Visiting the world – Sophomore
   • Team-project w/ fieldtrips, visits, observation for data collection
   • Skill building: refine above, interactive methods

3. Simulating the world – Junior
   • Team-projects creating models and scenarios, role-play
   • Skill building: taking on different roles and perspective

4. Engaging with the world – Senior
   • Collaborative projects with partners, use-inspired research
   • Skill application and enhancement (“capstone”)

COURSES TO CO-PRODUCE KNOWLEDGE

LEARNING OUTCOMES AS STARTING POINT

1. Step: Learning outcomes

2. Step: Learning activities & settings

3. Step: Outputs & products

4. Step: Assessment, evaluation, grading

5. Step: Resources for instructors, students, and experts

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DESIGNING LEARNING ACTIVITIES

1. Step: Learning outcomes
   - Key Competences in Sustainability
   - AACU LEAP Learning Outcomes

2. Step: Learning activities & settings
   - Problem- and project-based learning
   - Place-based
   - Transacademic collaboration

3. Step: Outputs & products
   - For project partners: formats (e.g., written, oral, performances) and media (e.g., reports, web, videos)
   - For students: e-portfolios

4. Step: Resources for instructors, students, and experts
   - Tutorials, personal, assistance
   - $-resources

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ACTIVITY

Determining Priority Projects and Design Elements
TRANSITION MANAGEMENT

CAMPUS AS LIVING LEARNING LABORATORY
TRANSITION MANAGEMENT

Intentional change approach (one of many!)

- Guided by normative concept of sustainability
  - Regenerative sustainability – human activity improves conditions
- Structured into different phases and levels
  - Levels: Niche (incubating change), regime, landscape
  - Phases: movement along timeline
- Focused on process:
  - participatory, iterative, flexible, reflexive, coordinated
- Managed by a “TIM”
  - Boundary spanner, hybrid, manages the “transition arena”


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TRANSITION STRATEGY

- a coordinated bundle of prescriptive action items that ought to be executed by various stakeholders, with their agreement
- the action items, when operating in concert, are considered to lead successfully from the current state to a sustainable system’s state (realizing the vision);
- the strategy is informed and adjusted based on continuous testing, experimentation, and learning (Kay et al., 2013)
TRANSITION MANAGEMENT CURVE
PHASES OF TRANSITIONS

Predevelopment strategy
Take-off
Acceleration strategy
Stabilization strategy
PHASES OF TRANSITIONS

Predevelopment strategy: defines “the challenges of the current state, forming a sustainability vision, and adopting a theory of change”

Take-off: “raises awareness of the challenges, forms initial networks of support for the vision and the general plan of action… Coordinates pilot projects and experiments that allow for small-scale implementation of the key components of the vision”.

Acceleration strategy

Stabilization strategy

PHASES OF TRANSITIONS

Predevelopment strategy

Take-off

**Acceleration strategy**: transfers and multiplies the key elements of the vision … adapted through monitoring and evaluation, striving for more support and buy-in. The overall transition strategy has now the necessary political and societal backing as well as financial support to be fully implemented on all scales.

**Stabilization strategy** completes the implementation of the vision and “normalizes” it – a new set of “normal” operations within the system … makes sure that the transition does not overshoot, creating undesirable side effects and unintended consequences.

7 COMPONENTS OF TRANSITION STRATEGIES

1. **Sequence of phases:** How is the strategy structured sequentially?

2. **Transition actions:** What needs to be done in each phase?

3. **Organizational structure:** What are the roles and responsibilities for each transition action (who is doing what)? How are the transition actions coordinated?

4. **Required capacities:** What skills and knowledge are required to carry out the transition actions?

5. **Required resources:** What are the resources needed to implement the strategy?

6. **Assets:** What are the currently available resources and opportunities that the strategy could take advantage of?

7. **Barriers:** What are the obstacles that need to be overcome when implementing the strategy?

<table>
<thead>
<tr>
<th>Sequence of Phase</th>
<th>Transition Actions</th>
<th>Organizational Structure People: Roles, &amp; Responsibilities</th>
<th>Required Capacities: Skills Knowledge</th>
<th>Required resources: -Time -money -leverage -media</th>
<th>Available Assets: -Policy -Attitudes -Values</th>
<th>Barriers: - Disciplines, - Silos,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predevelopment (disconnected projects)</td>
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<td>Takeoff (rigor behind the projects, not connected)</td>
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<td>Acceleration (rigorous projects, connected and building synergies)</td>
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<td>Stabilization (cohesive program and support for growing and managing projects)</td>
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<tr>
<td>Predevelopment (Disconnected projects; Start with one area (e.g., water))</td>
<td>3 test-projects; Stories of each project; Conversations about defining LLL (criteria); Identifying possible contacts for your network;</td>
<td>Self-identified TIM; Mini-network includes contact to Operations, academics, students; TIM creates projects ad-hoc: make happen;</td>
<td>Ability to formulate value proposition, develop pitch; Familiarize yourself with educational design of projects; Se opportunities re: projects, contacts, support, structure;</td>
<td>Time (e.g., 10 hours per week); Communication pieces to incentivize participation; No budget;</td>
<td>Identify connections to official documents, e.g., sustainability plan; Identify connection to student learning, research programs, operations plans =&gt; key values;</td>
<td>Restrictive conditions; Lack of knowledge about LLL and its opportunities; Lack of social capital in higher up administration;</td>
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<td>Takeoff</td>
<td>Develop in transparent way clear LLL criteria; List of projects examples for classes and researchers; Evaluation of projects (recurring); Use LLL criteria to design projects; Test different curricular models and pedagogies; Draft project MoU; Reach out to high-level administrators;</td>
<td>Self-identified TIM, hires an intern; Expand Mini-network by gaining more champions; Network meets regularly; TIM and team plan and recruit projects (strategic approach);</td>
<td>TIM and others understand TIM’s role and use it; Learning from evaluation to adapt; Ability to articulate clear vision &amp; how to get there; Understanding of multiple applied curriculum and research models;</td>
<td>Collect overview of courses and faculty open to LLL; Develop reward recognition letter &amp; ‘public’ award; Simple website for communication; Budget provided by initial “sponsor” or grant (e.g., NSF);</td>
<td>Make connections to university policies explicit to admin; Explore grant opportunities and apply; Partner with development office to ensure that the vision for academic-operations integration is part of the story to funders;</td>
<td>- Policy, - Attitudes, - Values</td>
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<td>Acceleration</td>
<td>LLL criteria are widely accepted; Researchers receive incentives to do on-campus projects; LLL components written into new hires (operations); Best educational models expand to faculty through faculty development; Prepare meetings with high-level Admin, buy-in; Projects build upon / relate to each other; Draft MOU around LLL goals (operations and sustainability), project MOU are formalized; Develop RFP process for projects.</td>
<td>LLL has a home; has regularly an intern Network develops formal committee, advisory board, and informal metastasis Regular meetings of Advisory board; network members TIM/team has set up a process for people to participate, test terms of collaboration.</td>
<td>Understanding how to make multiple projects at once: manage timeline &amp; complexity of projects; Know about topical areas or know who to approach; Ability to design and implement robust evaluation; Capacity and interest to do on-campus research;</td>
<td>TIM: funded and institutionalized; Regular /weekly communications, Open House Event; Budget provided by Operations, w/ matching funds from edu-departments; Budget includes incentives/rewards for faculty &amp; student participation; Money comes in through external and internal ways – reallocation of operations funds;</td>
<td>Track-record of projects and testimonies by partners and newspaper articles; Demonstrate impact on sustainability related to sustainability plan and learning outcomes through measurable aspects (statistics); Poor universities include LLL language &amp; actions into university policies – sustainability/CC;</td>
<td>More resources -&gt; creates tensions and threat; Difficulties of traditional incentives structures – the exception is expected to become the norm without reward;</td>
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<td>Stabilization (Cohesive program, support to grow &amp; manage projects)</td>
<td>P&amp;T rules credit faculty teaching and researching the LLL; High level admins lead; Projects are complex and connected to other organizations (tier 3); Routine project contracts replace MOU.</td>
<td>LLL with staff and interns; Committee is more robust; TIM/team manage the interplay of “offer / demand”, formalized terms of collaboration™.</td>
<td>Formalized processes &amp; mechanisms (project selection, learning outcomes, research); Value proposition that allows acquisition of funds.</td>
<td>Money comes in through foundations and ROI of funding; Operations budget viewed as LLL &amp; sustainability budget; Press is talking about it already.</td>
<td>Success stories become part of the culture of the university, LLL as part of culture; Formal standards and rules are being revised (e.g., P&amp;T).</td>
<td>Maintain value-add and quality despite growth and speed.</td>
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</table>
PROGRESSION: MAGIC TRIANGLE – CORE

SUCCESS FACTORS

• **Sequence of phases**
  • Shared vision and definition of LLL and sustainability;

• **Transition Actions**
  • Projects are linked to institutional consciousness; shared through stories;

• **Organizational structure**
  • Personal relationships (face-to-face), build trust through collaboration, use competition;
  • Brokers/TIM,

• **Capacities (skills & knowledge)**
  • Track record in operational and academic sustainability (financial & environmental benefits, credibility) [UBC]
  • University as “Learning Organization”
  • Designing effective learning projects
SUCCESS FACTORS (CONTINUED)

• **Resources**
  - Life cycle cost; funding strategy sells “ends” not “means”; move from grants to budgets

• **Assets**
  - Policy context of region [UBC]
  - Leadership and strategic plans [UBC]
  - Strong societal or cultural interest in sustainability among citizens of the region and members of the university [UBC]

• **Barriers**
  - Disciplinary boundaries, silos & scale,
TOOLS TO USE

• Magic triangle
• Criteria for LLL
  • Designing learning activities
  • Designing effective learning projects
• Directing Change towards sustainability
• Transition curve and transition matrix
  • Phases
  • Components of phases
• Case studies / Best practices
• Guiding documents from your own university, e.g., strategic plans, sustainability plans
ACTIVITY

Orienting Your Strategy:
Where You Are And Where You Are Headed.
Individual
ACTIVITY

Bringing It All Together And
Drafting An Intermediate Action Plan

In your teams (Synthesis Group)
WRAPPING IT ALL UP

Share your feedback with us

• Key insights
• Questions still remaining open
• Anything else!
LLL: MOVING FORWARD

RAFFLE, LOGISTICS AND NEXT STEPS BEYOND THE WORKSHOP
RAFFLE!

• We put each of your names in a hat for a few raffle items:
  • Five books from the Post Carbon Institute
  • One mug from the PSU Sustainability
LOGISTICS

• We will be providing you all with additional information in the wake of this workshop
  • *Detailed case studies from three institutions*
  • *Worksheets and materials from Cal State and University of Minnesota*
  • *Digital copy of participants list*
• Any other additional materials that would be helpful?
WHEN YOU GO HOME...

• We hope you stay in touch!
  • With us: Fletcher Beaudoin (email); Katja Brundiers (email)
  • With you colleagues
    • Your workgroups
    • And other that you were able to connect with

• AASHE will be sending out a survey as part of their workshop evaluation process:
  • Ways to continue to grow this community of practice
  • Facilitate communication
  • Support the implementation of plans
  • Ways to make workshops like these better
SOME GENERAL IDEAS FOR WHEN YOU GO HOME...

• For those of you that brought out a team…
  • Schedule a follow-up meeting with this group
  • Identify the additional allies you need to advance you program
  • Convene that larger group to debrief on the plan and chart a pathway forward

• For those of you that came alone….
  • Find an academic or operations champion (depending on which perspective you bring to the table)
  • Discuss/refine the vision and plan
  • Recruit the additional allies to support and further refine the plan
KUDOS
CITATIONS

• California State University “Living Lab” Request for Proposal document
• http://www.sustain.ubc.ca/our-commitment/campus-living-lab
• http://italladdsup.umn.edu/livinglab/index.php
• http://www.lanecc.edu/sustainability
• http://www.bu.edu/energy/sustainable_neighborhood/
• http://www.uvm.edu/llcenter/
• http://cuczj.org/
• www.ecodistricts.org