



White Paper

Sustainability: Our Community as a Living Lab

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Executive Summary

Developing a learning community centered on the multiple dimensions of sustainability that use the campus as a living lab is an endeavor that requires the participation of all members of the campus community as well as our partners in the surrounding environs. Sustainability is a concept that has become ubiquitous in all facets of modern society. The commitment of the California State University (CSU) system is evident through their policy statement on the role of sustainability within the system (www.calstate.edu/BOT/Resolutions/May2014.pdf) and the funding to support grants for the Sustainability and the Campus as a Living Lab program. The discussion presented in this white paper is the result of the support from the Chancellor's Office for the development of a learning community at CSU Long Beach (CSULB).

The primary objective of our initiative is to develop a learning community that will help provide a foundation to launch the next generation of leaders faced with the challenges of integrating sustainability into their decisions whether as professionals or their everyday life choices. A successful learning community that will meet this objective requires creating an institutional structure that is ***inclusive and respectful of all disciplines and perspectives related to sustainability and sustainable development.***

To create such an institutional structure requires two related characteristics. First, a 'community of interest' must be identified. Such a community is not restricted to a specific location; instead it is composed of individuals or groups that come together based upon a shared commitment to achieving a better understanding of sustainability. The second is the development of a 'community of place'. We believe it is essential that there exist a specific location at CSULB that provides a clearinghouse function as well as an intellectual center for all the diverse efforts underway on campus integral to the related community of interest.

CSULB has undertaken several very important initial steps in establishing a culture of sustainability on campus such as creating a Sustainability Task Force, hiring a Sustainability Coordinator, supporting the Green Thread effort, initial steps to integrate sustainability in the curriculum for some programs, as well as a number of other initiatives. In order to establish and nurture a culture of sustainability on campus we recommend the following:

- Creating:
 - A facility to house a Sustainability Center or Institute thus identifying a Community of Place;
 - A Faculty-in-Residence program to serve as an intellectual foundation for the Center/Institute to nurture the Community of Interest;
- Expanding the commitment to sustainability in the CSULB Strategic Priorities and Goals;
- Leveraging existing academic programs and research to increase opportunities for student participation in sustainability activities on campus and in the community;

- Developing a strong web presence on the CSULB web site with a prominent link on the CSULB landing page;
- Integrating Sustainability Goals into CSULB fund raising goals and the capital campaign; and
- Forging community connections that strengthen the commitment to sustainability by all the university stakeholders.

Project Goals and Objectives

The California State University Office of the Chancellor (CO) circulated a request for proposals for their program on the Campus as a Living Lab Grant Program Spring semester 2013. On September 18, 2013 we were notified that our proposal entitled “Developing a Learning Community in Sustainability and Sustainable Development” was awarded one of four system-wide grants in the category of “developing a learning community”.

The primary goal of this project is to develop an institutional framework and foundation for a learning community that is organized around the theme of sustainability and sustainable development involving faculty, students, administration, staff, facilities personnel, and practitioners from the university and the greater community. This community will create a shared learning environment that inspires the next generation of leaders. These leaders will face the challenge of integrating sustainability into the decision making process in both the public and private sector whether it be for profit, nonprofit or governmental organizations. Achieving this goal will require creating an institutional structure that is ***inclusive and respectful of all disciplines and perspectives related to sustainability and sustainable development.***

More specifically, the objectives of this project are:

- Building on the existing sustainability foundation at CSULB to identify faculty, student organizations and courses that have a substantial sustainability component;
- Integrating the current research activity in the area of sustainability and sustainable development into the Learning Community to provide a foundation for increased success in obtaining funded research grants and contracts;
- Optimizing the use of internships and service-learning opportunities to create partnerships to strengthen and expand the Learning Community;
- Utilizing synergistic resources from the local community including organizations, businesses and other academic institutions as sustainability partners to enhance the reach of the Learning Community; and
- Leveraging the experience of existing academic programs to aid the design and implementation of a comprehensive program in sustainability and sustainable development.

To achieve the primary goal and the objectives stated above will require the involvement of the campus community and our partners outside the university. The figure presented below is a visual representation of this proposed relationship. At the center of the graphic is the CSULB Sustainability Learning Community. The next level represents organizations and institutions that are critical to the success of this initiative. The nodes listed are by no means exhaustive;

instead they are intended to be representative of the types of organizations and institutions that will be involved in the Learning Community. The outer ring represents the individuals that will interact with the various organizations and establish the connections required for a strong learning community to exist at CSULB. Again, the nodes are intended to be representative of various participants and to illustrate that they will interact with various organizations as well as each other.

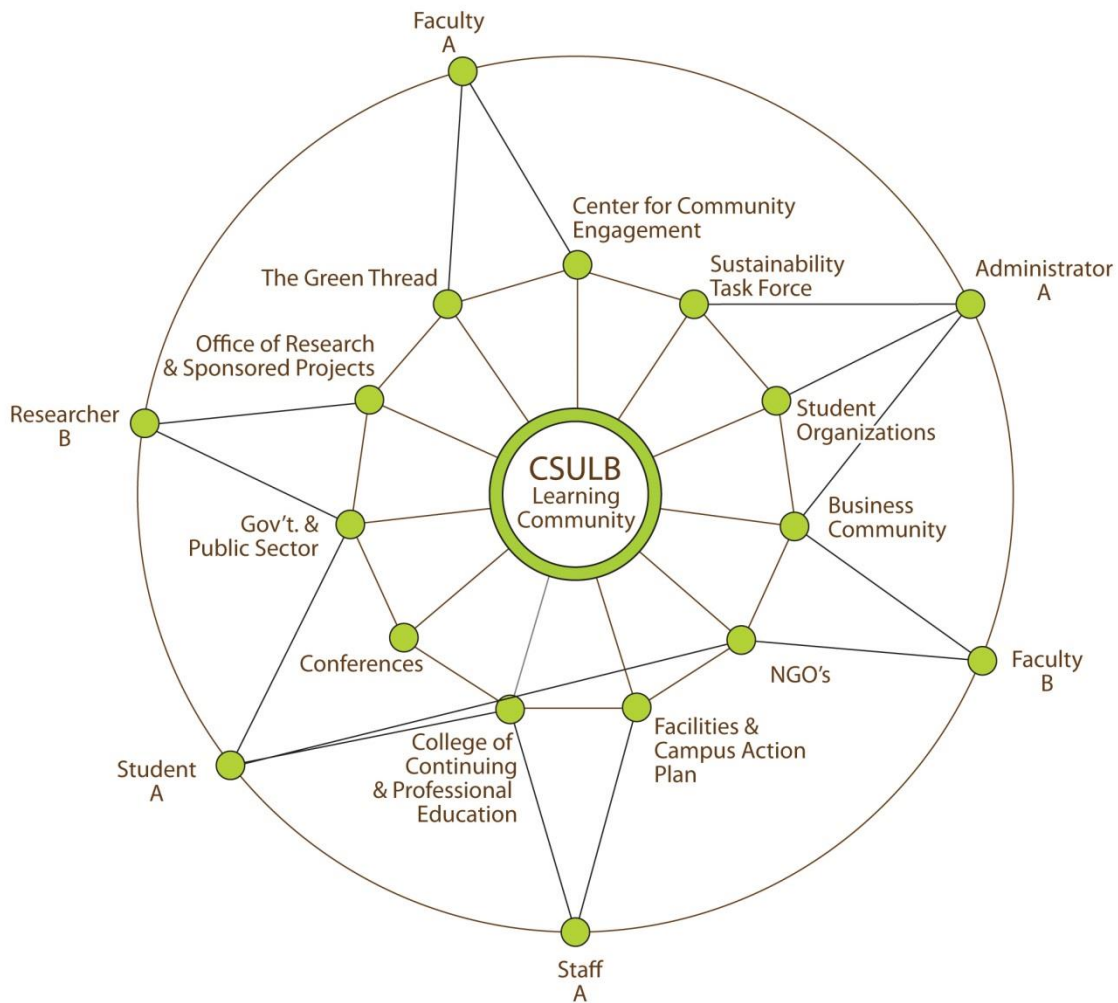


Figure: CSULB Learning Community Connections

Evolution of the Project

The request for proposals from the Chancellor’s Office came at an opportune moment for the CSULB community. There were many independent activities occurring across campus and in

the community that involved a wide array of interested parties including faculty, staff, students, administrators, etc. As each of us became more engaged in these activities it became clear that creating an institutional structure would provide a wide range of synergistic effects that would prove beneficial to all involved. The grant program from the CO provided the opportunity to begin to put a structure around these emerging grassroots efforts.

Once we received the grant our first step was to see what already exists at other universities. Our belief was that we didn't want to 'reinvent the wheel' if there were models out there that were successful. As we evaluated well over 100 programs (see Appendix B) there were two elements that seemed common to the subset of the programs we rated as 'successful'. First, they had managed to develop a "*community of interest*" with sustainability and sustainable development as the foundation. This community of interest was multi-disciplinary and inclusive. It is essential that there be a critical mass of interested parties that can come together to create a learning community that will advance the science and practice of sustainability.

The second characteristic of the successful models was a "*community of place*". Each of the programs that we evaluated in detail had a location that served as a point of contact or organizational structure that housed the variety of activities occurring within the programs. The importance of a central location for the learning community is critical to support the objectives identified above. For example, a strong institutional structure assures funding agencies that a particular line of research is a priority at the university thus improving the likelihood of success with the proposal. Another important role for such an institutional location is providing a clearinghouse for all information related to sustainability and sustainable development to expand the community of interest.

One ubiquitous aspect to all successful activities is the availability of resources to support the efforts. To develop the community of interest and community of place will require a commitment of resources including personnel, physical space and a financial commitment to make sure the Learning Community is sustained as it evolves over the coming years.

Programs Examined

We identified 136 programs related to sustainability and sustainable development at universities throughout the United States. These programs included certificates, minors, bachelors, graduate programs, research institutes and centers, as well as programs to support various forms of community engagement. As our evaluation of these programs evolved, we began to focus on the more comprehensive programs that supported multiple efforts in the sustainability area. For example, many of the universities offered a certificate program through

a specific department but did not provide a structure to expand the participation beyond that narrow group interested in offering and earning a certificate.

As our discussions continued we narrowed the set of programs to those that integrated a full range of sustainability activities. This resulted in a list of approximately 20 programs (see Appendix C). We then evaluated these programs in more detail and identified elements of programs that we believed would be applicable to an ideal institutional structure for CSULB.

Development of the Workshop

As we reviewed the top 20 programs based upon our individual preferences we narrowed our focus to a few programs that we would like to highlight at an on-campus workshop. The primary objective of the workshop was to engage the greater CSULB community in the dialogue as to what would be an ideal learning community on sustainability that would use the campus and community as a living lab. Due to resource constraints we narrowed our search to two programs that we would invite to participate in the workshop. We unanimously agreed that the two programs would be Arizona State University and Portland State University. These two programs are widely recognized as innovators and leaders in programs for sustainability and sustainable development. Also, these two programs evolved in different ways and would provide a wide-ranging set of lessons learned for our consideration as we moved forward with the development of a learning community.

The agenda for the one-day workshop is presented in Appendix D and the participant list in Appendix E. A summary of the morning sessions is presented below. Following the presentation by the keynote speaker, Gary Cero (President, Climate Action Reserve) the afternoon session began with a discussion of our proposed strategies for developing a learning community. The discussion is summarized in the next section. The workshop then moved into break-out sessions to obtain input from the participants on five specific aspects of developing a learning community. The results of each session are presented below.

Workshop Outcomes

Summary of Morning Session

The morning session was an opportunity to gather ideas and opinions from different realms of sustainability that affect our development of a learning community here at CSULB. First, we heard from Elvyra (Vi) San Juan, the CSU Assistant Vice Chancellor. She expressed her excitement at the development of a sustainability-focused learning community that links administration, campus facilities, staff, students, faculty, research and education with a common theme. Next, Mary Stephens, CSULB Vice President for Administration & Finance,

spoke and commended the progress and action that developing this learning community represents.

One of the challenges of sustainability as a topic is finding an integrated and agreed-upon definition of sustainability. A second challenge is integrating how people take action on sustainability. How do we inclusively make people aware of the myriad of sustainability-related activities on and off campus? The next section of the program was devoted to that quandary. Various members of the campus community were invited to provide a brief statement about their sustainability activities including Mary Stephens (Sustainability Task Force), Ingrid Martin (SMBA Program), David Salazar & Paul Wingco (Facilities), Ezra LeBank (Green Threads), Sylvia Palomero (Associated Students Incorporated), Dean Toji & Antonella Sciortino (faculty with Class Development grants), and Andrew Perez (architect working on the Sustainability Center). The floor was then opened to attendees who wanted to share their activities including Libby Gustin (faculty working on an urban farm), Elissa Thomas (CSULB Transportation Coordinator), Lisa Martin-Hansen (Science Education chair), and Terri Iller (Assistant Director, CSULB Honors Program). Finally, we rounded out the morning session with partners and businesses from the surrounding Long Beach community. Tom Bowman (author & businessperson), Eric Zahn (Tidal Influence), Brett Morales (Century Villages at Cabrillo) and Shannon Parker (US Vets) discussed their involvement with sustainability both on and off the campus. In addition, they discussed mechanisms by which campus groups and individuals could become more engaged with their sustainability-related activities.

As we developed the agenda for the workshop, we invited two speakers who provided perspectives from the two universities that had impressed us as institutions that would provide significant guidance on 'lessons learned' in developing a broad-based learning community. Dr. Jennifer Allen (Director, Institute for Sustainable Solutions, Portland State University [PSU]) themed her talk around how we unleash the power of higher education to make the world a better place. She felt that several elements were key to the success of the program at PSU: early involvement of the faculty through activities like a book group, a unique program in the form of an interdisciplinary graduate certificate, a coordinating unit or hub for the program, commitment and support from the Academic Senate, a campus-wide approach, and funding. Key challenges in this process were how to deal with allocation of student credit hours across disciplines and how faculty involvement was detailed in the Retention, Tenure and Promotion process.

Our second speaker, Dr. Candice Carr Kelman, (Assistant Director, School of Sustainability, Arizona State University [ASU]) addressed the integration of the 5 programs (MA, MS, PhD, non-academic track Master's, and Executive Master's) into an institute. Through development

of campus student learning outcomes (SLOs) that focused on systems thinking, the institute was able to be strategic with an anticipatory focus. This enabled new hires (100% faculty lines), creation of applied focus curriculum, and interdisciplinary connections (such as with study abroad programs). Dr. Kelman emphasized that having program-based SLOs, proposal writing teams, and an academic unit without path dependency were essential to the success of the institute.

Another theme at both PSU and ASU was the important role of research and community engagement. Both speakers highlighted the importance of involvement in the theory and practice of sustainability. For example, both programs provide support for grant writing as well as a collaborative work space for researchers to interact thus taking advantage of the synergistic opportunities within the community of interest.

Overall, the morning session provided a glimpse into where CSULB as a campus is currently positioned – what we hope to achieve, what activities are currently ongoing that we need to integrate, and what programs can serve as models for the development of our learning community as we move forward.

Suggested Strategies & Next Steps

The two main concepts that evolved from our discussions, review of other programs and workshop outcomes is that a successful sustainability structure that will meet the goals and objectives stated above must support an institution that allows for the creation of a *community of interest* and the identification of a *community of place*. The following ideas are intended as a starting point to achieve an institutional arrangement that will establish and nourish a culture of sustainability on campus.

- Create:
 - A facility to house a Sustainability Center or Institute identifying a Community of Place;
 - A Faculty-in-Residence program to serve as an intellectual foundation for the Center/Institute to nurture the Community of Interest;
- Leverage existing academic programs and research to increase opportunities for student participation in sustainability activities on campus and in the community;
- Develop a strong web presence on the CSULB web site with a prominent link on the landing page;
- Expand the commitment to sustainability in the CSULB Strategic Priorities and Goals;
- Integrate Sustainability Goals into CSULB fund raising goals and the capital campaign; and

- Forge community connections that strengthen the commitment to sustainability by all the university stakeholders, including
 - the campus,
 - local and regional businesses,
 - government,
 - not-for-profit sector, and
 - non-governmental organizations.

Choosing the appropriate first step is important to the success of the development of a learning community. Providing an institutional structure that is welcoming of all the diverse activities that are currently underway on campus and in the community is essential if we are to obtain buy-in from all potential collaborators and for the benefits from participating to be obvious. The afternoon breakout sessions were designed to address the issue of 'next steps' and to provide input on a diversity of open questions related to the development of a learning community.

During our planning meetings for the workshop we identified five central themes that we believed needed to be addressed and input obtained from the diverse workshop participants. The five themes addressed were:

1. Campus Culture.
2. Communication about Sustainability.
3. Resource Allocation.
4. Leveraging Grassroots Actions.
5. Linking Sustainability Communities.

The workshop participants were divided into these five groups with a member of the project team serving as the facilitator for the discussion. The conclusions presented in each section reflect the discussion during that breakout session. We will provide our concluding comments following the summary of the breakout sessions.

Summary of Breakout Sessions

Breakout Group I: Campus Culture

Facilitator: Heather Barker, Department of Design - College of the Arts

This breakout session focused on the methods and strategies a sustainability-oriented campus can pursue in order to guarantee a vibrant, interactive and enduring campus culture. The group was largely made up of students from CSULB, from other CSU campuses and also included

PowerSave interns¹, students representing a wide range of sustainability groups and a multitude of majors.

Six foundation questions, specific to the topic ‘campus culture’, were explored and discussed. Following the initial discussion a final question was posed asking the session members to contextualize the conclusions reached to address the relationship between a community of interest and a community of place.

Question 1: What are the scales of interest groups in the campus culture?

Discussion Points: The question posed specifically intended to explore whether large or small groups are likely to be more effective at impacting campus culture. Through discussions on the many activities of the numerous sustainability groups on campus, the conclusion was that the impact on culture was less determined by the size of the group than the ability of the group to communicate to the intended audience. The session enthusiastically recommended embracing the big, the small and the grassroots groups. There was general consensus that numerous groups have the ability to reach particular niches of the student population - which must be addressed in a differentiated manner – through targeted communication and the most effective channel(s). One example given by the *PowerSave* interns was their work with the Athletic Department. Consistent efforts to get the *sustainability* message to the student population resulted in an “awesome” experience at a recent ‘Green Basketball Game’. They stated that “...[they] have never had so many students hear [their] message.” Some participants mentioned that other organizations get great results working with the resident halls, and others within their programs, departments and colleges. The main point here is:

- All sustainability groups and activities, regardless of scale, should be supported and encouraged within a sustainable-campus culture.

Question 2: Is there a way to integrate or connect the many sustainability groups on and off campus?

Discussion Points: The intent of this question was to explore possible synergies amongst groups that could facilitate a stronger campus culture for sustainability. The breakout group first posed many questions as to what is possible; “Could a resource center be developed?” was the main focus of the discussion. The suggestion was that an initial, immediate step must be taken with the development of an online hub followed by a physical resource center with a sustainability

¹ *PowerSave* is a program from the Alliance to Save Energy that employs interns on campuses to work on energy efficiency projects.

team. The discussion envisioned the hub as a “...fun place for events, messages; a hang out”. The online and physical hub would be something that all people interested in sustainability could be made aware of as a place to add perspectives or express interest. The session emphasized the importance of adding the perspective of “culture” and foster a “sustainable culture” – that is inclusive of all students and all places on campus. The session identified that in order for sustainability efforts to be effective; “...understanding how the campus functions - is critical”. Session members identified how they had observed energetic efforts get bogged down and a great loss of energy and excitement happens when people can’t get things done. The group identified the need for a central location (place) for all support systems and resources related to sustainability. Students need to be able to clearly identify what the CSULB ‘sustainable objectives’ are and where do they (the students) fit into those objectives? There is a critical need for some form of resource center. The primary conclusion is:

- An online and physical resource center is needed to facilitate the impact of student sustainability efforts, communicate events, objectives and opportunities as well as provide a forum for events and socialization related to sustainability.

Question 3: Is the campus culture something that should/could be managed?

Discussion Points: The intent of this question was to identify potential organizational structures to facilitate a vibrant, interactive and enduring campus culture. The session group immediately balked at the term ‘managed’. Again, questions were discussed amongst the group members: Could there be a platform for ‘collaboration’ instead of ‘management’? There was the desire for any leadership to be accessible and inclusive. The group recognized that consistency is crucial in order to retain and share knowledge. Some group members spoke from their personal experience stating that, “Environmental Sciences is split – that is a problem”. Many in the group expressed that ‘turf-grabbing’ or territorial attitudes are hurting the progress of a wider sustainable-culture adoption. It goes counter to the importance of inclusiveness in the underlying philosophy of sustainability. A number of session members agreed, “It is hard to get people involved if they feel an initiative is outside of their interest group or if they might be stepping on someone else’s toes”. Students need people and groups they can identify with, including networks of people with shared interests. The main conclusion here is:

- A decentralized organization with a participatory, accessible and relatively flat hierarchy – detached from any group that may seem to exclude others will be necessary in the leadership of a sustainable campus culture.

Question 4: What are the opportunities for outreach?

Discussion Points: The intent of this question was to reveal the various points of access to students who may (or may not) be looking for information on sustainability or involvement with the sustainable campus culture. This topic met with great energy and passion from the student members of the breakout session.

Again, an online hub (very visible and easy to navigate) as an essential component in the sustainability communication system was identified as a priority. The desire for the hub to be a place for resources, protocols, events and opportunities for involvement and to share job opportunities in the field of sustainability was generally found to be essential, similar to the concept used by Google and other private sector companies to generate creative and cross-functional ideas.

An emphasis on creating efforts that reach out to freshmen was seen as a priority. One of the *PowerSave* interns gave the example CSU-Fresno's Univ1 class in which students learn about the campus. Such a class that included exposure to CSULB's sustainability resources, efforts, initiatives and groups could have an enormous impact on early active involvement by freshmen. One member suggested that students involved in the campus community are less likely to drop out. Freshmen should be able to visit a sustainability group to see how to get involved right away. This can readily happen with a physical location.

A foundation class on sustainability for freshmen would be an additional option. The session group expressed that the context and delivery of the sustainability message is crucial. A course should take students outside and perhaps even be led by other students - with content provided by students. The course should be project-based and hands-on. A participatory class is very valuable for freshmen. One student shared that when he engaged in interviews on sustainability, he was able to comprehend the data better than just reading the statistics. A general consensus that the freshmen need to have the feeling that students can make a difference is essential. Be conscious of the message - it is not just all doom and gloom - the opportunities and possibilities of a sustainable culture should be shared. Many members of the session group warned of 'green fatigue' and suggested, "we need a new word, 'sustainability' is tired". The breadth of sustainability should be addressed in a more balanced way including more time spent on the social justice issues of sustainability. Therefore, it is important that there is:

- Outreach to freshmen in the form of an initial sustainability orientation and a project-based foundation course emphasizing the breadth of sustainability issues, communicating individual impact and an optimistic future should be developed.

Question 5: How can a sustainable campus culture be maintained within a dynamic group?

Discussion Points: This question focused on the ways to maintain enthusiasm and institutional knowledge within a revolving student body. The breakout group agreed that it is essential to have a consistent full-time position of Sustainability Coordinator to insure consistency as students matriculate in and out of the campus. In addition, consensus was reached that Service Learning is an empowering and uplifting experience that can expose students to career options early enough to impact a choice of major/minor. The suggestion that having a service-learning requirement in sustainability for freshmen could help students identify sustainability career options was well received. Early service learning may help students to select a major more quickly and graduate in a timely fashion. Lower division service and upper division service could be linked to aid continuity. An example of Cal Poly Pomona's student-created sustainability course guide was raised by one of the participants as an example of an effective means to communicate the various possibilities for taking courses related to sustainability. In sum:

- A full-time position of Sustainability Coordinator for ASI should be created to insure consistency as students matriculate in and out of campus.
- A service-learning course in sustainability should be created at the freshman level. That course should be linked to an upper-division course in order to provide experiences to facilitate early commitment to sustainability and the appropriate major/minor choices early.
- A sustainability course guide (as proposed by The Green Threads effort on campus) should be created to guide students to courses on campus.

Question 6: What are the institutional structures essential to facilitating a campus culture of sustainability?

Discussion Points: This question was put to the group in order to reveal obstacles to successful implementation of a sustainability agenda and opportunities for the campus to support sustainability efforts. The majority of the group supported the creation of a Capstone Global Issues in Sustainability. That upper-division course should be jointly taught in order to build a campus-wide sustainability culture. Ideally, the class should wander from department to department, perhaps 5-week sessions taught by three professors from different departments.

The session group again emphasized that students want a project-based sustainability education. A broad exposure to the range of sustainability topics and opportunities for learning through doing should be provided. It was suggested that a Certificate within each department would be an important step and that applied sustainability issues must be linked to department majors. A course with some hybrid learning would be beneficial, allowing for more flexible,

sustainable and accessible teaching and reserving on-campus time for project work and networking/communication. In addition to CSULB course offerings, it was agreed that within sustainability issues, a global perspective must also be maintained. This could be achieved through study-abroad opportunities in sustainability. The conclusions from this section are:

- Sustainability courses should be offered as GE's through to the capstone level. A GE capstone should be interdisciplinary and project based. The course should be a hybrid course dedicating on-campus time to project work and networking.
- Each Department should offer a Certificate in Sustainability.
- Study-abroad opportunities related to sustainability should be developed.
- The group supports the Board of Trustees for the Chancellor's Office vote to amend the Sustainability document to include the "integration of sustainability into the academic curriculum of all CSU campuses".

Final Question: How do the strategies of a vibrant, interactive and enduring sustainability-oriented campus relate in terms of a community of interest and a community of place?

Discussion Points: These questions revealed themselves to be core issues discussed through exploration of many of the foundation questions. There is general consensus that the community of interest should in no way be limited based on size or affiliation and that an infrastructure for supporting these efforts is essential. Recognizing the diversity of the community of interest and providing resources and an autonomous yet inclusive managing structure is essential in maintaining the campus community. The community of interest needs to have both an online hub as well as a physical destination to support all activities related to the community of interest.

The community of place in the discussion of campus culture focused on a bricks and mortar location to legitimize the seriousness of CSULB on the issue of sustainability but also sees CSULB itself as the center of a global community of places. The campus community assumes CSULB and the students and faculty can foster change as part of a larger system including the immediate local area, the greater regional area, the national effort and as stakeholders in a global sustainable system. The community of place can best be developed and sustained through creating collaborations and exchanges with other places around the community, region and the world. These collaborations require places to share information, ideas and host events supporting sustainability. The main point from this discussion is:

- Develop a prominent presence for the sustainability communities of interest and place.

Campus Culture Summary

The Campus Culture breakout session was a passionate and productive discussion engaging those with perhaps the largest stake in the success of a CSULB sustainability campus culture – the students. A broad range of topics were explored and debated; the session participants proved to be knowledgeable, have valuable experiences and invested in supporting a successful, sustainable CSULB. The discussion focused on the infrastructure, systems and institutional support necessary to foster a vibrant, interactive and enduring sustainability-oriented campus culture.

It was agreed that sustainability efforts must be supported on many levels simultaneously in order to be successful. In curriculum, project-based and orientation courses need to be provided to freshmen while capstone courses and department specific certificates should be offered to upper-division students.

A data communication infrastructure needs to be put in place to encourage knowledge and information exchange as well as to represent the CSULB sustainability culture to the world. A bricks and mortar place is essential to demonstrate the relevance of sustainability to CSULB while providing a synergistic forum for events, exchanges and networking. Resources and consistency need to be made available to each generation of students and incoming faculty through an autonomous, inclusive sustainability manager. The enthusiasm and urgency of this topic was clearly expressed by the session participants.

Breakout Group II: Communications: Communicating about Sustainability both on and off campus

Facilitator: Christine Whitcraft, Department of Biological Sciences - College of Natural Science and Mathematics

This breakout session focused discussion upon how best to communicate about sustainability-related topics and activities both on- and off-campus. We focused on what type of communication models have been used on other campuses, about how we can unite diverse communities and activities, about the role of social media in fostering grass roots actions, and finally, about how best to indicate this changing culture to the outside world. For a final question, the group was asked to relate these topics towards the relationship between a community of interest and a community of place. The group consisted of local business owners, students, Dr. Kelman from Arizona State University, a representative from the Chancellor's Office, and faculty.

Question 1: What type of communication model do we need here at CSULB?

As suggested by a communication expert, the first overarching goal of any communication effort should be development of a communications strategy, identifying our goals and our audiences. Once these two primary items are agreed upon, a multi-pronged strategy to learn about our audiences can be designed and tested. Only then, should CSULB implement a full communications program. From the discussion, several suggestions and examples were discussed and are listed below:

- Defining sustainability is key to effective communication. It can be a challenging word both because of numerous definitions but also because of pre-existing associations with the word that imply changes to a life style or reduction in consumption.
- We need to utilize story-telling and dialog to engage people, as opposed to pushing a sustainability message. For example, instead of just suggesting that people carpool to work, we tell the story of the Boutin Creek bike path project where students can now bike to school or tell the story of two employees who are friends through a carpool. The sentiment of this group was that the sustainability message can be viewed as preaching and instead we should offer people a process or action through example (i.e. a story).
- As part of this we should convey momentum – momentum inspires people to want to be a part of the movement and the story. For example, continual updating through social media, publicity of events both past and upcoming, and success stories of ongoing sustainable projects on and off campus.
- What future do we want to create? By visioning the future, we can include a broader audience than people who are already interested in sustainability, similar to the idea of Earth Day. Everyone has a vision for what they want their future to look like, and campaigns such as <http://futureday.org/what-sort-of-future-do-you-want/> have been started to turn this visioning into action. This question seemed central to our goal setting and messaging process.
- “Sustainability is a lens through which all topics can be viewed.” This is a quote used by many sustainability leaders on campus throughout the United States (e.g. https://asunews.asu.edu/20120816_sustainabilityjournal). The idea is that we can reframe sustainability as a challenge in decision making, which ultimately makes it a communication challenge.
- Example of a possible goal for communication? – Educating tomorrow’s leaders in an active, engaged and forward-looking manner. Stay relevant.

Question 2: How we can unite diverse communities and activities?

Much of the discussion and suggestions delineated within the first question of the breakout session overlapped with the subsequent questions. This question focused on defining our audiences (target audiences) and understanding who they are and what are their goals.

- In answering who the audience is, we assembled a quick list of “who”
 - Internal community (currently existing and interacting)
 - faculty (tenure and tenure track)
 - lecturers/instructors
 - students
 - facilities
 - staff
 - university administration
 - Chancellor’s Office
 - External community (potentially interacting)
 - community leaders/members
 - government
 - NGOs
 - Funders
 - Businesses

- The group stressed the importance of developing mutually beneficial outcomes from these collaborations.
- The overlap of the needs within the community could conceptually make the links and networks achieved even stronger.
- Develop a strategy to identify businesses and community leaders that share the same interests and commitments that are part of the Learning Community.
- Utilize events to unite communities. For example, when planning events, invite community representatives and make the agenda serve the needs of both the university and the community partners.
- Development of a curriculum which focuses on interdisciplinary sustainability-based service learning/work. The goal is to institutionalize ideas to interact with all of our community partners and learn from these interactions.

Question 3: How best to indicate this changing culture to the outside world?

This discussion kept returning to the initial idea that we needed a specific communication strategy before we could talk about the specifics of how this communication would be structured. Thus we avoided the topic of which channels of communication to use. We did assemble a list of forms of communications we thought would be essential to include in a well-rounded communications strategy. Specific topics from the discussion are listed below.

- Ongoing communication is key along with the establishment of a position as a keystone person with whom people should communicate (a “face” for the program).
- A well-rounded strategy includes radio, web presence, and community events.
- In addition, we need to integrate our goals and message into existing events (such as SOAR for new students and faculty and staff orientation) and at existing events (such as the Green Basketball game).
- Do a better job of communicating and attracting different audiences/market segments for on-going events. For example, expanding the Green Gen Mixer, the Green Tech Expo, and other types of events.

Final Question: Community of Interest and Community of Place

Within the group’s discussion of this topic, two strong themes surfaced. First, most participants felt strongly that an eventual goal would be to have a physical location for the learning community. This is an important way to ensure that the resources needed to bring together our learning community can be effectively managed and communicated across a broad set of partners (see the diagram). In addition, a community of place centralizes the diverse groups and interests bringing a focus to the learning community.

Second, in the implementation of these forms of communities, a virtual place could also be useful – an active blog or clearinghouse. With consistent branding and vocabulary, the campus and the surrounding community could be integrated. But all this means that a sustainability coordinator is key to managing this organically growing virtual community. It was understood that this was a long run goal that we would have to work towards. A community of interest can and will develop without the physical place.

Breakout Group III: Resource Allocation

Facilitator: Ingrid Martin, Department of Marketing, College of Business Administration

This breakout session focused on the critical element of moving our Sustainability Learning Community forward – what resources do we have, what resources can we get in the short run,

what resources can we get in the long run, and what resources are needed to be successful. The participants in this session included three faculty (CBA, CLA), representative from the Chancellor's Office, two representatives from Facilities and Transportation, one of the invited scholars, and two undergraduate students in the UHP Sustainability course.

Question 1: Asset mapping

The initial topic that was addressed consistently throughout the session was the importance of undertaking a structured approach to **asset-mapping** at the university level as well as within each college. This process starts with identifying what is the present state in our learning community as well as identifying the boundaries of our learning community. Integral to this first step is identifying the resources of our learning community (capacity inventory). Then a focus on agenda-building and problem solving capacity of the stakeholders in our community based on the gap between resources that are needed and our current capacity inventory. The final step is to determine how our community can act together to achieve our goals. Many of the issues that were identified are recurring themes that were addressed:

- Institutional barriers provide a significant hurdle to overcome.
 - Identify the institutional barriers
 - Identify how to over-come and/or change these institutional barriers
 - Hold the institution accountable.
- Hire a consultant to guide/facilitate the asset-mapping process.
 - Consultants can oftentimes offer objectivity and out of the box ideas.
 - Administration is more likely to listen to consultants rather than the staff, faculty, and students within the university community.
- Informal brainstorming meeting – short sharing sessions to keep the energy going
 - Think about what we want 2 or 3 years out and then back-cast: how do we get there?

A formal process is needed to determine how we can move towards integrating sustainability into our community (see the Figure).

Question 2: Related to the asset-mapping process how can we develop a 3-5 year plan, which includes a vision, a set of goals and related outcomes, as well as an implementation plan?

It was agreed that as part of the outcome of an asset-mapping process, we would need to develop a 3-5 year plan on how to move forward. A potential strength that was agreed upon by all is the incoming CSULB President who seems to have a very positive attitude and commitment towards sustainability. As part of the process, it is believed that we need to consider hiring a Director of Development for Sustainability and a Volunteer Coordinator for the "community of place" - Sustainability Center. The first position fits in with the need to expand our list of priorities when working with donors and fund raising. How do we prioritize sustainability efforts and projects as a critical part of our fund raising targets? Strategies such as

working with development directors collectively vs. individually can expand this initiative across the entire university.

The second position (Volunteer Coordinator) fits with the need to engage and energize our student base towards more effective and targeted student initiatives. To channel the motivational spirit and efforts of our students into a cohesive plan that fits with our asset-mapping and strategic planning process would be a valuable resource for the community.

Another critical question was how do we as a university support a culture of sustainability? It needs to be integrated into every aspect of our administrative, curricular, and physical parts of the university. This is consistent with the newly passed amendment by the Board of Trustees to engage the CSU system in integrating sustainability efforts in every aspect of each university. CCPE is one key to get programs going.

Question 3: How do we engage faculty in the sustainability effort on our campus?

This question was addressed as a brainstorming of possible strategies that need to be further developed. Fundamentally, how do faculty affect knowledge transfer across multiple cohorts of students coming into and then graduating from CSULB. This requires faculty involvement and understanding of the asset-mapping and strategic planning process. For example,

- List every sustainable effort, project, program, course offered at CSULB. Get feedback from students. Make a running list of all the efforts going on and then put that information out to students, funders, etc.
 - Fund sustainable choices to offset the cost of cheaper / less sustainable options (such as color copy paper)
- Informal brainstorming meeting – short sharing sessions to keep the energy going
- Communication Plan – Have each college highlight what sustainable activities they're doing.
- Grant opportunity for faculty learning community to do the mapping and define mission, vision, implementation plan. Bring in a strategic planner.
 - Seed money can lead to a successful program with a high retention rate.
- Communication tools to engage the university as a whole – (e.g.) SharePoint csyou – an intranet service for the CSU system.
- Make a running list of all the faculty efforts going on in sustainability and then put that information out to all faculty.
 - For example, a monthly seminar series could be held to inform and engage the faculty in issues around sustainability.

Question 4: How do we better engage our students collectively?

Student initiatives are powerful and through a process of engaging this valuable resource for our community, we can bring together another important stakeholder group in our learning community. This would also involve some of the following considerations:

- Informal brainstorming meeting – short sharing sessions to keep the energy going
- How do you get that knowledge to transfer across generation after generation of students coming in and then graduating?
- List every sustainable effort, project, program, course offered at CSULB so that students know what resources are available to them.
 - Get feedback from students.
 - Make a running list of all the efforts going on and then put that information out to students.
- Make sustainability a part of SOAR (student orientation)
- Have Alumni + Career Center + Service Learning all come together so that alumni could mentor students, offer internships.
- Communication tools to engage the university as a whole – (e.g.) SharePoint csyou – an intranet service for the CSU system.

Question 5: How do we bring the message of sustainability to potential and current donors, alumni, and businesses?

In order for our sustainability learning community to be fully integrated and successful, the university must clearly develop fund raising objectives and targets that focus on sustainability efforts. To approach donors explicitly involves packaging the current efforts within and across the stakeholder groups (see Figure).

- List every sustainability activity, project, program, course offered at CSULB. Get feedback from students. Make a running list of all the efforts going on and then put that information out to funders.
- Development of a Funding idea – (challenge / matching commitment) that is targeted towards sustainability efforts at the university as well as across all of our community stakeholders.
- What are our important list of priorities – What to fundraise for first in order to get to the next level (& define what the next level looks like)
- To obtain financing to support some of our ideas we need to have a plan to move forward. What is our vision for the campus in 3 years, 5 years? We might consider developing this vision and time line based on 2 scenarios, one with a major donor and one without.
- Target alumni who are in sustainability positions and careers in industry. (example – Disney)

Final Question: Community of Place vs. Community of Interest or both:

The common question for all the breakout groups was to gauge the belief in whether we should have a 'community of place' that becomes the physical location for our 'community of interest' in sustainability. The consistent and strong belief in our group was that to be successful we need a physical location that can house and nurture the united voice of our sustainability

learning community. For example, the institutional model would be: Central hub + research, education, community – Co-locating to form a community or spider web of linkages (see Figure). It would involve a central portal where the information would flow in and out of our learning community. It was also determined that a concerted effort should be undertaken to understand where stakeholders currently go to get information to disseminate the messages about our efforts, initiatives, resources, and more.

Breakout Group IV: Leveraging Grassroots Efforts On- and Off-Campus to Promote Sustainability

Facilitator: Reza Toossi, Department of Mechanical and Aerospace, College of Engineering

This group focused its discussion on how best to leverage campus resources and provide linkages between various student groups involved in sustainability efforts. Students in the group were asked about their experiences on sustainability efforts and whether they were involved in any student organizations. One student was a member of *PowerSave*; one student attended from CSU Fresno, two students were in the UHP Sustainability course. There was also a discussion on how the communities of place and interest can be used to foster the stated goals. Discussion was focused around campus culture, curriculum, the stakeholders, and communication. These topics often overlapped and could not be separated into specific categories.

Question 1: Campus Culture

Sustainability means different things to different people therefore it is critical that all stakeholders understand what sustainability means, how it is viewed by the various groups and individuals on our campus, how it affects training of our students, faculty, administration, and staff, and ultimately how understanding sustainability can impact the world.

The integration of sustainability into the undergraduate and graduate curriculum, thus far, has been initiated by a few faculty at CSULB. There is a belief that integrating sustainability into the curriculum is something that “environmentalists do” so it is not perceived as mainstream. Any sustainability effort must, therefore, aim to change campus culture, educate all involved (students, faculty, staff, and administrators), and be implemented across the curriculum consistent with the BOT sustainability amendment. Equally, it is important that our campus be involved in community projects, work with local industries, and understand which organizations (both profit and non-profit) have missions that closely match our sustainability goals. This is especially relevant given the regulatory environment in the state of California with Global Warming Solutions Act (AB 32) and Sustainable Communities Act (SB 375).

Question 2. Integration of Sustainability into the Curriculum

By the time students reach college age, they have formed many of their habits and attitudes that may be counter to the values of sustainability and sustainable development. There is, however, hope that students are mature enough and care for their social and physical environment to want to positively influence change on our campus and in our community. This requires a serious and sustained campus-wide effort that includes faculty, administrators, staff, and students. It was discussed and agreed that an integrative sustainability course - to be taken at the earliest possible time (preferably freshmen) engaging students in societal and environmental issues surrounding them - is crucial. This course should be cross-disciplinary, project-based, and preferably include a service-learning component, not owned by any one department, taught by faculty from across the campus as well as those directly involved in sustainability programs around the campus. Depending on their interests and career objectives, various pathways allow students to delve deeper into specialized topics in sustainability related to the economic, environmental and societal dimensions.

Faculty must make special effort to include sustainability across the curriculum and educate students on their role. They should invite student groups to give presentations, assign projects that encourage participation in campus student organization.

Question 3: Who are the Stakeholders?

Grass root groups consist of campus student organizations, local industries, and nonprofit sustainability advocates. There are many student groups that work on projects that directly or indirectly deal with sustainable living. Unfortunately, many times these groups work independent of each other unaware of each other's efforts and even existence. There is no centralized mechanism to communicate with relevant, potential partners in these efforts. It is suggested that a physical location be established, where all student organization can register, state their missions and objectives, publicize their activities, and recruit students. This could also be a centralized location where groups and advocates from outside the university can locate and communicate with student groups that share the same interests and agendas. One approach could be to have bimonthly or quarterly meetings where each group presents their mission, core values, activities, and resources they have or need.

Off-campus grass root organizations such as Long Beach Building Healthy Communities (BHC), and Long Beach Coalition for Good Jobs and Healthy Communities (LBCGJHC), and non-governmental organizations (NGOs) are natural allies that must be contacted and sought out to find areas of common interest, and identify areas where collaboration is mutually beneficial.

Question 4: What is an Effective Communication Strategy?

Students, in general are aware and concerned about sustainability issues – very often -- well ahead of the faculty, staff, and administrators. Students oftentimes embrace sustainability practices as they become more aware of the consequences of their life-style on society and the environment. To engage more students along with the other university partners, requires a thorough understanding of campus sustainability goals, and the plans in place (being developed) to reach these goals (e.g. the Climate Action Plan). Some important questions are: where does the campus community want to be in five years, ten years, ...; and what are the obstacles to implementation of these goals. An effective communication strategy can be used to expand the participation of diverse communities in the dialogue on these important issues.

Final Question: Community of Interest and Community of Place

From the discussion that followed, the students were more focused on the short run issues discussed above. For example, having an effective website designed to promote sustainability efforts gives various student groups a virtual presence, potentially allows for effective communication between various student groups across campus, between students and outside sustainability organizations, lists sustainability courses and provide students with pathways to graduation, while implementing sustainability as the core value. Once the campus sustainability efforts grow to integrate a larger community of stakeholders then a physical presence (community of place) may be warranted.

Breakout Group V: Linking Communities: Connecting Sustainability-Based Communities

Facilitator: Wesley Woelfel, Department of Design - College of the Arts

This breakout group focused discussion upon how sustainability-related groups within communities can be interconnected and was guided via a series of five topics/questions. For a final question, the group was asked to address the concepts of a community of interest and a community of place. The group consisted of local business owners, students, representatives from the Campus Center for Community Engagement, members of local organizations, alumni, staff and faculty.

Question 1: How can we connect the campus with local businesses and organizations?

Several concepts and suggestions which emerged from this discussion revolved around utilizing education to bridge the gap between organizations and local businesses. For example, it was suggested that the educational component of a collaboration can potentially research and/or

apply the initiatives developed by businesses and organizations. In turn, the businesses and organizations can assist with fundraising goals and promote these initiatives while simultaneously developing fertile sustainability-based networks within the community.

Discussion Points: The discussion began with the mention of how recent trends in emphasizing engineering and STEM programs in K-12 schools can relate towards active sustainability involvement within university campuses. One vision involved the use of K-12 schools as think tanks. Lower levels of education can be assigned roles to link a vision together and paint the complete picture. Local business owners in the group noted the trend in which large businesses seem to try to continue doing what they've done, while small businesses seem to be continually attempting to improve and innovate. It appears that this could be an important link with the campus in providing services that can help these small businesses improve. The development of pilot projects between businesses and the campus and community may be beneficial. These revolve around an idea; a spark project in which a proof of concept can be tested within an educational process. Because many small businesses lack capital, a university can provide a means for testing and services for developing sustainability-related elements, thus, utilizing universities as a springboard for production.

Academia can certainly provide the educational elements required for application. For example, undergraduate programs can be utilized for researching the applications and initiatives of organizations and businesses. This work may not be necessarily labeled as volunteer work, but could be termed as *pro bono* via developing a Johnny Appleseed approach with a dedicated market. These collaborations require direction, timelines, a pamphlet or map that plots the vision and shows how diverse groups contribute and gain from these experiences, and could benefit from a map or google map showing a linked database. For instance, the Long Beach Building Healthy Communities program helps businesses understand what is in it for them, as they may be unfamiliar with the community-based collaborative process, and also helps participants understand how student projects can develop real solutions. The map can be utilized for proof of concept and layers of synthesis-in one class. Perhaps this is something related to the Ted Talk performed by Ken Robinson. The connection between organizations and businesses would need to document examples of inspiring student projects with involved clients. The conclusions from this discussion are as follows:

- Define roles for businesses and universities in collaborative projects that are utilized to bring out the best in each party involved.
- Consider utilizing school systems from K-12 to Universities to incubate a stronger sustainability-based community.

- Develop direction for sustainable collaboration which tells of past collaboration and helps facilitate future collaborations within a community.

Question 2: What methods can be explored for creating a linked community?

Much of the discussion and suggestions delineated within the first question of the breakout session overlapped with the subsequent questions. This question related to the perspectives and point-of-views of the stakeholders and participants within a community and focused on how this understanding will be beneficial in developing the links of a sustainability-related community.

Discussion Points: Within the group, it was mentioned that a student fulfills a need in education... a need towards graduation. It was then asked, what needs from the community can be addressed? The group stressed the importance of the requirement of mutually beneficial outcomes or motivations in these collaborations. The overlap of these needs within the community could conceptually make the links and networks achieved even stronger. The goal is to institutionalize ideas to better the community. It was mentioned that events can be effective in uniting communities. For example, when planning events, invite community representatives, however, make sure these invitees fulfill a need from the business sector as well. Another method for institutionalizing these ideas is to develop a university course focused upon interdisciplinary sustainability-based service learning/work. The discussion topic conclusions are as follows:

- Institutionalizing sustainability-based ideas can be effective in bettering a community.
- Fulfilling the overlapping needs from within a community can effectively strengthen links and networks developed.

Question 3: How can we develop a community that is sustainable (ongoing) itself? In what ways can these communities be supported?

This discussion wove the concept of the generation of support for a community with the sustainability of a developed community itself as many of the session members felt these two topics relied upon each other. Of note, documentation seemed to be an underlying theme for the discussion within the breakout group. Knowing what has been done, who did it, and what is planned can prevent “reinventing the wheel”, can stimulate confidence from third parties and potential supporters, and helps the transition of ongoing leadership to continue to build upon prior successes.

Discussion Points: Planning and structure seemed to be a significant factor in developing a sustainable community. Within this discussion, it was suggested by the group to develop a timeline of projects that documents activities online including completed, new and future items to inspire, connect and plan. Ongoing communication is key, as a community requires communication, and without this it becomes a ghost town. Also key is the establishment of responsibility in stakeholders. Without this responsibility, the torch may not be passed, deadlines may not be met, momentum may be lost, and collaborative efforts of the past may fade away with newcomers “reinventing the wheel” every few years. It was suggested that the development of an advisory committee made up from the breakout team could be beneficial in steering the development and keeping its accomplishments in context over time. Perhaps a website or CRM “Company Resource Management Modeling” element could be beneficial. The utilization of a map or website as a bridge between community and education may also be beneficial. Main points from this discussion are as follows:

- A sustainable ongoing community requires structure and responsibility from its stakeholders.
- A central website or visual map could assist in emphasizing communication and documenting accomplishments.
- A timeline depicting past collaborations, opportunities, and future collaborations could be beneficial in developing ongoing collaborative community projects.

Question 4: How can a community be setup, in which all participants benefit from the interactions created?

The outcomes from the breakout group discussion derived from this question seemed to overlap with the group’s discussion outcomes from question II, “What methods can be explored to create a ‘linked community’?” Because this question was very similar to many of the group’s suggestions from question II, the group continued with its discussion via exploring specific examples of mutually beneficial or community-integrated sustainability-related activities.

Discussion Points: It was mentioned that perhaps the charge of the community could be to link groups together for mutual benefit while in an effort to obtain a stronger environment, society and economy simultaneously. One participant argued that a community should develop an ambassadorship program in which volunteers profit from being active. An example is print cartridge recycling collection ambassador programs. Contributors feel they are a part of something, while the ambassadors within the programs get paid for their active roll. Building through a benefit is an important strategy for a sustainable community, in which the participant

benefits through their dedicated work and contribution. Below are the main conclusions from this discussion:

- Develop partnerships that are mutually beneficial for all parties involved.
- Develop literature or an information hub that communicates “what is in it” for all parties, and documents past successes.
- Develop an ambassador program to spark enthusiasm and reward those that are most active by building through benefit.

Final Question: Community of Interest and Community of Place

Within the group’s discussion of this topic, two strong themes surfaced. First, place does not necessarily need to be physical, and a transcendent virtual concept of place could be beneficial towards the previous discussions of encouraging mutually beneficial charges of community participants. Second, in the implementation of these forms of communities, the same language needs to be shared and communicated. Not only through branding, but also through nomenclature and vocabulary. The academic language needs to be communicated to show benefits for all parties involved (for example: businesses and organizations). At the conclusion of this topic, the group strongly suggested the development of a virtual app-based or web-based community application in which members from a community can document and share what they have developed with the entire community, while also simultaneously serving to invite new recruitment via the sharing of examples of projects developed and partnerships formed etc.

Discussion Points: It was suggested that a tangible campus-based center could exclude exterior efforts, and create “turf.” In contrast, an online “turf” could be shared by all if all can contribute to it. A clear vision which builds in modules via roles (for example grade schools for ideas, high schools for methods, and universities for research or implementation) will create a more synergistic legacy. Perhaps, CSULB can feed information to Community Colleges, then to other CSU’s, high schools and businesses as a model. This framework can be derived via communities then spread – perhaps modeled after the Craigslist deployment strategy. The borders of place and interest need to be blurred so that they are inclusive, synergistic, and efficient. For example, workshops and learning spaces can be setup to create modular places of sustainability learning. Sometimes a community of interest does not know how collaborations will benefit them and communicating this is critical. An online database could add filters or add markers to plot out and provide sustainability-related resources. European recycling programs link a community of people’s needs to make recycling efficient. For example the “battery bring back policy system” utilizes retailer, customer, and city/pickup in a triangle that benefits

everyone with a mutual benefit and this generates an incentive for collective action. Following this discussion, members from the group began initial meetings to discuss the potential implementation of this type of application for a sustainability-based community. Conclusions from this topic are as follows:

- A virtual hub for information exchange can make communication faster, and may deemphasize “turf” and emphasize community instead by reinforcing mutually beneficial collaborations.
- Embrace the suggestion of community, and develop more synergistic module/team based sustainability components.

Connecting Sustainability-Based Communities Summary

This breakout session provided a platform for passionate discussion between diverse members of this community and on this most critical topic of connecting communities. The discussions revisited the concept of a virtual central hub for information, documentation, and contribution several times. Also an overall theme from these discussions involved communication in terms of both terminology/language, and mutual benefits. Finally, utilizing education as a conduit between businesses and other community entities can be initiated by documenting what has already been done and using this in a structural context to initiate ongoing networks and links. Below is a summary of discussion conclusions from all questions within this topic of connecting sustainability-based communities.

Summary of Breakout Sessions

The information obtained from the five breakout sessions provided significant insight into the various perspectives of the diverse participants. As would be expected with such diversity, however, the conclusions sometimes provided conflicting directions. The following are suggestions that we believe are important to pursue as CSULB moves forward with the development of a learning community focused on sustainability and sustainable development. First, there was a significant focus on the importance of course development at all levels – lower division, upper division and graduate education. Second, there was a desire to offer a certificate program that connected the coursework in sustainability to a tangible outcome. Third, the designation of a physical location was generally desired, however, there was concern expressed about potential ‘turf’ issues. Finally, developing an advisory board consisting of academics, business, community activists and NGO representatives to help guide the sustainability activities at CSULB was suggested. This board would provide the vision and leadership needed to enhance the marketability of our graduates as well as to educate our community on where the trends are among all external stakeholders.

This document is designed to be a starting point in the development of a learning community. It is our hope that the material presented here will serve as a catalyst to move the process forward. To achieve the goals of developing an engaged learning community will require the active participation by the diversity of interested parties in a dynamic process of planning and implementation. We look forward to being constructive partners in that process.

Appendices

Appendix A: Team Biographies

Appendix B: Sustainability Programs Evaluated

Appendix C: Our Top Twenty

Appendix D: Workshop Agenda

Appendix E: Participant List

Appendix F: Representative Sustainability Activities at CSULB

Appendix G: Invited Speaker Biographies

Appendix A: Brief Biographies

- Heather Barker

Since 1995, Heather Barker has been exploring opportunities for adapting design and architectural/urban systems to facilitate a sustainable future and a higher quality of life. She explores biomimetic forms and strategies to develop new material applications and production models. Her practice and teaching are based on a user-experience, design-thinking methodology to manage complex issues and achieve added-value through sustainable design. She is a member of the *International Living Futures Institute* which develops standards and strategies to move to a *net positive* in new construction. She brings her expertise to the classroom teaching Design Studios and the History & Theory of Sustainability in Design. She studied at the Technical University in Munich, holds a professional degree in Architecture from the University of Cincinnati, has done post-graduate study at the Art Academy of Munich and holds a professional Master of Architecture degree in Metropolitan Research and Design from the Southern California Institute of Architecture. She is currently Assistant Professor of Design at CSULB and a regular lecturer in Architecture at the University of Applied Sciences in Munich, Germany.

- Ingrid Martin

Ingrid Martin's published work has covered a range of social marketing topics including risk communication, maladaptive behaviors in the areas of disaster mitigation and consumption practices. She has expanded her research to investigate the process of becoming addicted as a set of stages that lead consumers from normal consumption patterns to maladaptive, chronic consumption. Her work has been published in the *Journal of Public Policy and Marketing*, *Risk Analysis*, *Journal of Environmental Management*, *Journal of the Academy of Marketing Science*, *Journal of Business Research*, *Journal of Consumer Research*, *Journal of Marketing Research*, as well as numerous book chapters. Dr. Martin is on the editorial review board of two journals in her field and she serves as a reviewer of numerous journals in marketing, public policy and environmental management. The USDA Forest Service and the California State University Multidisciplinary grand program have funded her research. The focus of this research was to gain an understanding of how stakeholders act to mitigate risks in high wildfire risk areas looking at various modes of risk communication. The latest extension is looking at the integration of social media as a way to better communicate across phases of the disaster cycle.

- Wade Martin

Wade Martin works in the field of risk analysis related to water management, wildland fire and environmental policy. He has worked on research projects for the Bureau of Reclamation, the USDA Forest Service and the Environmental Protection Agency. This work has included serving on a US Congressional review panel on the economics of the Hayman fire, program review of the World Bank that provided environmental advise to several countries in the middle east,

served on the evaluation team for US AID project that provided in-country resident environmental advisors in Central and Eastern Europe, consulted on an environmental project for the World Bank in the Middle East and North Africa, and advised the Ministry of the Environment for the government of Indonesia on the use of benefit-cost analysis to inform regulatory decisions. Dr. Martin has published in numerous academic journals and edited three books. He has served as editor-in-chief of the journal *Contemporary Economic Policy*, visiting scholar at Harvard Institute for International Development, Harvard University, and is currently professor and chair of the economics department at California State University, Long Beach. He received his doctorate from the University of New Mexico where he worked on a Ford Foundation grant on the community value of water and the management of a tributary aquifer system.

- Reza Toossi

Dr. Reza Toossi is a professor of mechanical and aerospace engineering at CSULB. He received his B.S. degree from the Sharif University of Technology in Tehran, Iran, and his M.S. and Ph.D. degrees from the University of California, Berkeley. He continued his Post-Doctoral research studies in the Lawrence Berkeley Laboratory and joined the CSULB faculty in 1981. Dr. Toossi has worked both as a research scientist and a consultant on various projects related to aqueous aerosols and droplets in the atmosphere, nuclear safety, sensor design, air pollution modeling, flame propagation, fluid mechanics, and fiber optics. His current research interests are in hydrogen storage systems, hybrid-electric vehicle design, and renewable energy systems.

- Christine Whitcraft

Christine Whitcraft is currently an associate professor in the Biology Department at CSU Long Beach. Her main research interest is in the functioning of coastal wetlands and estuarine communities from a multi-disciplinary perspective including plant, algae, and benthic invertebrate biodiversity, food web structure, physical/environmental parameters, and recently economic perspectives. She teaches a range of ecology classes within the department including a service-learning course in Conservation Biology. She received her doctorate from Scripps Institution of Oceanography at University of California San Diego.

- Wesley Woelfel

Wesley Woelfel's international professional experience spans many design disciplines from Industrial, to Display and Exhibition, Environments, Thematic, and Game Design. For the past six years, Mr. Woelfel has worked on several designs incorporating reclaimed or renewable materials, soy-based urethanes, and solid-surface materials made from 85 percent reused material for clients including Toyota, Starbucks, and Walmart. Several of his Industrial Design students were honored as award winners at the 2010, 2011, and 2012 International E-Waste Design Competitions, and most recently received an award in the 2013-2014 Biomimicry Student Design Challenge. Assistant Professor Wesley Woelfel has presented sustainability-

based research at conferences including the Association for the Advancement of Sustainability in Higher Education Conference, and the California Higher Education Sustainability Conference, is a member of the A.R.E. Sustainability Council, serves on the California State University, Long Beach Sustainability Task Force, and works as Design Director at the collaborative design firm Greneker in Los Angeles. Currently, Mr. Woelfel teaches courses in industrial design, and also serves as program coordinator for the Bachelor of Arts design degree at California State University, Long Beach.

Appendix B: Programs Considered

Akami University	Emory
Amherst/ Five Colleges	Fashion Institute of Technology
Appalachian State University	Franklin Pierce University
Aquinas College	Frostburg State University
Arizona State University	Furman University
Art Institute of Portland	George Mason University
Auburn University	George Washington
Babson College	Goshen
Baldwin Wallace University	Harvard University
Ball State University	Indiana University South Bend
Baruch College	Ithaca College
Bay State College	Johns Hopkins
Boise State	Lane Community College
Bowling Green State University	Lipscomb University
California Polytechnic State University	Marymount University
California State University San Bernardino	Mercyhurst College
Central Carolina College	Merrimack College (BS)
Central Piedmont Community College	Michigan Technological University
Clarion University of Pennsylvania	Missouri Southern State University
College of Menominee Nation	MIT
Colorado Mountain College	Monroe Community College
Colorado State University	Morningside College
Columbia University	Muhlenberg College
Consumnes River College	New Jersey Institute of Technology
Cornell University	Northeastern University
CSU Chico	Northern Arizona University
CSU Northridge	Notre Dame
Daemen College	NYU
Dalhousie University	Ohio State University
Dartmouth College	Otis College of Art & Design
Dominican University of California	Penn State
Drew University	Portland State University
Drexel University	Pratt Institute
Drury University	Presido Graduate School
Eastern Illinois University	Principia College

Radford University
Rensselaer Polytechnic Institute
Rider University
Roger Williams University
Rollins College
Roosevelt University
Ryerson University
Saint Joseph's College
San Diego City College
San Diego State University
Santa Rosa Junior College
Savannah College of Art and Design
Simon Fraser University
Sonoma State University
State University of New York at Oswego
Syracuse University
Temple University
The Art Institute of Portland
The New School
Truman State University
UC Berkeley
UC Davis
UCLA
UCSD
UGA
UNC Chapel Hill
Unity College
University of Arkansas
University of British Columbia
University of California Irvine
University of Chicago
University of Colorado Boulder
University of Colorado- Colorado Springs
University of Dayton
University of Denver
University of Florida
University of Hawaii
University of Houston
University of Iowa
University of Maine at Machias
University of Maryland
University of Massachusetts Dartmouth
University of Michigan
University of Minnesota, Duluth
University of New Hampshire
University of New Mexico
University of Oregon
University of Rhode Island
University of South Dakota
University of Southern Maine
University of Texas at Arlington
University of the Pacific
University of Utah
University of Vermont
University of Virginia
University of Wisconsin
USC
Vanderbilt
VCU
Virginia Tech
Wake Forest University
Webster University
Wellesley College
Western Kentucky University
Winona State University
Winthrop University

Appendix C: Our Top 20

Arizona State University
Portland State University
UC Davis
University of British Columbia
Babson/Wellesley
Appalachian State University
Aquinas College
Auburn
Dartmouth
George Mason University
George Washington
Presidio
Rollins
San Diego City College
The New School
University of Florida
University of Georgia
University of Michigan
University of Oregon
Wake Forest

Appendix D: Workshop Agenda

**SUSTAINABILITY:
OUR COMMUNITY AS A LIVING LAB
WORKSHOP AGENDA
APRIL 18, 2014**

8:00 – 8:30 AM	Continental Breakfast/Networking
8:30 – 8:45 AM	Welcome Comments & Introductions <ul style="list-style-type: none">• Elvyra (Vi) San Juan, CSU Assistant Vice Chancellor• Mary Stephens, CSULB VP Administration & Finance
8:45 – 9:30 AM	Select Sustainability Activities at CSULB <ul style="list-style-type: none">• Mary Stephens, Sustainability Task Force• Ingrid Martin, SMBA Program• Paul Wingco, Facilities• Ezra LeBank, Green Threads• Sylvia Palomero, ASI• Dean Toji & Antonella Sciortino, Class Development• Andrew Perez, Architect, Sustainable Center
9:30 – 10:15	Long Beach Community <ul style="list-style-type: none">• Tom Bowman, Author & Businessperson• Eric Zahn, Tidal Influence• Brett Morales, Century Villages at Cabrillo• Shannon Parker, US Vets
10:15 – 10:30	Break
10:30 – 11:30	Perspectives from Other Universities <ul style="list-style-type: none">• Dr. Jennifer Allen, Director, Institute for Sustainable Solutions, Portland State University.• Dr. Candice Carr Kelman, Assistant Director, School of Sustainability, Arizona State University.
11:30 – 12:00	Proposed Learning Community at CSULB
12:00 – 1:00	Lunch & Keynote Speaker: Gary Gero, President, Climate Action Reserve
1:15 – 1:30	Afternoon Instructions
1:30 – 3:00	Breakout Sessions
3:00 – 4:00	Wrap-up and Next Steps

Appendix E: Participants List

Alex Gallsso

Andrew Jenks

Andrew Perez

Angel Elchico

Antonella Sciortino

Ashley Tran

Brett Morales

Candice Carr Kelman

Carina Sass

Christine Jacoy

Colleen Butterfield

Dave Edwards

David Dowell

David Salazar

Dean Toji

Don Penrod

Donnie Besson

Elissa Briggs Thomas

Elizabeth Chelling

Ellie Christov

Elvyra (Vi) San Juan

Eric Zahn

Ezra LeBank

Gary Gero

Genesis Guitierrez

Heather Stephens

Jeanette Schelin

Jennifer Allen

Jillian Millares

Joey Simas

Jon Cicchetti

Judith Marquez

Judy Botelho

Kassandra Hishida

Katie Georges

Kyra Taylor

Leyla Farshidpour

Libby Gustin

Lisa Martin-Hansen

Mara Brady

Marine Aghekyan

Mary Stephens

Michael Clemson

Nancy Quam-Wickham

Natalie Espinoze

Paul Laris

Paul Wingco

Rod Smith

Shayne Schroeder

Sylvia Palomera

Terri Iler – Honor program

Tom Bowman

Veronica Acosta-Deprez

William Vascas

Yesenia Guitierrez

Appendix F: Representative Sustainability Activities at CSULB

Course Offerings/Certificate Programs:

Green Gardening: Nutrition, Sustainability, and Creating the School Garden

CCPE invites teachers and parents interested in creating school gardens to attend *Green Gardening: Nutrition, Sustainability, and Creating the School Garden*. The course instructor, Kathleen Irvine, offers gardening resources and tips for sustainable living and eating.

Cogeneration Certificate Program

The *Cogeneration Certificate Program* is specifically designed for engineers, plant managers, supervisors, and people in similar professions. The program, led by Anthony Glampaolo, instructs students regarding the environmental requirements of cogeneration plants. The 5-class CCPE program includes field case studies.

Practices for Success in Sustainability and LEED Projects

CCPE offers *Practices for Success in Sustainability and LEED Projects*, a certificate program that imparts the best practices in sustainability project management. When offered, the program is led by Michael Dadjou.

Solar Photovoltaic (PV) Power Systems and Their Installation

CCPE offers a certificate program titled: *Solar Photovoltaic (PV) Power Systems and Their Installation*. Designed for electricians, installers, inspectors, contractors this program aims to impart an understanding of PV systems and their installation. Participants must complete all 5 modules to receive the certificate.

Department of Environmental Science and Policy

While the CSULB Department of Environmental Science and Policy (ESP) does not offer a specific degree or certificate program, it offers a variety of courses focused on environmental issues. In addition to allowing students to explore a variety of environmental and sustainability issues in traditional classes, the department offers ESP 400, which includes an environmental policy capstone project, and ESP 495, which has an internship component that allows students to partner with an appropriate business, government, or non-profit organization. The ESP faculty is diverse and is drawn from a variety of other departments on campus including Anthropology, Biology, Chemistry and Biochemistry, Economics, Geography, Geology, History, Journalism and Mass Communication, ORSP, Public Policy and Administration and Sociology,.

Environmental Engineering Minor

The Environmental Engineering Minor is designed for undergraduate students from various engineering and science backgrounds that are interested in applying engineering approaches to environmental issue. The coursework for the minor focuses on devising engineering solutions to air, soil, and water quality problems and reducing/preventing pollution. Students in the

minor are required to complete 6 units of core classes from selected Chemical Engineering and Civil Engineering courses and 12 elective units.

MBA Program

The CSULB MBA Program has incorporated a new set of courses focused on sustainability and the business organization. These courses emphasize the triple bottom line- economy, environment, and society. Further, the program offers pragmatic experience as it has students complete a client project for a sustainability-focused community or government organization.

Campus Clubs/Organizations Sustainability Task Force: and subcommittees

ES&P Club

The ES&P club aims to spread awareness, educate the campus community, and build an appreciation of the environment on campus and in the broader community. The club schedules a variety of activities throughout the year including coastal clean-ups, hikes, and plant-restoration projects. The club is also involved in Earth Week & Earth Day campus events and invites speakers to lecture on environment/sustainability related topics.

ASI Students

ASI Students is a campus group focused on sustainability. The group is advocating for the creation of a CSULB campus sustainability center.

USGBC

The U.S. Green Building Council (USGBC) has a CSULB chapter. The campus chapter advocates for the building of green buildings on campus.

Campus Events

Green Generation Mixer

CSULB's Green Generation Mixer is an annual event in the Japanese Garden on campus sponsored by sustainability-oriented groups such as the ES&P student club, the Sustainability Task Force, and others. The event showcases businesses in the greater Long Beach community that employ green practices. Vendors set-up tables and exhibits and speakers, with a commitment to sustainability, lecture.

Earth Expo

This event is sponsored by ASI Conservation Commission and is designed to highlight green technologies, alternative transportation options, evolving sustainability programs and innovations. This event is held during Earth Week in the USU.

The Green Thread Workshop

This activity is devoted to integrating sustainability into the curriculum and identifying courses that meet certain criteria as having content that address sustainability issues. This effort is led by Ezra LeBank and Paul Laris.

Earth Week Events

Each year during the week of Earth Day the CSULB campus sponsors a number of events to celebrate Earth Day and raise campus awareness. Annual events are coordinated by Paul Wingco.

PowerSave

The Alliance to Save Energy's Power Save Green Campus program at Cal State Long Beach is focused on creating a more energy efficient campus. The interns focus on promoting green workforce development, actualizing energy savings, and educating students, faculty, staff and the local community about the importance of energy efficiency.

CSU Green Campus

CSU Green Campus is an Alliance to Save Energy Program. CSULB is one of many CSU campuses to have a Green Campus chapter. The Long Beach chapter offers student internships and volunteer opportunities for those interested in getting involved in green projects. The group aims to promote green workforce development, actualize energy savings, and educate the community about sustainability. The group encourages campus involvement through its Green Office Certification Program and by inviting students, staff, and community members to take a sustainability pledge.

APPENDIX G: Invited Speaker Biographies

- Jennifer Allen

Dr. Allen provides strategic direction and oversight for all of ISS' initiatives and programs. She works closely with staff and other members of the PSU community to ensure sustainability programs have the greatest possible impact for students, faculty, and community partners. As an associate professor in the Hatfield School of Government, Jennifer also teaches graduate courses in environmental and natural resource policy. She holds a Ph.D. in Environmental Science and Public Policy from George Mason University, a Master of Environmental Management from Yale School of Forestry and Environmental Studies, and a Bachelor of Arts in American Studies from Yale University. Jennifer has previously worked at the World Bank, the nonprofit Ecotrust, and the Oregon Economic and Community Development Department.

- Candice Carr Kelman

Dr. Carr Kelman studies policy dimensions of sustainability issues, such as how to manage the tradeoffs and foster synergies between biodiversity conservation and human development. She has studied Integrated Conservation and Development Projects in Indonesian national parks, the global trade in electronic waste, and the regulation of electric utilities in the US. Her current research involves analyzing how the solar energy industry is handling the electronic waste issue. Two major themes in Dr. Carr Kelman's research are the complex relationship between environment and development, and the role of governance, policy and institutions in creating more resilient socio-ecological systems. She has taught courses on environmental politics, corporate social responsibility and green business.

- Gary Gero

Gary Gero serves as the President of the Climate Action Reserve (formerly known as the California Climate Action Registry) where he is responsible for ensuring that the organization's activities meet the highest standards for quality, transparency and environmental integrity. In that capacity, Gary has led the growth of a robust and trusted offset project registry that is the largest voluntary registry in the United States. Prior to joining the Reserve, Gary managed the Green LA programs at the Los Angeles Department of Water and Power, the largest municipal utility in the nation. In that capacity, he redesigned and restarted the Solar PV Rebate Program and oversaw a significant expansion of the energy efficiency programs. His role also included managing the advanced transportation, green power, distributed generation, and tree planting programs. Gary holds a Master of Science degree in Social Policy and Planning from the London School of Economics and a pair of undergraduate degrees from the University of California at Berkeley.