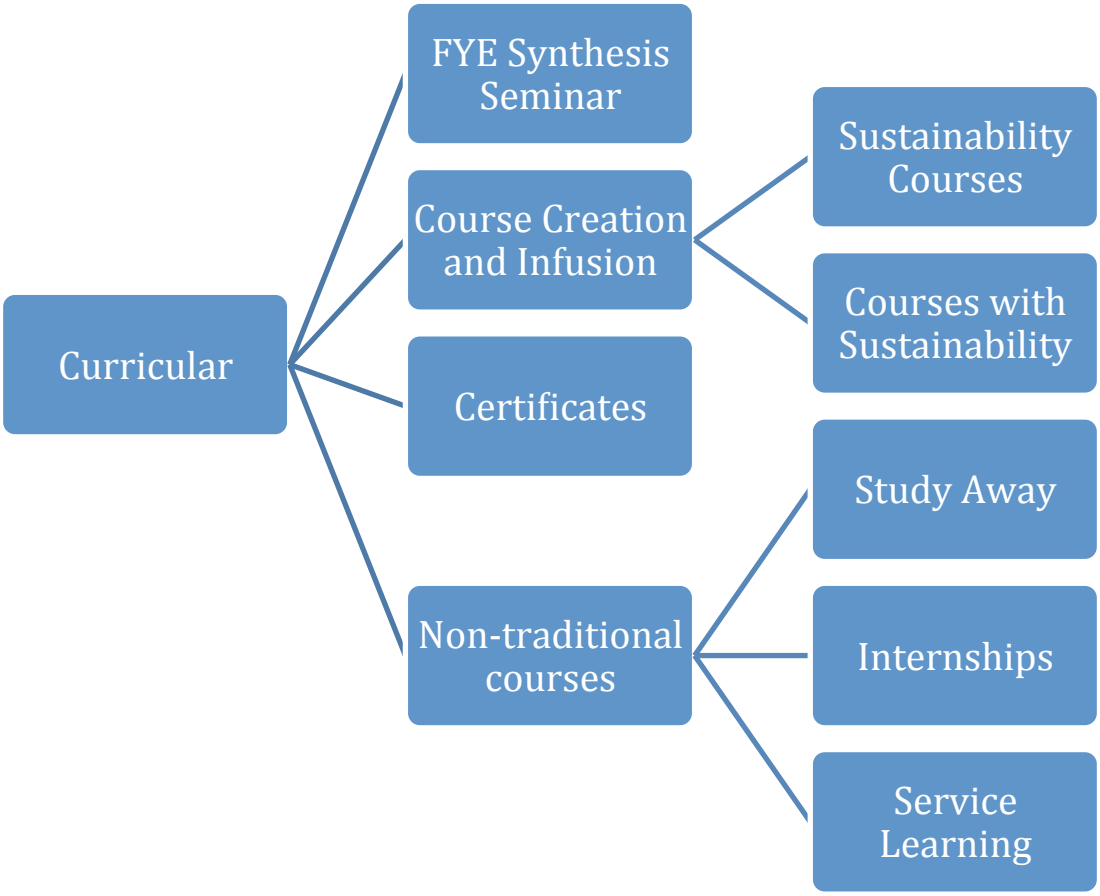
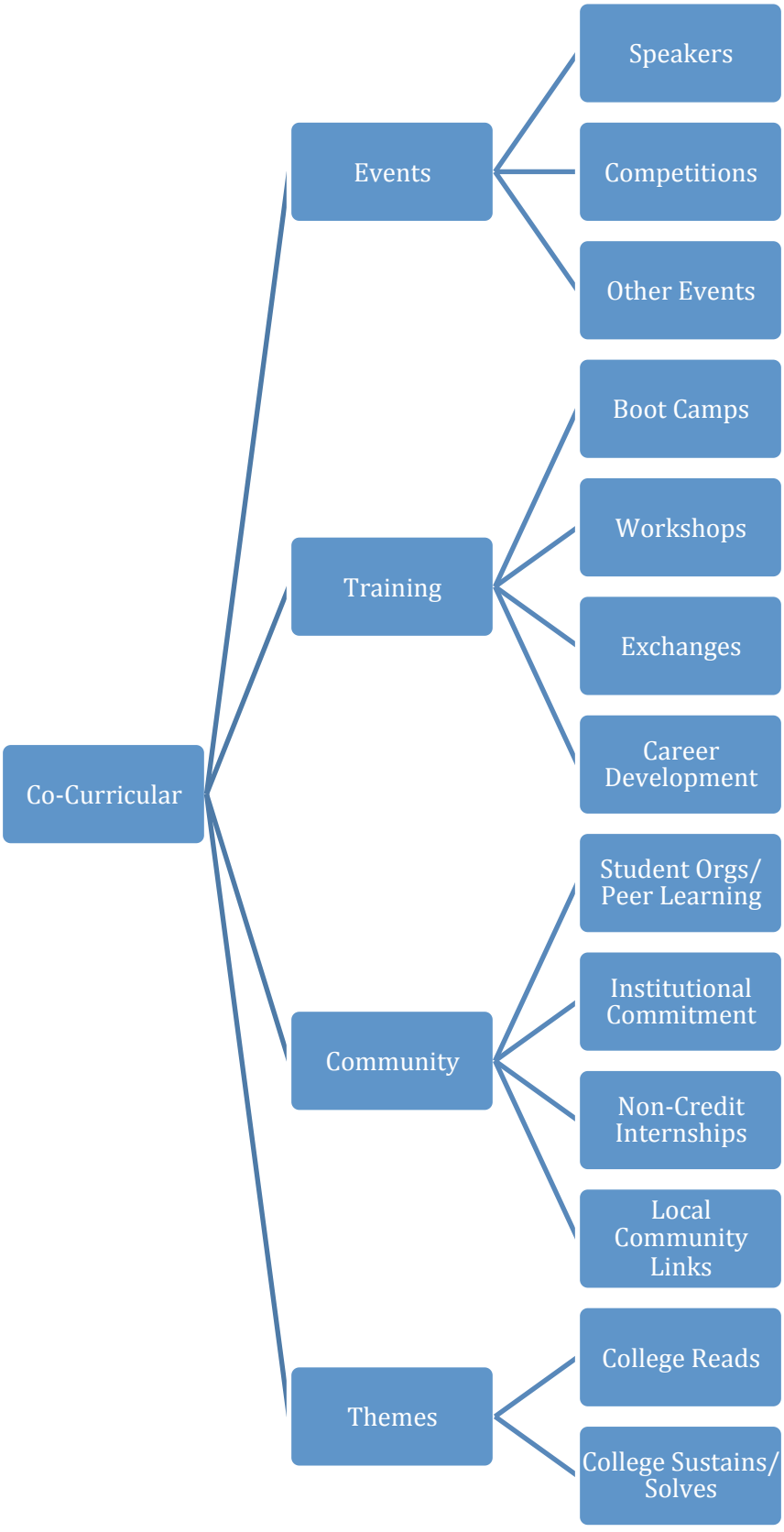
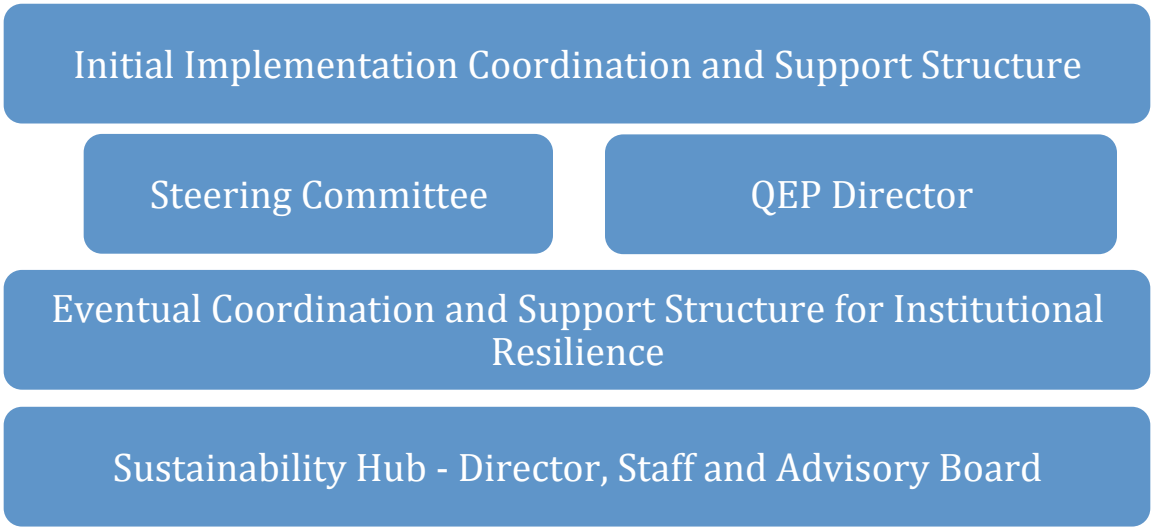
Summary Graphics




Co-Curricular
Events
Speakers
Competitions
Other Events
Training
Boot Camps
Workshops
Exchanges
Career Development
Community
Student Orgs/ Peer Learning
Institutional Commitment
Non-Credit Internships
Local Community Links
Themes
College Reads
College Sustains/ Solves


Initial Implementation Coordination and Support Structure
Steering Committee
QEP Director
Eventual Coordination and Support Structure for Institutional Resilience
Sustainability Hub - Director, Staff and Advisory Board

PREFACE

The following contains recommendations from the Curricular/Co-Curricular Sub-Committee, some of which can be implemented immediately, while others may take several years to come to fruition.

CURRICULAR

1) FYE Synthesis Seminar

a) Create a new module on sustainability in the FYE Synthesis Seminar. Peer Facilitators can be shown how to introduce sustainability debates to their students. A quiz or exercise can be administered within the Seminar to assess student learning.

2) Course Infusion and New Courses

a) **Begin with a catalog of existing sustainability courses and courses that include sustainability** (defined in sections 2.b and 2.c below).
   i) Start with Jen Jones' master's thesis to determine existing sustainability courses and courses that include sustainability
   ii) Next, look at courses that are part of the Environmental Studies Minor
   iii) Ask deans (through the Provost) to add to the list if sustainability related courses in their schools are not already accounted for in 1. or 2.
   iv) Establish a Steering Committee on sustainability to oversee two principal functions (Whether a Senate, Faculty or College Committee to be determined):
      (1) create and implement an incentive system to encourage course infusion;
      (2) establish and implement an approval process for designating courses as sustainability courses.
      (3) Coordinate implementation of QEP
   v) The hub should facilitate course development by: being a resource for teaching ideas, materials and development of assessment; hosting training seminars; connecting faculty across disciplines. This could be in conjunction with TLT.

Definitions

b) Sustainability Courses – the following is taken from the AASHE website, with the addition of "cultural".
   i) Foundational courses in which the *primary and explicit* focus is on sustainability as an integrated concept having social/cultural, economic, and environmental dimensions. Obvious examples include Introduction to Sustainability, Sustainable Development, and Sustainability Science, however courses may also count if their course descriptions indicate a primary and explicit focus on sustainability.
   ii) Courses in which the primary and explicit focus is on the application of sustainability within a field. As sustainability is an interdisciplinary topic,

such courses generally incorporate insights from multiple disciplines. Obvious examples include Sustainable Agriculture, Architecture for Sustainability, and Sustainable Business, however courses may also count if their course descriptions indicate a primary and explicit focus on sustainability within a field.

iii) Courses in which the primary focus is on providing skills and/or knowledge directly connected to understanding or solving one or more major sustainability challenges. A course might provide knowledge and understanding of the problem or tools for solving it, for example Climate Change Science, Renewable Energy Policy, Environmental Justice, or Green Chemistry. Such courses do not necessarily cover "sustainability" as a concept, but should address more than one of the three dimensions of sustainability (i.e. social/cultural wellbeing, economic prosperity, and environmental health).

c) **Courses that include sustainability** – the following is taken from the AASHE website

i) A course that includes sustainability is primarily focused on a topic other than sustainability, but incorporates a unit or module on sustainability or a sustainability challenge, includes one or more sustainability-focused activities, or integrates sustainability issues throughout the course.

ii) As an example: While a foundational course such as chemistry or sociology might provide knowledge that is useful to practitioners of sustainability, it would not be considered to be inclusive of sustainability unless the concept of sustainability or a sustainability challenge is specifically integrated into the course. Likewise, although specific tools or practices such as GIS (Geographical Information Systems) or engineering can be applied towards sustainability, such courses would not count unless they incorporated a unit on sustainability or a sustainability challenge, included a sustainability-focused activity, or incorporated sustainability issues throughout the course.

Continuing with course infusion and new courses:

d) FYE Courses

i) FYE courses (Seminar or linked courses)

ii) One way to encourage the increase in the number of FYE courses focused on a topic related to sustainability is to create a **workshop**. Workshops could be organized and/or hosted by the Hub. The workshop should build on the initiative currently underway. A sustainability steering committee (see co-curricular) would conduct meetings to develop courses, identify a research agenda and conduct community-based research. Arizona State University serves as a model worth exploring in terms of connecting courses with topics related to sustainability. The steering committee would link interested instructors to faculty who have created such courses.

iii) Specific student learning outcomes related to sustainability could be tracked through all the offerings.

e) General Education Courses

i) General Education courses created or adapted within the gen ed requirement areas that are sustainability courses or courses that include sustainability, as described above.

f) Special Topics Courses

i) Special Topics courses provide an opportunity to offer sustainability themed courses, without the approval process required for new courses. Rationale: For existing courses whose faculty choose to incorporate sustainability themes, if the addition of sustainability applications/themes represent a significant change, then those courses would require course modification approval: departmental, school, curriculum committee and senate approval. However, special topics courses allow several repeats before the course would need to become permanent and approval required. A special topics course is also a good way to introduce new courses developed to address sustainability themes. Such a course would be categorized as a Sustainability Course or a course that Includes Sustainability according to the above criteria.

g) Other Courses

i) Required and elective courses for majors and minors across campus can be created or adapted to either Sustainability Courses or Courses with Sustainability, as defined above.

h) Experiential Learning

i) Internships

(1) Internships are described as an experience intended to provide students with hands-on experience where students are to reap the primary benefits (California State University Long Beach, n.d.; Furco, 1996; Loyolo University New Orleans, 2015; Mooney & Edwards, 2001). Another unique characteristic of internships compared to other forms of experiential learning is that students may be paid (Furco, 1996). Internships are also distinguished by the hour requirements, as internships generally require 10-20 hours per week and other forms of experimental learning require 15-30 hours per semester (California State University Long Beach, n.d.; Loyolo University New Orleans, 2015).

(2) Internships should be sought out through links to community sustainability involving local industry, government and NGOs. A sustainability advisory committee (See Links To Community Sustainability under Co-Curricular) could be helpful in creating links and cultivating opportunities for internships.

ii) Service Learning

(1) A course-based, credit-bearing, educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility (Bringle & Hatcher, 1995, p. 112). – This is the most communally cited definition of service-learning in the academic literature.

(2) The characteristics of service-learning include: students are volunteers; students are meeting a community identified need, therefore creating a reciprocal relationship between the institution of higher education, the students, and the community; and students usually only partner with the community-based organization for 15-30 hours per semester (California State University Long Beach, n.d.; Furco, 1996; Loyolo University New Orleans, 2015; Mooney & Edwards, 2001).

iii) Living Learning Communities

(1) Create sustainability living learning communities

i) Study Abroad/Study Away/Alternative Spring Break

i) Study abroad/civic engagement (such as the "Living Labs" available through Amrita University in India), alternative spring break, would provide means for skill building in real world situations with real world impact.

j) Graduate Courses

i) A similar review of courses offered at the graduate level should reveal existing courses and room to develop sustainability-themed courses within graduate programs.

3) Undergraduate and Graduate Certificates

a) C of C does not currently have undergraduate certificates, though the Bachelor of Professional Studies program is currently pursuing one. This is considered a "substantive change" requiring a full approval process including CHE and SACSCOC.

i) If and when the undergraduate certificate for project management is approved, we can develop undergraduate certificates in sustainability.

b) The College does currently offer certificates at the graduate level. Thus, we should develop one to go with the few graduate programs outside of MES.

i) This would be a good way to make up for the missed opportunity to create a "green MBA" (combination of MBA and MES). It would be quite marketable for MBA graduates, thus perhaps some of the MBA, along with the BPS, money could be used to support a graduate certificate.

(1) A recommendation in the student focus groups conducted in Fall 2015 was to create a sustainability concentration or focus in the MBA. Creating a graduate certificate may be an easier approach to implement in the short term, with a plan for creating a concentration or focus in the MBA program in the longer term.

ii) See: http://gradschool.cofc.edu/degree-cert-programs/cert-programs/index.php for existing certificate programs. They range from 12 – 18 credit hours.

iii) Certificates already exist at the graduate level in a number of programs. We need to examine the fit between existing certificates and sustainability themes.

c) Potential value of certificates:

i) Most large companies are working to improve their sustainability performance. Many small companies already have some sustainability mission. Certificates related to sustainability could be a form of

credentialing indicating a focus on some aspect of sustainability within an existing major.

ii) "In the 2014 Sustainability Report, new research by *MIT Sloan Management Review*, The Boston Consulting Group and the UN Global Compact, shows that a growing number of companies are turning to collaborations — with suppliers, NGOs, industry alliances, governments, even competitors — to become more sustainable. Our research found that as sustainability issues become increasingly complex, global in nature and pivotal to success, companies are realizing that they can't make the necessary impact acting alone."
http://sloanreview.mit.edu/projects/joining-forces/
(1) http://sloanreview.mit.edu/big-ideas/sustainability/
(2) Research committee can probably find some data on the impact of sustainability education in regards to employment
(3) Additionally they can probably find data on the need for complex problem-solving and interdisciplinary group work – both for employment and grad school acceptance, and of course make for better citizens
(4) https://www.greenbiz.com/blog/2014/06/11/are-sustainability-degrees-worth-it

d) These certificates could be "paired" with appropriate academic programs to help augment skills that aren't addressed in detail through coursework
   i) A major emphasis should be on systems thinking and problem-solving, which would be good augments to any program.

e) Aligning these certificates with nationally recognized certifications would help with student buy-in and also help with any "what does this certificate mean" concerns. – Example of Certified Health Education Specialist (CHES) exam for public health majors was given. LEED (Leadership in Energy and Environmental Design) certification is another example.
   i) http://www.sustainabilityprofessionals.org/sustainability-professional-certification
      (1) http://www.aashe.org/highlights/press-releases/aashe-supports-creation-sustainability-certification-through-issp
      (2) This suggests that the ISSP certificate might be the best route
   ii) A few examples of others (nowhere near exhaustive):
      (1) http://mitsloan.mit.edu/sustainability/sustainability-certificate
      (2) https://www.extension.harvard.edu/academics/professional-graduate-certificates/sustainability-certificate
      (3) http://www.colorado.edu/sustainablepractices/certificates
      (4) http://www.sustainabilityma.org/certification/

f) Sustainability Scholars Program may be in addition to or instead of an undergraduate certificate
   i) Allows students flexibility in piecing together various opportunities toward something meaningful, recognizable, and marketable. It would be designed similarly to the "Global Scholars Program" with various elements required for completion, but they would be elements that any student interested in

sustainability would find complementary to their coursework

(1) would require 1 assistant director devoted to just this program – see Global Scholars Program

4) Non-Traditional Courses That Can Give Credit For:

a) Study Away
b) Internships
c) Service Learning

CO-CURRICULAR

The following recommendations are meant to be inclusive of everyone campus-wide – students, faculty **and** staff.

1) Events

a) Speakers/Events/Competitions

i) Social networking events, organized at/by the hub.

ii) Student incentives to attend events are important. Similar programs already exist on campus and are largely unattended as they compete with many other events and activities going on throughout the course of the semester. Students are much more likely to support other students in their efforts or events as opposed to workshops or events provided through campus offices or centers.

(1) Peer-to-peer and word of mouth forms of advertising were thought to be the most effective.

iii) Gear or prizes for those who lead or complete a certain number could also help attract participants.

iv) If there is some kind of "passport" students would need to participate in some workshops, which would be another motivation/attraction

2) Training

a) Sustainability Boot Camp

i) Orientation Sustainability Boot Camp. Target resources to EXPAND the current sustainability boot camp. The current camp is offered during Welcome Week and attracts about 30-40 students to a single program. Not only first-year students have attended the boot camps to date.

b) Workshops/Seminars/Course Infusion/Exchanges Between Classes/Research

i) Workshops to train faculty in order to infuse sustainability in new and existing courses.

(1) Inventory and build upon existing skill building opportunities

(2) relate to problem of the year (see 4 below)

(3) Bachelor of Professional Studies program might be a way to develop skill building programs, perhaps even for credit, but the wall between BPS and main campus programs would need to be somehow reconciled.

(4) Study abroad/civic engagement (such as the "Living Labs" available through Amrita University in India) , alternative spring break, etc might provide means for skill building.

(5) Making some of these workshops student led or student facilitated would help to draw in students and students facilitating workshops could earn credit towards any certificates such as leadership/project management etc..

ii) Seminars on teaching ideas, materials and development of assessment; hosting training seminars; connecting faculty across disciplines. This could be in conjunction with TLT.

c) Exchanges

i) Facilitate faculty exchanges between classes, to help locate colleagues in for example the Natural Sciences that may research the environmental-element of sustainability, and have them give a talk to a class in LCWA (or other Schools) about their research as it relates to the country/region being covered in the LCWA class in order to help inform the students about what they are reading.

ii) Foster faculty and student research across disciplines
(1) The hub should facilitate this.

d) Career Development

i) Link the certificate experiences to career development coaching.

ii) Create a career cluster related to careers in sustainability in the Career Center composed of alumni, faculty, parents, employers and Career Center staff.

3) Community – Campus and Beyond

a) Student Organizations/Peer to Peer Learning

i) Support for sustainability student organizations

ii) Expand and assess the current training RAs receive from the Office of Sustainability. This effort could prompt the Residence Hall Associations to push beyond the current focus on recycling.

iii) The Office of Sustainability should continue to offer peer-to-peer learning and opportunities such as garden apprenticeships, Greek chair, ESPC, etc.

iv) Student Life mandates that all student organization leaders attend an annual student organization Summit in order to access their budgets and reserve space on campus. Sustainability concepts can be introduced at the Summit and financial incentives created to encourage group collaboration around the QEP topics, e.g., access to funds in the SGA Contingency Fund.

v) CAB and other departments could offer a movie series each year.

vi) Include Living Learning Communities, also mentioned above under experiential learning.

b) Institutional Commitment To Sustainability Practices

i) An institutional commitment to some sustainable practices will create a broad impact even if the initial actions are fairly narrow in scope or few in number. Students and employees will appreciate and come to understand the broad impact of the selected contributions and changes to operations. The permeation of sustainability literacy should be detected in students' coursework after a few years.

c) Links to Community Sustainability

i) Establish links to government sustainability efforts and programs. Charleston was chosen to pilot sustainability by the federal government (Steve Jaume)

ii) Establish links to local industry either directly involved in sustainability or indirectly through internal sustainability efforts and awareness/sensitivity with their products and services.

iii) Establish a community advisory board.

iv) Promote volunteerism as a form of experiential learning
    (1) The Center for Civic Engagement already provides community service opportunities that reflect the definition of sustainability through our recurring service programs and one-time events.

4) Themes

a) Problem Of The Year/C of C Solves/Sustains (more input is needed for selecting the name and time frame, though the committee recommends a 2-year cycle)

i) Members of all QEP sub-committees were asked to rate sustainability themes/challenges. This committee puts forth the top four for consideration as the first theme:
    (1) Water Quality and Quantity
        (a) Population growth, global warming, and pollution threaten Earth's potable water supplies.
    (2) Social Justice and Fair Distribution
        (a) Equity between economic classes, ethnic and cultural groups, and the fair distribution of resources.
    (3) Food Security
        (a) Access to adequate nutrition and calories.
    (4) Systems Thinking
        (a) Interconnectedness; the whole versus its parts; respect for limits; unexpected consequences; and identifying patterns, root causes and leverage points for change.
ii) Events – have a problem of the year and events scheduled throughout the year which illustrate how the problem relates to the concepts linked to sustainability, e.g., water
iii) The problem could be selected by student vote the previous spring semester
iv) Convocation could set the stage for the discussion.
v) Create a College Solves committee to be a companion to and work with the College Reads committee
vi) Alternative Break trips could be designed to address the problem but in other settings
vii) The College Activities Board (CAB) would be encouraged to devote most of its programming dollars to speakers/programs, which match with the problem.
viii) Modify one of the student learning outcomes affiliated with this strategy to monitor learning for in-coming students only and not all students. This modification makes sense given that the first-year students are more likely to attend the events and be exposed regularly to the conversation.
ix) Host competitions for solutions to the problem of the year. It could be something that starts at the department level and/or student organizations, works through the schools then a big finale competition.
    (1) A motivator for participation could be prize money for both students and faculty advisors (or some kind of award instead). The money

would need to come from donations. It would ideally be a named endowment. A $250,000 endowment would provide $5-10,000 per year in prizes.

(2) The big finale competition should be something promoted to not just campus but the Charleston community as well, especially key stakeholders related to the problem.

(3) Depending on the level of availability, students/teams winning at the school level (or earlier if possible) could be matched up with a community stakeholder as a mentor. This would help improve the outcomes, as well as provide a good connection to the community. Mentors would be organized via the hub. (See also Global Scholars Program, which uses faculty and staff as mentors)

(4) Competition would be organized by the hub (Goals 2 & 5) and be promoted at convocation and other events. Space and tools at the hub could be utilized by students competing.

x) Hub helps to facilitate integration into classes

b) College Reads/Convocation

i) Convocation serves as a desirable foundation upon which to present sustainability topics. As part of QEP implementation, those involved in College Reads will be approached to see if they might be willing to consider social, economic or environmental books such as Freedom Summer, Eating Animals, or the like, that may easily fall under the umbrella of sustainability. If more than one book might be considered for college reads, then perhaps one might be under the sustainability umbrella. In this way convocation would have themes related to sustainability so that students become aware of sustainability as an issue the College takes seriously and that they will have opportunities to contribute to.

Sustainability Hub Proposal

David J. Hansen

Overview

I reviewed what "interdisciplinary hubs" are doing around the world. There were a few common themes.

1. First, they are normally focused on knowledge of an area or specific problem that cuts across disciplines (e.g. nanotechnology, public health, sustainability, transportation, climate change, etc.).
2. Second, they promote collaboration across normal boundaries (disciplines, student/faculty/staff/community, curricular/co-curricular, etc.) in order to help both generate and disseminate that knowledge.
3. Many of them have dedicated physical locations that include collaboration/meeting space.
4. And finally, many of them are focused on promoting innovation/creativity/design-thinking.

In addition, there were a number of good ideas found in some of them. What I've done below is take the major themes and many of the good ideas and organized them. I include opportunities for the hub to generate some *revenue for operations* (licensing, consulting, donations, naming rights – *see also Section VII.D.*), which will be necessary in order to accomplish much of what I propose, as well as provide incentives for people to get involved. I also make note of where a component addresses goals and strategies in the *QEP proposal*.

This is a work in progress / first draft and meant as a starting point for discussion and further ideas. The only thing I feel adamantly about is that the hub should be a facilitator of trans-disciplinary interaction. In other words it is more of a platform (think: Uber and AirBnB – or journals), than a producer (think: Apple – or the scholars that write the articles published in the journals).

I. Named (*source of funding*) physical location (*Goal 2, Strategy 3 and Section VII.A.*), includes:
    a. open spaces for interaction (maybe with a coffee shop)
    b. enclosed meeting rooms with white boards and technology (could be used by student organizations – *Goal 1, Strategy 5*)
    c. seminar rooms (could be used for "boot camp" – *Goal 1, Strategy 2* – if large enough, plus workshops – *Goal 3, Strategy 2*)
    d. innovation tools (could incorporate the planned maker space)

II. Interaction across disciplines/areas (faculty/staff/students/business/government)
    a. Networking – both on- and off-line
        i. Social network events held in the open spaces/seminar room above

ii. Online could replace or supplement magazine (*Goal 1, Strategy 6*)
iii. Could include some "working groups" as described in QEP proposal (*Goal 5, Strategy 3*)

b. Facilitation of collaboration – research, projects, initiatives (includes student organizations/co-curricular activities – *Goal 4, Strategy 3*)
c. Can be one or more of the "events" in *Goal 1 (Strategy 1)*

III. Knowledge (*Goal 2*)
a. Facilitate development (i.e. research) of new knowledge
b. Facilitate dissemination and exchange – both internally (campus) and externally (community)
c. Resource for research, teaching, problems & solutions, initiatives, activities, etc. (*Goal 2, Strategy 1*)
i. Includes information about available resources such as grants (*Goal 5, Strategy 4 and Section VII.B.*)
d. Training seminars (*Goal 3, Strategy 2*)
i. Using the seminar and meeting rooms above
ii. Could open it up to external (off-campus) parties to *generate revenue (see also Section VII.F.)*
iii. Could be part of certificate (*Goal 3, Strategy 1*)
e. This might be where an individual dedicated to supporting assessment is located (*QEP proposal, section VI*)

IV. Problem-solution (*Goal 2, Strategy 3*)
a. Problem of the year (or 2 – 4 years, since problems are complex and "wicked")
b. Facilitate learning creativity/design-thinking and systems thinking
c. Incubator/accelerator (see the Flagship for example) for helping to develop solutions
d. A named (*funding for prize and support money*) competition for solutions to the problem of the year (see what ICAT is doing - $10k to a winning team in the class, which comes from Boeing)
e. License solutions (IP – *revenue source*)
f. Consulting (many entrepreneurship programs do this for small businesses – *generates revenue*)

V. Community Involvement
a. Advisory board (helps with getting *donations* as well as bridging into the community and providing credibility – see example of the Center for Entrepreneurship)
b. Mentors – there are plenty of people "doing sustainability" in businesses around town who could volunteer some of their time to work with teams and/or help conduct training seminars (see what ICAT is doing – 6 volunteers from Boeing and others)
c. Some of the above supports regional development (*see Section VII.G.*)

VI. Student Experience
a. Internships – both within the hub and facilitating sustainability internships (*Goal 4, Strategy 1 & 4*)

b. Sustainability-related job placement assistance
c. Study abroad (*Goal 4, Strategy 2*)

All of this will require at least an assistant director (reporting to the QEP director), in addition to numerous staff and fellows (students, faculty and staff) and cooperation with/delegation to relevant faculty, staff and students across campus.

The hub described above could be what the Office of Sustainability (OoS) transforms into (see *Goal 5, Strategy 5*). OoS already does some of the above, plus it's how they are described on their website ("We represent the hub for teaching, research, and practice of sustainability on campus and in the greater Charleston community." http://sustainability.cofc.edu/about-the-office/index.php).