

SO COOL:

Sustainability Office– Community Of Omnifarious Learning

Imagine a Cabrillo College curriculum that empowers and equips students with the knowledge, skill sets, connections and confidence to remediate environmental and social problems while sustaining their own lives, involving their peers and the community, instituting viable alternatives to economic paradigms, further evolving the programs developed within the course, and preparing these students for an academic and professional career beyond the scope of any academic plan.

Santa Cruz County is ripe for an innovative idea within one of the most reputable of the California Community Colleges. In this paper I will paint a picture of the economic and social landscape of the community and the Cabrillo campus as receptive to innovative ideas about environmental education as a collaborative and tactile exercise. I will explore ways in which to institute curricular changes at Cabrillo College, starting with student-run programs to connect peers to local organizations and efforts to improve the sustainability of the campus footprint. I chose to write some hypothetical stories to illustrate that having a physical location on campus can focus creative the potential of students to put their social and environmental concerns into action. Ideas about incentives are explored, as a way to catalyze this potential, and break through economic barriers to positive social contribution.

According to a study recently referenced in an SC Sentinel article, the Santa Cruz County is the most expensive place to rent in California– a designation that speaks to the extremely high cost of living (Santa Cruz Sentinel). Just being able to meet one's needs is a challenge, when unemployment rate is around 9.7% in the US, 12.4% in California and 13.5% in Santa Cruz county (Bureau of Labor Statistics). Over 6000 students at Cabrillo are granted the BOG fee waiver annually, indicating that a sizable chunk of the population here are in need of the skills, knowledge and social connections to attain meaningful, gainful employment (Cabrillo PRO).

While Cabrillo College offers valuable services that prepare students for CSU and UC

education, and career technical skills that local employers need, it is no longer safe to assume that a degree guarantees a job (Curran). So the time for applied social-environmental entrepreneurship within educational institutions has arrived. This paper will explore the landscape of possibilities and obstacles to innovation at Cabrillo College, a place where I have spent much of the last 5 years in pursuit of multiple educational goals, while I have also dedicated a vast amount of time as a service to reduce the campus ecological footprint and contribute to a culture of sustainability.

What exactly is sustainability? Some people call it the “fifth wave of environmentalism,” which offers about 150 years of American historical context. Beginning with aesthetic or romantic-transcendental notions of nature and wilderness in the 1850’s, a movement coalesced to preserve in perpetuity the stunning landscapes in the country. The era of “natural resource management,” between 1890’s and the 1950’s, ushered in the development of agencies like USGS, USDA, US Forest Service, National Park Service, Civilian Conservation Corps, and Bureau of Land Management. Next the “ecological movement” enlivened scientific understanding of the ways in which human activities threaten both human and ecological health. The Clean Air Act was passed in 1963, followed by the Clean Water Act and Solid Waste Disposal Act. The Wilderness Act protected millions of acres of land, and thus extended the work of previous waves. The “regulatory movement” birthed the Environmental Protection Agency and National Environmental Policy Act (requiring federal actions to be scrutinized with environmental impact assessments). State laws were adopted on this model. Also introduced were the Endangered Species Act, Toxic Substances Control Act, National Forest Management Act, and many more important regulatory bills, all of which improved and expanded layers of environmental stewardship (Environmental Careers Organization, 5-7). Over a century of continuous progress was made on environmental legislative efforts in the US. “In 1999, over two million people were employed in jobs related to conservation, natural resource management, and environmental protection. And yet, in spite of this progress, the United States still leads the world in per capita resource consumption and waste generation.” Enter the 5th wave: “The sustainability movement is an evolved form of environmentalism that seeks solutions that integrate ecological health, social justice, and economic security on a variety of scales, from local to global levels. In many ways, the fifth wave of environmentalism represents an understanding that we have gone just about as far as we can in solving “environmental”

problems by focusing on them as separate from our other human concerns” (Environmental Careers Organization, 8).

So the sustainability movement is kind of a big “et cetera” cluster of interrelated concerns, which have in common that they are woven into the economy and our daily lives in some way. And for this practical reason, the movement is very anthropocentric in its approach. Environmental advocates often find themselves defending their positions within political spheres in terms of “enlightened self-interest”– whether explicitly or implicitly– and therefore perpetuating a paradigm in which living and non-living things are ascribed instrumental value. This integrates smoothly with economic precepts, which I believe to be the “lowest common denominator” of social and political agreement for individuals, supra-national actors and everything in-between. Enlightened self-interest is a self-serving ethic by which we acknowledge our species’ potential for environmental destruction and the necessity that we take responsibility for environmental stewardship for our long-term survival (Environmental Ethics, 273).

Hence, “*sustainability*.” Many define the term as the ability to “meet the needs of the present without sacrificing the needs of future generations to meet their own needs.” Implicitly, these are human needs. This maxim falls short of the vision of a peaceful world in which all creation is well-loved and respected for its intrinsic value. And so I hope that the movement is just a means to this more eco-centric end. Promising ideas in the world of economics help to make us aware that we (and the rest of the natural world) are victims of our own economic successes. The Genuine Progress Indicator, Index for Social Health, Living Planet Index, USA Ecological Footprint, and UN Human Development Index all serve to inform us that “while the USA’s GDP has continued to increase over the past 50 years, virtually every measure of human, societal and environmental well-being has declined” (Environmental Ethics, 541). With this painful realization, we may be motivated to steer a course toward environmental sustainability and social justice, of necessity through the hazardous domain of the present economy in which the natural world is exploited for its instrumental value, and into a future in which our species can coexist peacefully and respectfully with all of earth’s inhabitants, who are seen for their intrinsic worth.

How do we get to this place of advanced civilization in its highest sense? I perceive that the natural sciences will continue to advance, illustrating to us all the intricacies of life and the ways in which living and non-living systems and their components dynamically interact. I hope

that this knowledge can be communicated through our educational systems that all things objectively are intrinsically valuable, and that these ideas will cascade into all other educational disciplines. Even as we go about meeting our needs by gleaning them from nature, we may do so less destructively, even bio-dynamically in a way to restore, remediate and regenerate ecosystems. Purposeful environmental science is integral to progress toward this deep, long-range ecology movement (DEM)– as much as the global peace and social justice movements are to living in an equitable world and toward the DEM vision.

In order for these grand visions to have a chance, it is essential that our educational institutions empower students with palpable opportunities and incentive to participate toward these ends.

Hence the need to start at Cabrillo with dynamic new program to bridge extracurricular engagement and revolutionary curriculum– as envisioned in the introductory paragraph.

I propose that this goal is possible and timely, but difficult to accomplish through established channels and decision-making processes. The curriculum committee process will be explored in the latter half of the paper. To build support for this vision I propose that a movement must first be initiated and supported by students. This position will become clear as the curriculum development process is explored in this research paper. For students to support a long-term vision of sustainability curriculum at the college, there must be short-term incentive for them–economic, academic, social, skills-based or otherwise–in addition to the vision aiding students along in their longer term academic and career goals. The reasoning here is very practical and realistic. For students to volunteer more of their time that is already prorated between the classroom and study hours, work, family or social obligations and of course sleep, the venue and cause should serve multiple goals.

The scope of this paper is to chart out a "vision map" for instituting a student-funded, interdisciplinary, collaborative extracurricular program on sustainability to be a stepping-stone for a more mainstream, institutionalized curricular program on sustainability at Cabrillo College. Henceforth the student-run program will be called the “sustainability office.” My thesis is that proceeding in this way has several strategic advantages:

First, there is strength in numbers, especially when numbers are preceded by dollar signs. I am proposing that the Cabrillo Student Senate designate 10% of its now approximately

\$150,000 discretionary annual budget to establish something like "The Green Initiative Fund" that has been instituted at several UC campuses. The TGIF funds are available to any student with a well thought-out plan as seed money for environmental and social service projects. All the necessary oversights are in place, and the student has advisors and must submit reports detailing progress and accounting for expenses— like any job, except that the student creates the position of their own volition and with their own creativity (TGIF). The TGIF model would be fused with ideas from the program "YP4," or "Young People For," a fellowship program overseen by the People for the American Way Foundation. YP4 fellows apply or are nominated by peers. They submit their ideas through formulaic applications, receiving advice and support from the beginning of the application process through the completion of the program. Support is available in the form of networks of past and current fellows, staff, extensive records from past projects, and grant money. Anything is possible as a project option, so long as it touches on the themes of social or environmental justice and equity (YP4).

Some of this Student Senate money would also support an office space on campus and part-time student workers to keep the space open. Students in these part-time positions act as facilitators for social networking at Cabrillo and in the greater community, to aid in the continuity of programs and information, and to document and make accessible the collective memory of projects and programs conducted by partners and allies of the office of sustainability.

Here is where the second piece becomes apparent. Much the way the Cabrillo Bike Cooperative has become a social niche, and the upstairs of the SAC East building has become the regular home of student organization officers, an office of sustainability would create a permanent physical, social context for students and faculty of like minds. This is probably the most essential piece of this plan—the social soil where advocacy roots take hold. This space is where a culture of sustainability can be nurtured at Cabrillo. Amenities will be provided here like organic, fair trade or locally grown snacks. Quiet areas to rest or meditate will be available. Community opportunity boards, a community calendar, a database of volunteer opportunities, jobs and internships, organized documentation of every project conducted through the office, information about CWEE, SBA, and SCORE, an ongoing sustainability assessment of the college, and a library are just the beginnings. These and more creative ingredients are the recipe for synergy and a convergence of ideas. While of course some of these components already exist on campus and even have offices and full-time staff, they are dispersed. Housing information

about them in one place offers the advantage of cohesion– it would be sort of a "one-stop shop" information warehouse to bring these opportunities to students' attention, while the experts in those other programs are available elsewhere on campus and in the community.

I believe that in addition to supporting students with their personal goals, this model will ultimately support the larger educational goals of Cabrillo College. Within the Cabrillo mission statement are the "core four" competencies that courses designed to cultivate. Among them are *communication, critical thinking and information competency, global awareness, and personal responsibility and professional development* (Cabrillo Fact Book). It is not too far of a stretch to say that supporting students' motivations to contribute to solution-oriented community and environmental service supports these competencies. Furthermore, it can be stated with evidence that focused extracurricular activities are valuable for students in both discovering career goals and achieving them. Taking initiative to proactively seek solutions to community and environmental problems gives students valuable skills, applied knowledge, experience and insights that might not otherwise be available in regular jobs to students without credentials. Gaining this experience can inform students about where they want to go in the working world, and can help them get the job when they apply. A workforce assessment study prepared for the EPA in 1999 identifies 10 essential abilities. A few of these cannot easily be taught: collaboration ability, creativity and innovation, a positive attitude and strong work ethic, leadership ability and "customer" orientation– meaning, focused on the needs of the stakeholders (Environmental Careers Organization, 9).

With a patchwork of programs already in place at Cabrillo, the purpose that an office of sustainability would serve is to "connect the dots," such that a student could benefit from some of these programs in a loosely structured way, informed by experiences of past students and current staff, faculty and peer advisors. For the purpose of illustration, let's propose a hypothetical narrative to describe the process of enrollment into the program:

Two students hear about the sustainability office, one from a sociology instructor, the other from a biology instructor. Both of these students are considering careers in the disciplines of their respective classes. The sociology student is currently obsessed with the huge global disparities in wealth and the concomitant stresses of disease and resource depletion, along with projected climate-related natural disasters in developing

nations. Not content to be a hapless bystander to global tragedies unfolding, she approaches the sustainability office, hoping to plug into some kind of effort on campus. The student on staff at the office isn't immediately aware of anything relevant, so he searches in the computer and finds that there was a social justice club the year before, now presently inactive, that used to provide the volunteer labor to produce the now annual social justice conference at Cabrillo. The student is intrigued and interested, but still eager for other opportunities. So the student on staff notes the other search results: "Habitat for Humanity has a local office, Rising International works with women around the world to market their crafts, the Elpis Foundation is an international non-profit working with communities to improve their plights, the Global Information Internship Program (GIIP) and Community Agroecology Network are both at UCSC..." (CAN).

The sociology student reads more about all of these non-profits listed from the idealist.org search that the attendant made in the office. The GIIP result seems the most engaging to her, as it is the only program in the search result that seems flexible enough for her to propose her own projects under that umbrella. So she uses the phone in the sustainability office to call the director of the program at UCSC, who suggests that she transfer to UCSC because the program isn't yet expansive enough to invite interns from other schools, although it is housed within the sociology department at UCSC, which might be of interest to her as a student of sociology. Not content to wait 2 years to begin working on an internship within GIIP after transferring to UCSC, the student learns all that she can about GIIP from the professor. Subsequently she proposes a program at Cabrillo, modeled on the social entrepreneurship methods within the UCSC program, at partnering with the Cabrillo-based Digital Bridge Academy (DBA), for their emphasis on tech tools to "bridge the digital divide," a mission which happens to coincide with the GIIP program except for its local emphasis. All this after the sustainability office student staffer describes to her the process by which she can submit grant-funding proposals to the Student Senate, and mentions some potential allies that might be willing partners. He explains also that it is possible to receive academic credit through CWEE for her work with the DBA, should they choose to collaborate.

The next day the biology student walks into the sustainability office, asking the student staffer about an idea involving biomimicry and art to raise awareness about the need for biodegradable materials in place of mass-produced plastic stuff that ends up in the ocean and disrupts biological processes down to the smallest levels. The two students shoot ideas back and forth, and the staffer pulls on a number of resources to inspire the biology student. First, he suggests that there is a “community opportunity board” in the office (both physically and in a database). They see that an art student had posted a request for collaboration involving an art project using diverted waste and plastic. The biology student proceeds to send a text message to the art student, explaining that he is in the sustainability office and is interested in collaboration. Meanwhile, the staffer checks the Facebook profile of the art student and notices that he is a member of the “resource reclamation group” and that on his calendar is a pledge to attend the annual beach cleanup (an event that also appears on the comprehensive community event calendar in the office computer).

The staffer and the biology student converse some more, and the staffer explains that indeed there is a “resource reclamation group” on campus, which was started recently by some students through the sustainability office. They coordinate with the campus waste management to use the junk that would otherwise go to the dump for art or tech projects, and they also work with the Santa Cruz materials exchange web group and Freecycle.org to procure and give away stuff that is stored on campus until someone gives it a second life. The staffer suggests that if the biology student is interested, there is a “Campus Beautification Fund” available from the Student Senate to commission art projects. Just then the art student enters the office and the biology student suggests his idea: use found objects from beach cleanup day and from the resource reclamation group to create an enormous animal-cell-shaped mosaic made of plastic. Beneath the mosaic would be a placard noting the volume of plastic that enters the waste stream every day, and some biochemical jargon about why it is dangerous. The art student is excited and ready to collaborate, already having personal connections to the resource reclamation group on campus. Both of these students are able to receive compensation for their time, through a grant offered within the sustainability office, and both are able to receive academic credit. The art student can

document the project for his portfolio, and the biology student will receive extra-credit for his work detailed on the placard, describing the chemical processes by which plastic particles attract other toxic chemicals, the biochemical process of plastic assimilation that can happen on a cellular level when plastic particles are abraded to that scale, and also the ecological process of bioaccumulation.

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These detailed hypothetical scenarios serve to illustrate a few points about the organizational structure, purpose and potential of a sustainability office. Writing some fictive, though certainly possible scenarios, serves to articulate the social, interdisciplinary and creative dynamism that the office would facilitate.

Foremost in the galvanizing potential of this office to affect larger curricular movements on campus is the interdisciplinary convergent synthesis of ideas as students support each other within a dynamic, socially integrative environment. This is what I think is so exciting and unpredictable about concepts of sustainability in education, and something that upper division students, graduates and post-doctoral students, and professors take for granted in university environments. The lines are continually blending between disciplines. Introducing these same opportunities to students in a community college is something new to this institution. Hopefully these hypothetical narratives will become realities and facilitate academic creativity, something that will serve students for the remainder of their academic and professional careers.

There are other reasons to support this model for a sustainability office. Let's call them "guiding principles."

A good science experiment requires accurate and consistent notation. Organized multi-media documentation of the program make it friendly to administration and outside auditors, easier to replicate (at other colleges), easy to uphold as valuable (to those who hold the purse strings), transparent, and an otherwise unobtainable source of information and case studies to support future efforts to establish a more formal and institutionalized sustainability curriculum.

Documentation is also essential for advancing projects at Cabrillo like the carbon assessment, food system scoping paper, bike cooperative, social justice conference, earth

week, and student-initiated projects under CWEE, so that students can plug in and move projects forward without having to “reinvent the wheel.” Structure in this program serves as a facilitator for organization, not as a restrictor of creativity. Students are highly encouraged to push the boundaries and challenge paradigms.

The program structure is modular, both in its component partners at Cabrillo, and with its community and intercollegiate allies. The sustainability office can rely on other partners within the college and community, and even take lessons from similar programs at other colleges. This quality allows for more creative freedom of both the office staff and the student program participants, while also strengthening the program as a whole; if one of the component partners is weakened by budget cuts, the entirety of the sustainability office is not affected. Actually, this is a potential strength of networks. If an important program like CWEE were to have its staff hours cut, the sustainability office or a volunteer could take on a share of the work burden, or even prevent the cut from happening by alerting and organizing program participants.

More to the point on the modularity of the program, the sustainability office can take cues from the UC’s Education for Sustainable Living Program Action Research Team model on the formula for guest speakers, facilitated discussion, and group projects. Other viable models are ample, like the previously mentioned Young People For program, or the UCSC GIIP class. The methodology and organization of the TGIF program can offer many practical lessons as well. These program examples are well documented, and to be replicated at Cabrillo, the only essential ingredients are office space, money, computing resources and volunteers. If space and resources can be provided by negotiated agreements with college departments, then only the money and committed, creative volunteers are necessary to develop the office environment.

Non-profit allies in the greater community are a very important piece of this programmatic puzzle. These organizations and students will find mutual benefit in their collaboration. Organizations benefit from volunteer labor and more exposure as well as network ties. Students benefit by gaining skills and leadership experience, good references and resume material, potential academic credit, and even the possibility of a funding umbrella under which they can pursue grants or donations for their own projects. The sustainability office could benefit greatly from the knowledge shared by student

social entrepreneurs who opt for this route. The sustainability office potentially could even expand beyond the college, as its volunteers advance in their knowledge and skills. Many grants are available and accessible with the right formula of research and writing.

I should note that the term “social entrepreneurship” is used loosely here. Usually in non-Western contexts the term is associated with micro-lending and organizations like the Grameen Bank, whose mission is to enable people in developing nations to pull themselves out of poverty by taking small loans for working capital to sustain themselves with small-scale businesses that serve community needs and simple solutions to make their domestic lives easier (Steffen, Alex 352). When I use the term social entrepreneurship, I mean work with the primary goal of social and ecological value, which involves money only as a means to this end. In cases where money is necessary, it can be made available as micro-grants, loans, stipends or scholarships. By encouraging students to invest of their time into community-focused, ecologically-aware projects, we are building their integrity and references for career, while reinforcing conscious values and affording them opportunities to earn income.

Since the sustainability office is an entirely student-funded program, there is more security of solvency and less scrutiny of oversight, and therefore a higher degree of freedom for the students running the program. By contrast, many student support services are not categorical– that is, they have budgets fed by discretionary college funds that can be downsized in tough economic times, without much recourse. In these scenarios, the sustainability office volunteers might be a reliable ally and resource to continue the work of those programs.

The program offers flexible deadlines and unparalleled academic freedom. Students of course must balance their dedication to their projects with existing obligations. Pushing oneself a little harder can have its rewards, too. Anecdotal evidence from friends of mine who are active volunteers in the community suggest that they are often able to receive academic credit, especially within classes in the humanities, for their work outside the class, either directly or with minimal effort to format their experiences into the style assigned by the instructor. Again CWEE is an avenue to receive academic elective credits for volunteer and work experience, within certain programs and with the oversight of a faculty sponsor.

The discussion flows back to the question of academic credit. Ultimately, for a sustainability curriculum to have a greater impact on the academic culture at Cabrillo, to translate effectively into an average student's worldview, and to progress beyond the domain of the campus to academics in other schools, it must be encapsulated in words, on paper, within policy. Once the tipping point of interest and collaboration in a student-led (mostly extracurricular) sustainability curriculum is established, I propose that the shift in curricular planning will be successful.

It should be stated that California Title V regulations narrowly define five categories of classes that can be offered at Community Colleges. (1) Lower division courses accepted toward the Baccalaureate Degree by the CSU and/or UC. (2) Courses that apply to the major in non-baccalaureate occupational fields (Associate level degrees at community colleges). The last 3 categories apply to math and English classes of a certain level and remedial classes in those subjects (California Title V Section 55002(a)). So in discussing the development of for-credit classes with sustainability themes, we must be considerate of these limitations.

I posit that developing sustainability courses is possible, though the process is challenging and lengthy, and ultimately subject to both economic and bureaucratic constraints. As per the above Title V regulations, the various faculty and administrative committees within the shared governance system at Cabrillo and articulation representatives continuously review—and occasionally revise, delete or add—courses and programs, such that it will be “dynamic in response to changes in teaching methodology, legal requirements, student needs, technology, and occupational opportunities”(BP 3120). So there exists a mechanism that is responsive to changing needs within education and the greater society, while also constrained by the fairly limited mission statement of the California Community College system. To be *proactive* about creating classes suited to these needs—especially needs that serve greater purposes of social justice and environmental stewardship within an equitable and sustainable economy—is not an easy task. A faculty member proposing new classes must be considerate of the formula for approval; classes that are approved usually are highly in demand, articulate with other colleges, are transferable, or are necessary for graduation or certificates.

There are several layers of hierarchy that govern the process of curriculum development at Cabrillo (BP 3120 and AR 3120). Once a course gains tentative approval through the process,

then the intricate details of articulation kick in – spelled out at length in the "California Articulation Policies and Procedures Handbook." An alphabet soup of acronyms spell out the very elaborate system by which Community Colleges, State Universities, and the University of California academic gurus agree on standards and learning outcomes which ultimately shape curriculum in the classroom, such that when students graduate and transfer, their hard work is accepted as equivalent at other schools within these academic systems. Since curricular planning at Cabrillo revolves around these and other standards, proposing anything interdisciplinary to the curriculum committee and instructional council is a stretch (there are only a handful of "cross-listed" courses like Psych 1/Comm 1). So one specific challenge to proposing a new sustainability class is finding the most suitable department. Then in creating the curriculum and learning outcomes, instructors do so knowing that preference is given to classes that are considered core curricula for programs (for a student to obtain an AA/AS degree and/or certificates).

Further, proposing solution-oriented classes to curricular planning committees, whose process demands a neat presentation and documentation, might be difficult when the classes have uncertain learning outcomes (as per the nature of self-directed research) and variable and unstructured methodologies (from partner programs). If classes are not core curricula, then they must be acceptable electives, lower-division transferable credits, meet criteria for graduation requirements (Areas A through D), or convey vocational skills that are in demand. Any class that does not meet some combination of these standards will almost certainly not be approved.

But I argue that with methodical documentation of the indicators relevant to curricular planning, successful projects organized within the proposed sustainability office can serve as proof-of-concept for interdisciplinary sustainability classes. Very important for instructors arguing the case for new sustainability classes is proof of student interest– since attendance is a big part of the calculation for funding from the state. Showing the popularity of the projects within a proposed sustainability office is key to this point.

Credit is due to Cabrillo instructors who have proposed creative classes on sustainability that made it into the catalog. The short-lived short course Anthro 19G, *Surviving the Future: The (Re)Emergence of Sustainable Cultures* was offered in Spring 2009 by Michelle Merrill, though it is not currently offered due to budget cuts. *Global Perspectives of Food and Culture* (Anthro 17, Lonnberg) is popular among students, and Lonnberg has been known to support non-

traditional teaching methods and localized research assessing the sustainability of our food system. The class “Sustainable Buildings, Home Performance and the Environment,” CEM 162 (Murphy), is popular and timely, for general students, those in the construction industry and homeowners. Also popular is “Solar Photovoltaic Design and Installation, CEM 162SP (Jordan and Murphy, or Sonsino). Jordan offers another class, CEM 163: Fundamentals of Renewable Energy Systems. Last year another Environmental Science class (ES 50: Local Sustainability Research and Solutions) was approved for instruction, though it was not offered due to unit cuts from the budget deficit. My research on Assist.org shows that currently the class does not have articulation agreements, though that may change.

Faculty sponsors are also available to support students in Cooperative Work Experience Education (CWEE) classes, which are self-directed unit credit opportunities, offering 1 unit of credit for 60 hours of volunteer work or 75 paid hours. Karen Groppi is one such faculty sponsor for the “Sustainability Assessment” project. Engineering students last semester analyzed very extensive and confusing layered AutoCAD drawings of the electrical plans to enable Maintenance and Operations to control and turn off unnecessary campus lighting, whereas previously they had not figured out how to do so.

And of course this class, English 2 with an emphasis on Environmental Ethics, (Wagner) is also a popular choice among students. The class, according to my judgment, meets all 13 of the goals and criteria within the proposed “Ecological Literacy Studies Requirement.” The proposed course requirement for graduation seems to be structured in such a way that natural science (“Area B”) classes would meet or exceed the minimum 6 to qualify for the designation without any significant changes. Instructors of other classes may have to alter the curriculum or place more emphasis on certain learning objectives within the course materials. According to the proposal: “The emphasis for each course should be substantial and thematic rather than incidental or supplemental to a different focus.” On the proposal draft, the requirement is described as “*Parallel to Multicultural Studies (with SLO language).*” I take this to mean that a class can satisfy the requirement as well as another designation, such as “Area A, Communications and Critical Thinking.” I think that this strategy is brilliant, and that the requirement is wide-ranging enough that other classes required for graduation could also meet the Eco Literacy designation. If ever approved, I would expect that instructors would see it as an opportunity to rewrite their curriculum to meet the requirement and therefore attract students

whose academic goal is a degree. I was present when Elissa Wagner brought the idea to the Cabrillo Student Senate in 2008, and unfortunately the idea was met with resistance due to the perception that the additional requirement would be an extra burden on students. To my knowledge, most of the students were not aware when deliberating that the precedent of “catalog rights” might apply to them and other long-time students, such that they may be exempted from the requirement. Careful analysis of the proposal, I think, may have also brought student senators to the conclusion that actually the requirement could be satisfied by another required course, such that a student would not need to take an extra class. I am not familiar with the process to approve another competency requirement, but I can safely assume that it requires an excessive amount of documentation. Consider that the 6-year cycle of instructional planning for departments takes at least a year and no less than 10 documents are provided to the committee members. Still, I maintain that the “Ecological Literacy Studies” requirement seems quite practical as a strategy to broadly encourage focus on ecological awareness in the curricula within different departments, and that perhaps with effort from the proposed Sustainability Office, decision-makers may be convinced of its merits.

Instructional Planning is another avenue in which to explore opportunities for the implementation of curriculum on sustainability, although the process is grudgingly slow and tedious, considerate of a vast array of information and the purview other decision-making bodies and established precedents, and yet involving a surprisingly few decision-makers. Still there are some areas in which leverage may be applied. The purpose of instructional planning is varied. Here is one example that seems relevant, especially if an emergent, active sustainability office sets the context: “engage departments in planning program improvements that are responsive to student and community needs.” This is repeated in the goals section of the document describing the process. Another goal is to “foster cooperation among college departments.” Sustainability education is intrinsically interdisciplinary, so it can be argued that it is in alignment with this goal. Instructional Planning aims to “improve response to external and demographic changes.” (What could be an external change more commanding of our attention than Climate Change?) The goal with the most primacy seems to be to “improve programs and services consistent with the College Master Plan... and the California Community College Mission”(AR 3120, IV). In April 2008 a revision to Cabrillo College Master Plan Goal B, #4 was approved: “Promote awareness of the interdisciplinary nature of emerging trends, including global sustainability and

social justice”(Merrill, Michelle). Even this small change can cascade greatly in the favor of instructors pursuing curriculum development around sustainability.

Finally, the Community College Mission actually provides some programmatic flexibility to colleges, depending on the needs of those interpreting the language, and how well the basics are being met. The primary mission is to provide academic and vocational instruction to all ages at the lower division levels, providing Associates Degrees, and preparing students and the general public with community services, non-credit and remedial classes. Further down: “A primary mission of the California Community Colleges is to advance California's economic growth and global competitiveness through education, training, and services that contribute to continuous work force improvement” (California Education Code Section 66010.4 (a)). This part is tricky, because the ways in which market demands for labor are measured are fairly crude, relying mainly on broad industry employment numbers. In other words, the tools measure quantity instead of quality— rather nonspecific information about employment and economic outlook. Furthermore, these numbers are weighted more on present or recent trends in markets than on present or future mandates (involving for instance stricter air, water and energy standards and their impact on within industry). Finally, these numbers rely more on regional data than global trends, so this idea that community colleges are an engine for global competitiveness often falls short. President Obama often talks about re-skilling workers in sustainable technology fields in the context of global competitiveness. The department at Cabrillo that orchestrates career technical education, Career Education and Economic Development (CEED), perhaps may find it necessary to augment their measurement methodologies for research such that the forward-thinking proposals of the President can be supported in curricular planning and program development.

I think also that there is an opportunity for Cabrillo to encourage student entrepreneurs to develop green businesses. Conveniently enough, the Small Business Development Center is located on the Aptos campus (SBDC is the regional office of the federal Small Business Association). SBDC would work with CEED to develop funding formulas and curricula for sustainability and efficiency entrepreneurs. Business students might take interest in these kinds of applied projects, too. For instance, CEED could coordinate with the Engineering Technology and Construction and Energy Management to teach students how to retrofit houses to maximize energy efficiency and to recycle grey water for permaculture landscaping. Perhaps the

Horticulture department might want to join such an endeavor. It should be noted that there are new federal programs and tax incentives for homeowners to make these kinds of investments in their homes, after a push from the Obama administration. So I think the economic, political and cultural climates are right for entrepreneurial ideas to put sustainable practices into action, through educational institutions. And if a top-down approach does not catch on, then this example is yet another opportunity for students to connect the dots of their own resourcefulness.

The last part of the California Community College mission is as follows: “The community colleges may conduct to the extent that state funding is provided, institutional research concerning student learning and retention as is needed to facilitate their educational missions.” Using the above opportunity for interdepartmental coordination as an example, we can directly measure the success of student learning through innovative ideas by their applied outcomes in the real world economy. I am betting that to catalyze new relationships like this, it will take the effort of students to make it happen. So if the Sustainability Office idea proceeds with the success that I envision, the student learning and retention within its ranks perhaps can be measured in some way either by the Cabrillo Council of Instructional Planning or related groups, and thus promulgated as a viable model or methodology in curriculum planning.

Within the Instructional Planning process, relationships to other entities are given consideration, both within the college and at other educational institutions. For instance, within departmental programs, courses are weighted in their importance based on their status as requirements or electives, transferability, whether these classes overlap with other programs, or if they are offered at other institutions in the vicinity. Classes are also evaluated based on possible inter-programmatic collaboration. So perhaps it is favorable in these deliberations for a proposed class to be noticeably unique, both at the college and within the greater region. Then again, classes that are too obscure probably would not fit into the category of requirement. Presumably, new course proposals (as programmatic requirements) that compete with existing required courses are rare. So it becomes a challenge to propose an elective class that fulfills a certain niche. Student success and student surveys can help inform new sustainability course proposals in fulfilling these niches, especially if the work of the sustainability office is noted and respected by students responding to surveys. The sustainability office could also find it helpful to solicit feedback from students during departmental review and instructional planning. In this way, there can be a direct line of communication from students to the overseers of programs, and

an opportunity for students to participate directly in the curricular process and advocate for more sustainability courses, and more sustainability ideas within existing courses.

Articulation agreements are also an important consideration in course development. If a student is not certain about what their transfer destination is, they may be advised by counselors to take classes that meet IGETC requirements, making them transferable as lower division credits to UC and CSU schools. Classes may also be transferable to either CSU or UC within different areas of their own classification system. Finally, college classes may have articulation agreements with specific colleges. Classes may meet the transfer certifications for either or both institutions, and arranging these agreements hinge on the specificity of course objectives. For instance, it may be possible for the newly approved ES 50 class, Local Sustainability Research and Solutions, to qualify as either IGETC 4G (Interdisciplinary, Social and Behavioral Sciences) or CSU-Breadth D7 (Interdisciplinary Social or Behavioral Sciences), or UC-B (Social or Behavioral Sciences).

If a student is counting on IGETC certifications, then the student needs at least 3 courses from at least two disciplines in Area 4 (Social and Behavior Sciences). If instead they know that their destination is a CSU, the student requires again 3 classes from at least two disciplines in Area D (Social, Political and Economic Institutions). If the student is set on transferring to a UC campus, they will need four courses chosen from at least two of the areas UC-H, UC-B, or UC-S—respectively arts and humanities, social and behavioral sciences, and physical and biological sciences (Assist.org).

Once again, having articulation agreements from Cabrillo College courses to other institutions helps secure that the courses will be offered, but still it is no guarantee. As Michelle Merrill documented on her website in Fall 2009, in reference to the cancellation of the ES 50 class and her Anthro 19G class, “The reasoning for not offering these courses is that they are not part of the core curriculum - they are electives not currently considered essential for transfer, graduation or certificates” (Merrill, Michelle). So even if classes like these are able to develop articulation agreements for transfer, other classes can meet the same need and so in tight budget times cutting those units is justifiable to administrators. What remains most secure in the face of budget cuts, then, are classes that are part of the core curriculum for graduation— and most of these are within the purview of career technical education. This is more support to consult with the CEED Dean, Rock Pfothauer, about ways in which to incorporate sustainability into the

core curricula of these two-dozen vocational programs.

In summary, it is a bold and daunting effort to facilitate a shift toward holistic education that integrates ecological awareness into the classroom to “synthesize interdisciplinary perspectives on issues of ecology, environment and sustainability,” as the last criteria of the Ecological Literacy Studies proposal describes. We are both informed and constrained by the institutional mission of the California community college system and that of Cabrillo. Through the slow democratic process we can make small changes to the Cabrillo Master Plan to produce an institutional environment more receptive to a sustainability agenda, which may then serve as supportive evidence for curricular changes during program review and institutional planning. There are many hurdles, involving interpretation of institutional requirements and word-smithing of learning objectives in curricula to meet an extensive patchwork of classifications at Cabrillo and in articulations agreements with CSUs and UCs. There is nothing easy about this, but the goal is a noble one. To the proactive and visionary faculty at Cabrillo, the most capable allies to achieve an institutional shift (outside of the formal roles within the college) are students and community members in civil society. And these allies need only the right combination of incentives, knowledge of the process, physical and financial resources, social environment, and technical supplies to seize the moment and help to facilitate the academic sustainability movement at Cabrillo, starting outside but nearby the classroom.

Works Cited

Armstrong, Susan J., Richard G. Botzler, Susan Armstrong, and Richard Botzler. *Environmental Ethics Divergence and Convergence*. New York: McGraw-Hill Humanities/Social Sciences/Languages, 2003. Print. Environmental Ethics is an enlivened textbook that I thoroughly enjoyed reading. I especially found the chapter about Anthropocentrism to be useful for the purposes of this paper. Sustainability to a large degree is about making the economy more ethical, equitable and ecologically just. One might argue that, of necessity, the push for sustainability as the "5th wave of environmentalism" is inherently anthropocentric. Many define the term as the ability to "meet the needs of the present without sacrificing the needs of future generations to meet their own needs." Implicitly, these are human needs. So the Environmental Ethics chapter on Anthropocentrism was very helpful in contextualizing sustainability in my research.

"ASSIST Prompt Page." *ASSIST*. Web. 2 Feb. 2010. <<http://www.assist.org/web-assist/prompt.do?ia=CABRILLO&ay=09-10>>. ASSIST is an invaluable source of information for any student in the higher education system in California. It was especially helpful in my research about the difference between IGETC, CSU-Breadth and UC Transferable courses, their availability at Cabrillo College, and which classes articulate at which universities in their various programs. I was surprised to find out, for instance, that the Environmental Science class at Cabrillo articulates with some schools, but usually it does not transfer as required undergraduate work in Environmental Science programs at CSU schools. Weird.

Bureau of Labor Statistics. Web. 2 Feb. 2010. <<http://www.bls.gov/lau/>>, <www.bls.gov/news.release/pdf/empsit.pdf>, <http://www.bls.gov/eag/eag.ca_santacruz_msa.htm>. BLS provides information about unemployment rates all over the US. Most recent figures available were used (December 2009 or January 2010).

Cabrillo College. "Cabrillo College Catalog: Majors, Degrees and Certificates." *Cabrillo College Catalog: Majors, Degrees and Certificates*. Web. 2 Feb. 2010. <<http://www.cabrillo.edu/home/programs/>>. This source provided information about which Career Technical Education programs at Cabrillo College currently offer degrees and certificates. One can glean insights from this information about the opportunities that students have to gain skills currently, as well as the possibilities that have yet to be explored by administrators who approve new courses and programs.

Cabrillo College. "Degree Petitions." *Cabrillo College Home Page*. Web. 2 Feb. 2010. <<http://www.cabrillo.edu/services/counseling/manual/3.2.degreeandcertificatepetitions.html>>. This information was useful in defining what exactly the requirements are to graduate or receive a certificate from Cabrillo. Different curricular areas and the number of units a

student must take for their general education requirements are described. Knowing this is important for understanding how to incorporate sustainability into curricular design.

"Cabrillo College SLO Assessment Plan." *Cabrillo College SLO Assessment Plan*. Web. 2 Feb. 2010. <<http://pro.cabrillo.edu/slos/index.html>>. The wonderful world of Student Learning Outcomes... indispensable in the process of anything involving academic programs and curricular development.

Cabrillo PRO. *Cabrillo College Planning and Research Office*. Web. 2 Feb 2010. <pro.cabrillo.edu/pro/factbook/bogw_grant2009.PDF>. The Planning and Research Office is the warehouse of statistical information about Cabrillo College. I used their numbers to get a sense of the economic demographics of Cabrillo students.

"California Community Colleges mission." *University of California | Office of the President*. Web. 2 Feb. 2010. <<http://www.ucop.edu/acadinit/mastplan/cccommission.htm>>. Of all places to find the Mission Statement of California Community Colleges, it was easiest to find on the UC website, for some reason. This information is enlightening for anyone interested in exploring new curricular ideas, as the mission sets parameters for what is accepted and legally possible, while also revealing some context about the institutional purpose.

CAN. *Community Agroecology Network*. Web. 2 Feb. 2010. <<http://www.canunite.org/>>. Community Agroecology Network is one of the non-profit organizations started at UCSC. CAN came up in a search result of local non-profits in Santa Cruz. I thought to include CAN in the hypothetical story of the sociology student coming into the sustainability office, because the work that they do is practical and cognizant of commodities markets and the people on the producing end of the deal, who usually don't get a fair deal, and aren't able to grow crops in sustainable ways because they are competing in the "race to the bottom," as many fair trade activists put it. CAN helps farming cooperatives use sustainable practices and brings their coffee direct to market, giving the cooperatives a much better margin, and thereby reduce global disparities of wealth. I hope to see these kinds of eco-social ideas born out of a sustainability office.

Curran, Sheila. "Why Higher Education Cant Ignore Graduate Unemployment |." *Curran Career Consulting*. 2 July 2009. Web. 2 Feb. 2010. <<http://curranoncareers.com/higher-education-ignore-graduate-unemployment/>>. Curran cites Bureau of Labor statistics that might be alarming to students. Unemployment among college graduates over age 25 doubled in one year, from 2.4 to 4.8%. I could not find a measure for graduates under age 25. Curran suggests that Universities need to provide more resources for "career services." I agree, and I would add that supplementary to these services should be encouragement and resources for creative networking and entrepreneurship, and extracurricular opportunities to gain skills and experience that cannot be taught in classes.

CWEE. "Requirements & Syllabus." (*CWEE Requirements & syllabus*). Web. 2 Feb. 2010. <<http://www.cabrillo.edu/academics/cwee/cooprequirements.html>>. Cooperative Work Experience Education information and requirements is described in great detail here. The website is linked to from Michelle Merrill's website, where she describes the opportunity to earn credits by working on the college "sustainability assessment."

Environmental Careers Organization, The. *The ECO Guide to Careers that Make a Difference Environmental Work For A Sustainable World (The Environmental Careers Organization)*. New York: Island, 2004. Print. This book is a fantastic resource for students who want to participate in the economy to make the world a better place. I found the introduction to be a concise reflection of many of the readings in the Environmental Ethics textbook. I used information in the book about the workforce assessment that was created for the EPA which defines 10 skills desired for professionals in environmental fields, to drive the point home that many of the characteristics of hireable workers are not teachable. Some of these qualities really can only be attained through creative thinking, initiative and attendant leadership experience. Throughout the paper I return to the idea that if students want to take command of their lives, excel in meaningful and fulfilling careers, and do their best to improve the world, they may find it necessary to combine their curricular and extracurricular efforts to achieve these ends.

GIIP. *Global Information Internship Program*. Web. 2 Feb. 2010. <<http://giip.org/>>. GIIP is a program that I was once actually enrolled in at UCSC. Part of the reason that I transferred to Cabrillo from UCSC is that I did not have the technical knowledge at the time to participate effectively. Without basic skills in XHTML, I found myself spending more time trying to understand code than using it as a tool to participate in the "Boomerang effect," to harness the power of transnational organizations and social media to bridge the digital divide and help communities in developing nations to "leap frog" into an IT world and make the economy work for their benefit, rather than to the detriment of their communities and the natural environment they depend on. Still, the program has a lot of potential, now more than ever because the "web 2.0" platforms are easier to use. What strikes me the most about GIIP is that the program is so free-form and potentiate as a vehicle to affect positive social change beyond borders. I think that bringing this program to Cabrillo would be amazing, and if it will ever happen, it will be to the credit of some very practical, yet unconventional students and faculty advisors.

Merrill, Michelle. "Michelle Merrill's Cabrillo Anthropology and Sustainability Site." *Cabrillo College Home Page*. Web. 2 Feb. 2010. <<http://www.cabrillo.edu/~mmerrill/sustassessment.htm>>. Michelle Merrill advertises to students the opportunity to earn academic credit through CWEE for working on the Cabrillo College Sustainability Assessment. This is an important piece of information, as it demonstrates the willingness of instructors to work with students on applied sustainability in a non-traditional academic setting, as peers with staff and faculty.

Rising International. "Welcome to Rising International." Web. 2 Feb. 2010. <http://www.risinginternational.org/new_page_bases/homepage.html>. Rising International is another non-profit working on global equality, fair trade and social justice by providing an online venue for the most vulnerable women in the world to sell their crafts. I was happy to see the organization come up on a search on idealist.org, for the purpose of the hypothetical story. The organization first came to my attention during the holiday season, when I was shopping for gifts and I found a shop downtown that sold only hand-made direct to market crafts brought to Santa Cruz by travelers with connections to Rising International.

"Santa Cruz rents drop to pre-2007 levels, but still rank highest in state - Santa Cruz Sentinel." *Home - Santa Cruz Sentinel*. Web. 2 Feb. 2010. <http://www.santacruzsentinel.com/ci_14244675>. I set out to define the economic plight of Santa Cruz residents, remembering that I had read in an SC Sentinel article in the past year that Santa Cruz County had the 5th highest cost of living in the US. I couldn't find that particular article, but I did find information stating that Santa Cruz rent is the highest in the state.

Steffen, Alex. *Worldchanging A User's Guide for the 21st Century*. New York: Abrams, 2008. Print. WorldChanging started with an innovative social media website in which users chronicled global transformations around convergences of way more than just ecological emergencies, information technologies and thoughtful design for sustainable economies, agriculture, cities and developing nations alike. I could spend a year pursuing each idea in the 500+ page tome. But narrowing the scope and borrowing a term to describe a paradigm was my goal in this reference. The chapter on Social Entrepreneurship is mostly dedicated to microfinance programs around the world, the most notable among them being the Grameen Bank, named by the founder Muhammad Yunus. An economics professor from Bangladesh, Yunus redesigned and redefined the system of aid as lending microloans to entrepreneurs who could use the money to develop small businesses to improve their lives and upgrade their living situations. What was revolutionary about this is the bottom-up approach, whereby people would vouch for each other and there were no middlemen. It is an economy designed to build social value and integrity.

"TGIF | UCSB Sustainability." *UCSB Sustainability | Leave No Footprint Behind*. Web. 2 Feb. 2010. <<http://sustainability.ucsb.edu/tgif/>>. The Green Initiative Fund (TGIF), now instituted at 9 universities in 3 states (that I know of) is a revolving fund generated by student fees specifically for projects that reduce the campus ecological footprint. The model at UCSB generates about \$182,000 annually for the fund, which is controlled by a committee of undergrads, one graduate student, staff and faculty advisors. Projects have worked on energy, food, water, compost, junk mail, hazardous waste and so forth. Students are excited to do these kinds of projects for free or for stipends that would not be possible to accomplish by paid staff or consultants with the same budget. I think this

model is brilliant. A campus sustainability office would take advantage of this model.

Wagner, Elissa. "Sustainable Cabrillo Ecoliteracy." *Cabrillo College Web Site / Karen Groppi*. Web. 2 Feb. 2010. <<http://www.cabrillo.edu/%7Ekgroppi/SustainableCabrillo/ecolit.html>>. I realized the value and practicality of the ecoliteracy requirement proposal while researching and composing this paper. The more I read about the process of development and approval of classes, the constraints and the time involved, the more this strategy seemed like a graceful and efficient way to affect change across the whole academic community, rather than in a piecemeal way within each class and program. I sincerely hope that enough support can be won to institute the new requirement.

Young People For. Web. 2 Feb. 2010. <<http://yp4.org>>. YP4.org is the home page of Young People For, the "open source" social entrepreneurship internship program. Students draw up "blueprints" on social justice issues, and benefit from funding, peer support, and advice from staff and past fellows to accomplish their objectives. YP4 then serves as a sort of warehouse of information available to anyone so that initiatives may be duplicated elsewhere. A sustainability office would be modeled on this arrangement.