

Sustainable Transportation on Campus and in the Community

Keynote Address: "Assessing Campus Sustainability While Teaching Sustainability:
Integrating Academics and Operations"

Mark Stemen, California State University-Chico

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We'll see how this all goes. My name is Mark Stemen. I'm the coordinator of the Environmental Studies program at California State University Chico. I want to tell you, before we get started, a little bit about Chico for those of you who may not know about it. Chico is 70 miles north of Sacramento at the base of the foothills at the junction between the Sierra Nevadas and the Cascades. We have Big Chico Creek, which runs, actually, right through the middle of our campus on the way to the Sacramento River. We have an 8,000-acre ecological preserve upstream on Big Chico Creek that we use for a living laboratory.

And we've done quite a few green things here, and usually when you get to a situation like this, you've got to break out the lists: so we signed Talloires, we have a Gold building on our campus, we're in construction of the first Gold building in the CSU system. We're battling with Humboldt, our traditional rival, over a technicality; so- we've lost football so now we've moved into green buildings. We have three more in the pipeline. The president has decided he's going to have a walk of Gold, we're going all Gold buildings on campus, and we've jumped the Silver barrier into Gold. We have an endowed professor in environmental literacy.

We are the first school in the nation to carry a line of 100 percent organic collegiate apparel. We called it the Pride without Pesticide campaign. We have an awesome recycling program with a 50 percent diversion rate. We sponsor a number of different projects, one of them is called Diversion Excursion. It's a residence hall move-out program where we collect all the things that first-year students throw away as they leave for home, and we've connected that with the Health and Human Services Department on our campus.

There are plenty of opportunities to integrate academics into waste management. One example that we have to share with you is what we call the Littered Landscape Photo Contest that we do with the Art Department. It's a straight up photo contest, but it's all illegal dumping, to raise the issues of illegal dumping and that makes sense. As I mentioned, we won a P3 Award last year for a student project on renewable energy in a Sociology class that was studying the social barriers to renewable energy.

We've completed a campus sustainability assessment as a class, that's what I'm going to talk about a little bit today. We're part of the Green Campus Movement. We have a student run library- an environmental library on campus apart from our main library called The Environmental Resource Action Center, and they do a lot of educational work and a lot of programming.

A lot of schools celebrate Earth Day, or maybe you get a little aggressive and have Earth Week, but at Chico State we have Earth Month. We did 62 events in 30 days last year. It was a rock concert more than anything else.

And to really tease the people up here in Idaho, we have a native salmon run that goes right through the middle of our campus and they'll start spawning next month on campus.

So, for you students, if that's not enough to transfer to Chico State, I'll also point out we're home to Sierra Nevada Brewery. I do have application forms in my bag.

I'm here today to talk a little bit about integrating sustainability and academics. I'm, in some sense, to be the glue to hold a lot of these discussions together. And, I think I'm going to follow along with Matt and talk about a lot of the unanticipated benefits of using the campus itself as a vehicle to talk about sustainability.

We've heard about sustainability in buildings, we've heard about it in transportation- I think it's really important to point out to the facilities staff people that are in the room, that facilities is doing a much better job on universities and academics in getting sustainability as part of the university- so, a hand for you as well in all the things that you're doing. And I think it's a really important thing, when we're talking about green buildings we use the term "healthy buildings." Because I think it's important to remember that we're really talking about the greening of a campus as a means to an end, it's not just to have really neat buildings but actually to create a more livable and sustainable world and that's mainly for the people on it, so not to drop people out of the equation. So, I think to do that we need to reorient what we're teaching, as William McDonough said in one example, "Design is the first signal of human intention." And, sustainability is really about remaking the human presence on Earth. We face resistance to this, on the outside, as we know. We also face a lot of resistance to that internally. As one of my colleagues once said, "It is much easier to change the course of history than to change a history course."

And so I'm here today to talk about the experiences that I've had in integrating sustainability into the curriculum- keep laughing, keep thinking about that for awhile, take that back to your- and much of it comes through my work with others as a service learning faculty in residence, teaching service learning. So I'm going to talk a little about service learning as well. And this was evident in things like the P3 grant or Diversion Excursion. In the breakout session this afternoon, I'm going to be describing a project which I claim is the frontier of possibilities in service learning that uses campus elections as a vehicle to change the campus learning curve, to encourage the students to come and get subversive and maybe in a little bit of trouble. Administrators can go to the other session if you'd prefer.

But what I'd like to do now is, I'd like to talk about all of this context of integrating sustainability in college classrooms by using a very specific example, rather than a general one. And I'd like to describe my efforts to use two classes to assess campus sustainability and to track our sustainability on campus. What am I going to push? Okay, cool. As I like to joke, power corrupts and PowerPoint corrupts absolutely.

So here we are. And we did- we completed a sustainability assessment- I have a slide and I also have a little picture of it here so you can come up and see it, if you'd like to, afterwards. We entitled it, "Decisions for a Sustainable Tomorrow," we released it on Earth Day this year, and you can view it, if you'd like to download your own copy at our website slash BEI, which is Bidwell Environmental Institute. And, we took the title from our motto- the school's motto is "Today Decides Tomorrow" engraved over the doors of the Administration building. And we'd like to point out that the Administration building; it's important what we teach today in the learning for tomorrow. Good.

This is part of our campus greening efforts. We embarked onto the mantra, "What gets measured, get done." We really needed data for our efforts, and we needed

some benchmarks to set the targets. We really needed a common starting point. We had a great, campus wide discussion that happened all across campus as something to be thinking about.

So, here's what I did. I put together a yearlong project for two existing classes. I designed it as a service-learning project. The class-based project not only helped the campus, but I think it really improved the learning experience. It's said that we retain 80 percent of what we do, but only 10 percent of what we hear, and even less right before lunch, so we'll see how this works as well. But really what this was was to use two classes; we used Geography and Environmental issues- a General Education class- straight up GE class- and then a seminar in the geography department, which I teach.

What we did- and here's just a picture- this is often referred to as the administrator's page. What am I supposed to do with this document? It really very clearly tells you what it is. What we did was we measured what Chico was doing in sustainability on a number of indicators, which I'll get to in a second. We compared it to a number of campuses and then we came up with some ideas and some opportunities for sustainability.

It started in the GE class. Here's my students. I always like to give a "props" to them for the things that they did. They stood- they collected the initial data for our sustainability assessment, and then drafted an initial report. Second semester, then, I had the graduate students seminar and senior students to bring the two together and here's a picture of grad students and seniors working together. They checked the facts, they made recommendations and then the graduate students got together and they actually drafted the initial chapters that go into the report. And then they all got together and gave a presentation at a campus wide forum to further integrate this with- get the word out with the campus community. Here's what we looked at. We looked at energy, water, waste, purchasing, transportation, health and safety, learning and governance. There were teams of students around each of these topics in the large GE class of 45. I was able to put six people to each topic- five to six- and then the smaller seminar was two to three. So they went out and researched all of these areas, collected the data and brought it together.

To do this, I also hired a consultant, Josh Skov at Good Company. I encourage you, if you're interested in something like this, to definitely give a thought to a consultant. I knew I was going to be really busy at the end of the semester, I also supervise a number of graduate students. Spring semester's all about theses defenses. So the consultant was charged with organizing the data that we all collected and then producing a final report. But, I also think it's really important because the consultant made the facilities people very comfortable for process. Let's be honest, I'm a faculty member, I make them nervous. I talk in Latin, I have weird behaviors and attitudes. This made them really familiar with- they know consultants, they don't know about faculty, but they understood consulting very well. So it made it easier for them to understand. And they produced a really bright, shiny report which is fairly conventional in that respect, not some academic article or something like that. So it was helpful. It also worked really well to get buy-in from the administration, and I am very lucky in Chico to have the support of top administrators. The VP of Finance and the VP Academics both sponsored it and we open it with a letter jointly from them. The top level support also helped with the documentation collection, because there was no question about whether

or not we were supposed to release this proprietary information about our campus. So it went really well.

So what I'd like to do now is just briefly share with some interested faculty and others a few lessons that I learned about this. And I think the first lesson that is most important is that it can be done. The sustainability assessment can be done as a class project. I think the students collected a lot of good information; they went back when they knew what they didn't have and would go back and look for it. Now, working with students you do realize that they have their peculiarities, so they need some firm direction, especially in business sense and protocol. And I think the biggest problem that we had was that they need to be respectful, they need to take notes, they need to say thank you when they left- but scheduling was a huge one that I didn't foresee coming up here, so I want to pass on a lesson learned. Students and staff schedule at different paces. Staff it's usually couple weeks out, students it's usually a couple days, or a couple hours out. And so they'd go in and they'd ask, "Can I get an appointment?" "Yeah, can you come back next Tuesday?" "No, it's due tomorrow," and so it was really important that in the graduate seminar the very first thing we did- their first assignment was to make an appointment. They didn't know what they were going to talk about but make the appointment now so that when you finally know what you need you can go from there.

Second thing that we learned was that there- what I would pass along to other people is that it is possible in a single semester. I thought the year worked well, but if two classes were good but you could do one. I think the seminar worked really well and if you're thinking of doing one semester I'd encourage you to do it in a seminar. But I'd really like to point out that the GE class allowed me to involve students from off the street. All the students in the seminar were students that I know or had heard about me. I got a whole bunch of people that had never seen me before and I got their friends as well because when we started on the project, they wanted to tell everybody else what was going on, so it really expanded it out. I do, however, really encourage you to do it in a year. Get it done- that was our biggest goal. The first thing we did was set the publish date because we wanted to be done in a single calendar year because there was a lot of talk about it on campus and if it never ended, you could always come back and say, "Oh, you're still doing that?" "No, we're done. Now, we're ready to move," so, to think about that as well.

There is great academic benefit- I believe in doing a sustainability assessment, and teaching sustainability while trying to assess it as well. It really deepens students' attachment to campus life, as opposed to what I think Chico, and also here in Moscow, is called "college life." It really deepened them to their campus and they got to know more about what was going on. I gave them a really extensive set of reading around this, listed here. I have more if you're interested. The academic- the assessment made the academic issues real and alive. As they would read this stuff it really made sense with what they were reading about on their own campus.

I pointed out that we did this as service learning and I can talk more about service learning if you're interested, or if you come to the sessions this afternoon, then I'll talk more about it with the other things I discuss.

But one of the things that's really important about this is the second to last one- reflection. That they wrote about what they were doing and the stuff that they were reading and they really were thinking about it, so they wrote at every stage. They wrote

when they got their questions to ask, they wrote when they got their answers back, they wrote when they got their memo. Separate from the answers and memos, just what was going on in their head and how did that connect with things that they're reading. And it really led to some key insights that I'll get to in a second. But back to the administrator's page.

One of the things that we did first to really make these real, was the students in the GE class had to go home and research an environmental issue from their hometown and describe how it was going to affect them personally. And it's not just "global warming is a bad thing, we don't want to do it," it really gets serious about it. How does it affect you? The story that I like to tell is that, "If we keep putting off CO² in the atmosphere, it's going to lead to climate change, and it's going to heat up the Midwest and my uncle has a farm and it's going to get harder to make his farm work and he's already struggling as it is and he's going to lose his farm and he's going to move in with his brother. That means he moves in with us and I lose my bedroom. This is serious."

Those ideas then got changed into that first part which is, why does that indicator matter? And, I think that's one of the big questions that a lot of people have when we're starting to look at these things- "Well, why does it matter?" And that really made it matter to them.

This, then, led to second section that I wanted to talk about which is, then, the reflections down here. When they started thinking about this and writing about it, and sustainability, and then looking at the university and then reading about sustainability and looking again at their university, all of a sudden they go, "Wait a second. This isn't the same." The opportunities and ideas that could be changed on the campus was not sustainability in the same sense as in the readings that they had. It was much further than that. But we knew we couldn't go too far away or we'd get really paranoid. The administration's nervous as it is- if we start suggesting some true sustainability, then they're going to start running away.

So we came up with this whole new section out of the students' own reflections. We're going to have a pie in the sky. Because one of the things we need to do in sustainability is really to take our flag and run way out in front and stake it out and say "This is where we're headed." So then the question is, if we're going to take 10 percent or 20 or 30 percent of renewable energy. Well, for energy, it's 100 percent is going to be sustainability, and that's where we have to go. So energy was all from renewable sources.

Water- no more water than falls on university lands.

Transportation- if emissions from our fossil fuels would be included in our greenhouse limit, which we will cap at climate neutral, so if we still continue to burn fossil fuels, we're going to have to figure out offsets and credits to balance out on that.

Materials and waste- no virgin materials used in construction, only materials from someplace else.

Purchasing- this gets back to McDonough, how this relates to waste- is nothing that we bought could not be recycled, composted, or otherwise 100 percent reclaimed, and ...

Learning sustainability will be integrated into all degrees and all programs. Now, those are all pies in the skies and even though I have that list- salmon and all that other

stuff, we're still decades away from all that stuff, but that's where we're headed, and I think that's what we need to think about with sustainability.

And also in this process, it also forces us to change our mindsets, and just go back to parking, the recurring theme of the deal, is at Chico State. Actually, when they did the parking survey they found out we had the worst ratio of parking to students in the state- .15 slots per student, which is half of what Davis has, which is the leader. So what we had to do was change the mindset, and the end of the survey, we had the best ratio of parking to students by saying it was 1.5 or .15 ratio.

All right. Sounds wonderful, right? I want to be honest, not everything works. And one of the things that we found out when we're talking about sustainability is that Environmental Health and Safety is an interesting lot. Wonderful people. But they are in some sense compliance driven, different than the others on the campus. We really had trouble with this section. We'd go out and ask people, "So, what is your method of handling hazardous waste?" "We comply with the required policies." "What is your method of reducing the amount of toxins on campus?" "We're required- we follow the required policies." "What are your processes of limiting the amount of exposure?" "We require the policies." It was really all coming back with, we comply with all existing regulations. Assessment is a vision thing. And the responses in that sense were fairly uneven to the other indicators, so Environmental Health and Safety was left out of our report. It was a big blow to us and a major disappointment and it's something that we're looking to rectify now with Health and Safety. But an important point to point out to you if you're thinking of doing this- it didn't cripple our assessment. We still published, we're still moving, we have something now to deal with, but things will go wrong and you can continue. So, our Environmental Health and Safety people are now trying to figure what is this vision thing we're trying to do and work with this as we're going to.

I told you I was going to tell you some unintended consequences and I think the most pleasant finding that I had was, as Matt pointed out, the assessment was a vehicle that stitched our campus together. I'm assuming, I haven't spent, what, five hours here at the University of Idaho so far, but I sense that it's much like the same place- that staff really are secondary to the activities, at least on our campus- even activities that are campus wide. If we have a campus wide diversity initiative, that really doesn't have anything to do with staff, and they are often seen as a separate part of the campus. What the sustainability assessment really did was bring them into the fold and in some sense, bring them to the heart of the center of what we're trying to do. The enthusiasm of staff was just infectious. One got excited about it; they all got excited about it. And what happened was a transformation of our staff - that they saw themselves as experts. We purposely took students, gave them questions, sent them to go to staff to listen. Not to talk, not to complain, not to argue, but to listen. And it was powerful on our campus. Which- this really got the attention of the VP of Facilities, that his staff was energized. I had one staff member come up- we have, in California, a very nice early retirement program, and he was prepared to get into it and he goes, "I changed my mind. I want to stay. This is now fun again." And so it really changed our culture of our campus and we've become far more integrated in the things that we do. And I just point this out that afterwards we talked about it and the VP of Facilities goes, "Gosh, I could have used staff redevelopment funds for this." Because it really was empowering. The... I can hear them out there joking about it- that was the sense that I had about this.

So, I want to conclude there with this, that's a conclusion there, cool. Oh, I got to tell you, this is the [inaudible] plant (referring to slide.) This is Bill and Bill lives in this building all of his life, he never sees the light of day, but he got to share, and we went around, and it was wild. I had never seen some of this stuff, and he got to tell us all about it- he knows every single bolt and nut in that room and can describe them. And it was just a really exciting time for him, a really exciting time for us and we had a great time, and we did this over and over and over across the campuses. So, it was fun to do.

Where are we now? We've done a lot of things, one thing I think is really important about doing this in a single year is that as soon as we came back it was before we even left. It was like, "What's next? We're moving fast. Where do we go from here?" "Well we have a website," "Yeah, yeah, yeah," "We have a committee," "Yeah, yeah, yeah, yeah, yeah." But what we're really trying to do is simple measures. We're trying to create a position of sustainability coordinator, which has been very interesting because now, this would be the position everyone would have run from and now everyone's fighting for. Who gets to be the home of the sustainability coordinator? We are the Chico State Wildcats. Go Cats! So what we're trying to do is a series of projects out there and one of them, you kept saying the ecological footprint- well we at Chico State are going to reduce our "paw print" on campus, and so we have a project there.

We have the Green Campus Program that Matt described and we have a group in there that's called the Power Cats that go around and simply turning off lights. So many lights left on, on the campus.

We're producing a guide to sustainable living produced by the students in the Green Campus Program, saying "Okay, what does this mean for students and student money?" One of the students- a graduate student who was on this- and again, we continued to make it part of the academics, she was able to step forward in the facilities meeting and was comfortable enough now in saying "Okay, this didn't blow up," one of the things we joked around- they were very nervous, but at the end we were able to come back and say "We did not find a toxic waste site on campus. We also didn't look at the residence halls or student dining, but- we'll leave those for later." He got comfortable enough with us now that he took one of the graduate students, so now we're moving to a transportation study. We needed- before we even got to the consultant- some campus scoping, what do we have already, what do we need to do, and that graduate student is leading the campus study as part of her graduate thesis work.

This semester the undergraduate class that you saw that started the process has now picked up at the end. I've taken this, and it (the assessment) is the assigned reading now. Everyone in the class has to read this and the class now has to break up into groups and attack the ideas and have the opportunities to really flesh those out as they go.

And just last week, we had a campus wide environmental summit called by the Provost for any faculty to attend and it's all focused on curriculum and what he has done. Because this is so successful and he's seen how it's reenergized people's careers. I had another colleague with the same type of thing, "I was coasting to retirement, and you ruined it." And now he's going back and seeing that this is a way to really unite campuses and the campus community. The Provost is now giving money in summer scholarships to anybody who wants to come to our summer institute to redesign a course, they get release time and pay.

But I think the thing that's been most exciting to me is that at the same time as we were doing the sustainability assessment, we were doing our draft campus master plan. In California you have to do these every 5 years whether we want to or not and we were in the process of revisiting this and the questions of sustainability. And we started out with four primary goals on our campus for the master plan, and by the end of the process, we had five. Campus sustainability is now integrated into our campus master plan, and I couldn't be any happier. So, thank you very much. Hope to have opportunities to talk to you about this, but the last thing I want to do is stand between you and your food, so thank you very much.