Open Badges Case Study
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Working Document

University of California, Davis
Sustainable Agriculture & Food Systems (SA&FS)

Learner Driven Badges
http://asi.ucdavis.edu/students/about-major
The Sustainable Agriculture & Food Systems Major (SA&FS) is an interdisciplinary offering for undergraduates within the College of Agricultural and Environmental Sciences, developed with support from the Agricultural Sustainability Institute (ASI) at UC Davis. This new major is designed to help undergraduate students gain a diversity of knowledge, skills and experiences using traditional and nontraditional teaching methods, including hands-on experiential learning techniques. As one of the 30 winners of the Badges for Lifelong Learning Competition, the ASI is also developing a badge system for validating experiential learning that aligns with core academic competencies and program requirements. The badges enable students to better communicate their skills and competencies to faculty, peers, and potential employers, and are designed as a supplementary credential.

To capture these varied learning experiences, SA&FS designed a badge system that promotes work on core competencies and program requirements while supporting students' individualized learning and achievements. The goal is to explicitly encourage students to discover and recognize learning in all the contexts and spaces it genuinely occurs. Through the process of documenting the products of those experiences, students reflect and build awareness, and thus engage in a cycle of competency development facilitated by portfolio and badging activities. The system also aims to support the building of learner identities and communities among the students and their greater community of practice.

Early challenges to building the badge system were related to getting the appropriate technical components in place that would accommodate the diversity of assessment methods and materials being used. This badge system aims to focus on the process of earning a badge, rather than the badge itself, so that students understand

**Main Goals of This Badge System**

- To support learning that occurs both in and out of the classroom.
- To be student-driven and outcomes-based, and to improve the quality and frequency of interactions between faculty, mentors, advisers and students.
- To help individuals track their progress over time, and give students and instructors a more comprehensive view of student growth and development.
  - To promote different models of teaching and learning that lead to high quality, meaningful, badgeable learning experiences and artifacts.
  - To provide an elegant, achievable, scalable model for implementing competency-based education using the principles of connected learning.
Lessons learned in developing the badge system:

- Make the user experience a serious focus of the design.
- Faculty adoption is key; make it desirable and rewarding for them to use and consider structural barriers in your design process.
- Invest in creating a shared vision and strong team across technology, design and content from the beginning.

Tell us about your badge system. What were your original goals for your badge system, and how have they changed as you progressed?

Our main goal in developing a badge system was to support a learning process that is both student-driven and outcomes-based, and to support it in a way that helps faculty, mentors and advisers interact effectively with students and create a learning community that can foster dynamic and networked experiences for everyone in the system.

The idea behind the SA&FS program was to create a system that helps individuals track their progress over time and beyond the traditional grading and evaluation system contained within the course structure. In doing this we hoped to provide students with a more comprehensive view of their growth and development and support them in the creation of an individual portfolio of work and collections of badges.

These overarching goals for the project have not changed, though the schedule for accomplishing them shifted into initial and continuing phases as we progressively overcame challenges and gathered feedback.

Something that distinguishes our program is that students have an active role in defining the criteria for the badges they attempt to earn. While there are certain badges that represent identified “core competencies” and include some program-related requirements, the criteria for all the other badges in the system are not defined. Anyone in the system can design a badge and then develop criteria for that badge. Faculty might create them for their courses or programs - students might design new badges to recognize and reward the learning that interests them most, whether that's in their electives, internships, or another meaningful learning experience.

This self-publishing aspect of the system is moderated by the program and the learning community at large, while allowing students to gain recognition for badges they've earned. It also recognizes contributions they've made to the curriculum by creating badges for other students to earn. We are creating opportunities for feedback and assessment not just when students are trying to earn a pre-defined badge, but also when they are submitting a badge design to be “published” to the system. This assessment will become increasingly refined as the system develops. All of this allows us to continually design and define new badges for our system according to the skills and learning students want to represent.

Tell us more about the process of creating your badge system. How did you get started? What are your next steps and goals for the future?

We aren't using the badges yet - we just started using the portfolio system for the

Continued on page 4...
first time in our capstone course. It was important for us to get students used to the system itself first - but from the beginning, we saw the power badges could have in allowing us to change the way assessment could be done. Instead of a person who looks at all the criteria and checks it, or a computer that scans, there is now a way to have a mixture. We’re just beginning to address how we might do that, and we need to bring together a lot of great minds to really do this piece well, but I’m starting to believe this might be the most transformative part of what we’re doing here, so I think it’s worth investing the time and effort in getting it right. If we do, it could be something really interesting indeed. How cool is it that we could have a mix of peers, faculty, and certain analytics from the system that captured information over time?

Right now we are completely redesigning our portfolios to be more like a roadmap of the students’ experience, with the user experience at the forefront of our thinking. We’re developing new features where the viewer can sort, filter, and generally adjust different elements to view what they want to see in the portfolio or roadmap. For example, if they want to see pieces that had a lot of faculty feedback, they can adjust settings to see those examples. We also have students self-assess all the program-level learning outcomes across every learning experience, so they could view their portfolio through the lens of where they felt they developed the most in terms of interpersonal communication, or the experiences that didn't seem to help them very much with system thinking. That's also a pretty powerful tool for us in terms of evaluating our program from the students' perspective.

Given the way we are licensing and designing our badge system, people can take it and re-fit it for their own contexts. What that requires from them is doing some offline work first. Figure out what they’re trying to help students achieve in their programs—which skills and competencies you want them to develop. You don’t have to have all the answers right away, but make sure you have a couple of examples to start with.

Everybody can think about what learning objectives they have for their programs - that's not a technical question - but it's a precursor to being able to effectively establish criteria for badges.

We focused our badging system on the process of earning a badge, rather than the badge itself. We want students to understand that it's about the learning, not the earning. Our badging system is directly in line with John Dewey's thinking that learning is not so much about the experience - we know that learning happens everywhere, all the time, it's in the classroom, in the field, with an organization and so on - but rather, it's the quality of the reflection the student has in response to that experience.

Looking at some of today’s most interesting ideas about teaching and learning, it is important to us to give them a context that’s based on what matters to them and bringing students into a reflective space, where they're ready to make connections and internalize knowledge. That’s why, in our system, it’s up to students to choose which experiences are relevant and to make sure they get recognition for what matters to them. I think it’s what makes the reflection meaningful; it’s what connects them to their experiences in deep and lasting ways.

What challenges did you face in this process? How did you overcome them?

Truthfully? We had to build our system twice. We had to go back to the drawing board on some aspects of the initial system, sticking with those features we identified as fully functional and desirable and changing or replacing those that didn't work. We've built the current pilot program to test the system without issuing badges, to get students used to it and to gather feedback. But it's a buggy prototype system - some students were writing so much for assignments that the program couldn't handle it. Error messages, other bugs:
there were lots of technical problems that our students had to deal with, and we had to mediate a lot of that. That's what user testing is about. We're still not there yet, though our developer is a miracle worker to have brought us so far, so quickly, this second time around.

Also, I was going to teach a course this quarter using the badges in the portfolio system, but it's still too new. I realized the system wasn't ready - and neither was I. The students are just starting to hear about it, so they weren't ready either. We're planning to go ahead in the spring now and I think it's absolutely the right call. I keep wanting things to move faster and be figured out, but then I realize: we're a really small team right now, and our vision and expectations are bigger than we are. I feel like the next smart move is to recognize that we may be on the verge of expanding the system; we should direct resources towards that and work out the problems as we go instead of getting overwhelmed with making it perfect for a small group of students right now.

We'd been developing this major for over a decade and thinking about experiential learning programs long before the DML Competition even came about - for four decades, if you look at the whole program here. Experiential learning is a real strength of ours at UC Davis, having this amazing 40-year old student farm and incredible facilities and programs where our students are really learning differently. It's kind of an amazing place here. The competition and grant gave us a way to develop credentials for all the different kinds of learning we want to recognize as we developed the program.

To be honest, badges were a totally foreign concept to folks around here, and for a long time it remained that way, even after we won the competition. I think we all believe the same things about education on our team, but how did badges fit with that? But over the last six months we've seen a shift from skepticism to intrigue, and that's grown to the broader university community. Now, even the latecomers are getting on board--one's developing a whole set of modules that are badgeable - and I have learned that sometimes you just have to let an idea find its right time to emerge. I haven't really pushed people into this because I figure natural curiosity always finds its way to a good idea, and it's a good sign to me that I'm getting it right if I don't have to do a lot of arm-twisting in the process. However, I wish I was putting more time and effort toward including those stakeholders who are curious in the design process. I've got a lot to learn about how to do that more effectively, especially as the stakeholder group grows or changes.

How has your community reacted to the implementation of badges? How will this feedback affect your future involvement with badges?

It's funny to admit this, but for the first 18 months, I didn't even want to talk to students about badges - I thought, they were going to think this was so lame! Especially because some of our students can be pretty counter-culture - so badges, really? I was embarrassed, thinking they were never going to want to use this - how was I going to sell it to them?

Now, I have students approaching me about being able to see what other stu-

Continued on page 6...

NEXT STEPS INCLUDE:

- Piloting the badge system with students and debugging the system to improve the user experience.

- Getting students to think about what learning objectives they have for their programs - a precursor to being able to effectively establish criteria for badges.

- Tackling the assessment question: determining the right mixture of self, peer and expert assessment for any given badge, and the system as a whole, and how to harness the technology to take assessment to that next level.

- Exploring design prototypes for the publicly viewable portions of system (via the badges) that show the right level of information to badge consumers but allow them to explore further if the student has made the content available.

- Redesigning the learning portfolios to be more of a roadmap of students’ experience, with the user experience at the forefront.
Students have done, wanting to use their peers' experiences as a resource to help them plan their own learning pathways, though they wouldn't use those words of course. I recently had a student come to my office and say, “it would be really cool if there were some way we could find out about things students have done, and search to see internships and opportunities others have had.” We haven’t really rolled out the system, so most students don’t know about it yet. When I showed her a sample portfolio on our web platform, she said, “That’s beautiful, that’s so cool, I can’t wait to use it!”

We need to recognize that people are born wanting to learn. In the formal learning environment, once an individual realizes that their interests are going to be honored, and they’re going to be given a space in the community where they have a voice, it just works.

Students are coming up with ideas for what they want that perfectly map onto what we’ve designed for them - that’s how we know we’ve got it, and we’re on the right track.

We need to recognize that people are born wanting to learn. In the formal learning environment, once an individual realizes that their interests are going to be honored, and they’re going to be given a space in the community where they have a voice, it just works. That natural learning switch just gets flipped. When you run against that, it’s at your own peril. You’re running against the natural motivation of your learner. If we want students to learn deeply in scholastic settings, we have to recognize these principles.

If you knew then what you know now, what would you have done differently? What advice would you have for someone thinking about implementing Open Badges?

Throughout the process we have asked ourselves what we would do differently, and most of it has to do with starting from a user experience perspective, and making sure to include the faculty user experience in that thinking. We made certain assumptions about the faculty’s willingness to deal with a less polished interface and a clunkier, back-end experience. Given the demands on their time, that didn’t turn out to be a fair assumption.

I have zero regrets about our system or how we developed it. We had to build our system twice - but I learned how to be a UX designer! Or at least how to think like one, and I’m very grateful for that.

I had to do a lot of convincing when it came to the badges, but in the end saw my team members move away from skepticism towards interest in how badges fit into our view of experiential learning and recognition. If you’re faced with skepticism, focus on the “big vision” - the global, international, crossing-borders stuff that badges can facilitate or play a part in.

Ultimately, stay focused on why you’re doing this - go back to those learning objectives you started with, and make sure your badges are developing out of those objectives, not the other way around. To borrow a phrase from Mozilla - it’s about recognizing learning that happens anywhere. It’s about the learning, not the earning.

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For More Information:

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