

Transcript: **The Backstory: Participatory Design of a (Today and) Future Digital Entomology Lab**

Pursuing Difficult Fun

Instructional designers have to find their fun where they can get it. And sometimes that means encouraging a grant principal investigator (or PI) / faculty member to pursue grant funds to chase work that is well outside of one's area of expertise, his or her area of expertise, and a little beyond the known "proof of concept." Stepping out in this way is an act of risk on all sides, and all sides are outside their comfort zones. Such a project might mean that the work is not directly a PI priority as compared to the other responsibilities he or she has on a daily basis. It also means that an instructional designer (or ID) has to both conceptualize and execute the work, which keeps one honest in the design; it forces one to formulate and tweak the actual steps in the development and then live with the consequences. (As a side note, all of my instructional design projects have been concept-to-delivery ones at multiple institutions of higher education and private industry. Many of these projects were built as part of development teams.) Pursuing "difficult fun" as an instructional designer means that one has to move from the background and unacknowledged spaces to shoulder some public risk and responsibility.

Supporting an Online Science Courses with a Digital Lab

The deeper inspiration for this project came from a confluence of factors. Now, I had read Dietmar Kennepohl and Lawton Shaw's edited book titled *Accessible Elements: Teaching Science Online and at a Distance*. I was reviewing this text by invitation for a national journal. This e-book (and print book) was published by Athabasca University Press in 2010, and it offered an eye-opening compilation of chapters from around the world about different endeavors to create lab experiences to enhance online empirical science courses. I was intrigued by the idea of building a digital laboratory to enhance learning in an online science course.

Further, I had worked with Dr. C. Mike Smith, an entomologist, in setting up his online General Entomology course at K-State, which in the face-to-face version includes a complementary physical entomology lab. The purpose of that lab was to help students learn about insect morphology—form and function—and that limited set of learning outputs made this endeavor seem more doable. Also, this lab would have a small income stream in the sense that the lab would be tuition-bearing, which given the business model for fiscal sustainability, makes funding such a lab much more likely. Dr. Smith liked the idea of acquiring the in-house capability of macro photography in-lab (in vitro) and in-field (in vivo) and also wanted to acquire the high-end camera and lens for this work.

Given these factors, we put together a grant application that went to the Division of Continuing Education here at K-State. The relevant administrators met with the Department of Entomology, and together, they hashed out a division of funding responsibilities, with each side offering resources worth thousands of dollars.

The Initial Work

Early in 2011, Dr. Smith hired on a project photographer, John Cauthorn. And the work for the digital entomology lab site began. One early hurdle was the struggle to get the macro images to the expected quality, with the correct focus, depth-of-field, sizing, and white-color balance. The next hurdle, and a much more nontrivial one at that, involved the fact that the project did not have a Web developer even though one had been promised.

Sometimes, it is better to get a project off the ground and not lose momentum on it than to wait for optimal circumstances. So while we made the rounds to get a developer to actually do some work on the site, we found that there were some willing to do the work at a pretty high cost—with requests for funds that the development team just did not have. In a tight budget environment, goodwill is short and cannot be relied on to power any project. During this work, Dr. Smith commented that he had wanted to create a digital entomology lab for over a decade; at that moment, I thought, we definitely do not want to wait another ten!

Gratis Work

The problem with being somewhat responsible for suggesting an idea for a project is that it means that one has to do the heavy lifting—even though one does not have a say in the actual budgeting for the endeavor. Only a week of my time was bought for this project, but I easily spent a dozen times that amount of time setting up the workflow, building the internal work website on a learning / course management system (L/CMS), processing the captured digital images, creating InDesign files, uploading images to the static Department of Entomology website, troubleshooting the work, designing the future digital entomology site (in terms an early draft), and working with various individuals on campus for possible future funding. That extra often-done-on-my-own-time work also included creating this participatory design piece. It takes a lot of effort to get a brand-new project to “stand-up” on its own. There is a certain critical mass of images needed to coalesce something that even begins to look like a digital entomology lab.

Looking at the project now, I am glad that we did not have a Web developer per se because that would have meant much greater definition of excruciatingly detailed specifications for site developers, design work, and look-and-feel work, with an unsustainable number of hours budgeted by the PI. There would have been a need to work with multiple teams on development. There would have been needs to test extensively for system reliability and use. That work would have been well beyond the purview of the budgeted week. (As a side note, virtually all faculty try to stretch budgets and time to the breaking points because of the tough budget environments.) We had the good fortune of a gritty tough small team that could put together the work in Phase 1.

Developing Skills

There wasn't a day when I was processing images that I did not gasp at and marvel at the beauty and complexity of insects. This was totally new to me. The instructional design learning takeaways have been many, and my ulterior motive is always about adding further learning to my skill set, trying out new authoring tools and technologies, and padding the work portfolio in the hopes of taking on more risk-taking and challenging endeavors in the future.

An Invitation

Please see what you think of this endeavor, and please do help us bring this online entomology lab to the next phase. Thank you.

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