Obama's Great Course Giveaway

Clues to a grand online-education plan emerge from the college and the experts that may have inspired it

Focused learning: Anya L. Goodman, an assistant professor of biochemistry at California Polytechnic State U. at San Luis Obispo, discusses work with students Jake Harvey and Logan Stark (far right). Before class, the course Web site alerted her to topics that students didn’t understand.

By Marc Parry

Logan Stark’s classmates scramble for courses with professors who top instructor-rating Web sites. But when the California Polytechnic State University student enrolled in a biochemistry class on the San Luis Obispo campus, he didn't need to sweat getting the best.

It was practically guaranteed.

That’s because much of the class was built by national specialists, not one Cal Poly professor. It’s a hybrid of online and in-person instruction. When Mr. Stark logs in to the course Web site at midnight, a bowl of cereal beside his laptop, he clicks through animated cells and virtual tutors, a digital domain designed by faculty experts and software engineers.
By the time Mr. Stark steps into the actual lecture hall, the Web site has alerted his professor to what parts of the latest lesson gave students trouble. That lets her focus class time on where they need the most help.

Mr. Stark’s class is one of about 300 around the world to use online course material—both the content and the software that delivers it—developed by Carnegie Mellon University’s Open Learning Initiative. If the Obama administration pulls off a $500-million-dollar online-education plan, proposed in July as one piece of a sweeping community-college aid package, this type of course could become part of a free library available to colleges nationwide.

The administration has released only vague statements about the plan. But Chronicle interviews with a senior Education Department official and others whose ideas have informed the emerging policy suggest how colleges might use these courses—and how Carnegie Mellon, repeatedly cited by officials, might offer a model for the effort.

The government would pay to develop these "open" classes, taking up the mantle of a movement that has unlocked lecture halls at universities nationwide in recent years—a great course giveaway popularized by the OpenCourseWare project’s free publication of 1,900 courses at the Massachusetts Institute of Technology. Millions worldwide have used these online materials. But the publication cost—at MIT, about $10,000 a course—has impeded progress at the community-college level, says Stephen E. Carson, external-relations director for MIT OpenCourseWare.

The result is a "huge population of students," he says, "that aren't being served."

Experts see huge potential in serving those students with open courses: To help them explore careers. To give them confidence before returning to school. To improve retention once they get there. To lower the cost of a degree. To spur alternative ways of awarding credit. And to guarantee standards "whether you are in a more impoverished, underserved, or remote area of the country," says Curtis J. Bonk, a professor in the department of instructional- systems technology at Indiana University and author of the new book The World is Open.

The plan coincides with Mr. Obama’s goal for the United States to have the highest proportion of college graduates in the world by 2020. But Marshall S. (Mike) Smith, senior counselor to Secretary of Education Arne Duncan, feels that won’t happen simply by moving middle- and high-school students further through the system. Higher education also needs to rope in older students who never went beyond high school, or who abandoned college before finishing a degree, he says.
"The opportunity to attract those people would be greatly enhanced by having a bunch of really good courses that they could work on in the evenings," Mr. Smith says, so they could "try out the idea of getting course credit for them—and get hooked."

Mr. Smith, a veteran of the Clinton- and Carter-era Education Departments, is an open-education evangelist who recently returned to government after serving as education-program director for the William and Flora Hewlett Foundation. The California foundation has funneled more than $80-million into making digital resources like textbooks and lecture videos freely available on the Web.

Mr. Smith has bigger ambitions still. In January he published an article in the journal Science laying out the dream of "a 21st-century library" composed of Web-based open courses for high-school and college students. The courses would be laced with multimedia features and personalized with feedback from computer programs that track student performance. The language coming out of the White House and Education Department today echoes some of the concepts in Mr. Smith's article.

But his article also stacked up the challenges and mixed incentives that the controversial free-knowledge movement must surmount.

Working against open access are "financial concerns, authors' fears of exposing mediocre content, the weight of traditional practice, and legitimate reasons for protecting intellectual property," he wrote. "Some publishers and professional academic organizations believe they have a lot to lose" as open educational resources grow more popular.

In an hourlong interview with The Chronicle, Mr. Smith focused on many of the details facing the administration as it tries to create an open-course clearinghouse and navigates delicate, still-unanswered questions about what role the government would play in financing and disseminating its contents.

One big question: Who would get the money?

A possible answer, which is not specified in a House of Representatives bill that includes the online proposal, could be an outside laboratory-and-research organization that would receive a block of government money and parcel it out into competitive grants for course development, and then make sure the courses were updated. A community college could house the project, Mr. Smith says. So could a consortium of community colleges, a university, or a nongovernmental group.
The courses created would reach students through multiple devices, such as computers, handheld devices, and e-book readers like Kindles. They would be modular, and therefore easily updated. Both nonprofit and for-profit entities could compete for the money to build them.

The cost of each course: probably about $1-million, although development would cost less "if you did a number of them," Mr. Smith says.

When asked why government should get involved, Mr. Smith responds that its help "would make those courses available to anyone, which is not the case now—and wouldn't be the case if the government didn't do it."

And delivering them? Here's one possibility Mr. Smith describes: Macomb Community College, in Michigan, takes an open statistics course and puts it into its catalog. The students don't meet face to face, but there's a webinar every week or an open discussion online among the professor and students. Macomb gets the course free, adds value to it in the form of interaction with its professor, and charges for it.

The White House has also pledged that the courses would be made "freely available through one or more community colleges."

The ways colleges or companies might repackage the courses intrigue one skeptic of Mr. Obama's higher-education agenda. Richard K. Vedder has called the president's desire to see all Americans pursue some post-high-school education "an impossible dream." But the Ohio University economics professor, director of the Center for College Affordability and Productivity, cautiously welcomes the president's online-course proposal, suggesting an institution could offer a $1,000 degree anchored by the federally developed courses.

A field whose methods haven't changed much since Socrates taught could benefit from this strategy, Mr. Vedder says.

"With the exception of—possible exception of—prostitution, I don't know any other profession that's had no productivity advance in 2,500 years," he says. Online, he adds, "is a way to kind of offer a new approach. It's applying technology to lower costs, rather than to add to costs."

Mr. Smith describes Carnegie Mellon's Open Learning Initiative as a model. The director of Carnegie's program, Candace Thille, says her goal is "to fundamentally change the way postsecondary education is done in this country."
As she sees it, the problem has its roots in history. Higher education was originally available to a privileged few. Then the notion arose that college should be accessible to everybody. But the way it was scaled up—putting more people of varying skills and knowledge in front of the lecturer—led to uneven quality and wasn't very effective.

"Even though we've provided access, we haven't provided access to the same kind of education, because we didn't really have the tools and technology to scale," Ms. Thille says. "And I think what the information technology now, finally, is affording us the opportunity to do, is to really provide that kind of personalized instruction—high-quality rigorous instruction—to everybody."

When the program began, in 2002, the idea was to offer students outside Carnegie Mellon online courses that gave them a shot at learning the same information without any instructor. But researchers have found the material can be even more powerful when combined with live instruction.

Carnegie's materials have already changed how Logan Stark's professor at California Polytechnic State University approaches her widely feared biochemistry-for-nonmajors class. Anya L. Goodman used to work from a prepared lecture, starting with the basics so she didn't lose anyone. Now she puts the burden on students to learn the basics online. She focuses class time on clearing up misconceptions, applying the materials to real life, and working in small groups.

"They're more attentive," she says. Especially when she comes in and tells her students, "Here's what you guys already don't know."

Some students dislike the extra work. Mr. Stark isn't one of them. He wishes others used the format.

And you don't have to carry a textbook around, he adds.

"Which is awesome."