Summer Faculty Institute: 'Teaching through design'

2:33 p.m., June 9, 2010----Reinhold Steinbeck, learning designer and international educational development specialist from Stanford University, opened this year's Summer Faculty Institute at the University of Delaware on June 1. Steinbeck presented his keynote address, “Design Thinking as a Learning Process: Building Innovation Capacity and Creative Competence within a Global Context,” to an audience of approximately 100.

Before Steinbeck spoke, Paul Hyde, event coordinator, told the audience, “We're trying a number of new things at this year's event. Most importantly, this program is based entirely on UD faculty proposals.”

Hyde and his colleagues in UD's Information Technologies Academic Technology Services (IT-ATS) entered all session titles into an online analysis tool called Wordle. Patterns then emerged based on how often a word occurred.

“When you ask UD faculty to talk about teaching using technology, the Wordle pattern clearly shows that the central element is students. For our faculty, there's a natural focus on students,” Hyde said.

Steinbeck's work with design thinking is also student focused. His presentation illustrated how design thinking enriches students' academic life as well as their life experiences.

What is design thinking?

“Design is really hot. And it's cool,” Steinbeck said. “What's even better is design thinking.”

Steinbeck described design thinking, or DT, as an innovative, human-centered method for instructors to help students learn and solve problems. At its core, design thinking centers on human values -- a person's need to accomplish a task. DT's integration with technology and collaboration is a means for students to develop effective skills to solve complex problems.

“There are two types of design -- big D and little d,” Steinbeck explained. “Big D is what we're all familiar with -- fashion, engineering and architecture. Everything person-made is designed -- we're all designers.

“Little d refers to design thinking,” Steinbeck said. “It's the thinking process behind the design that is important and leads to the learning experience.”

Design thinking encourages students to use visual examples, clearly understand the problem, reflect on the design process, experiment and collaborate. It provides a connection between theory and practice by balancing abstract conceptualization and observation with experience and experimentation.

“To arrive at creative solutions using innovative thinking, you need three key elements: multidisciplinary teams, the DT process and flexible workspace,” Steinbeck said.
It's very important to analyze and answer one of the questions fully -- what the problem is. Understanding the problem brings clarity to the project, the solution and helps identify the type of learning styles that will best work with that problem type. Based on David Kolb's learning model, the different learning style corresponds to the phases of the DT process.

Global projects

Steinbeck has developed and implemented programs in secondary and higher education institutions in Asia, Africa, South America and the U.S. He is principally interested in applying DT and creative problem-solving methodologies to empower communities and improve their socio-economic conditions through education and development.

International programs at Stanford involved partnerships with Chile, South Africa, Tanzania and Uganda. The programs relied on technological means to allow collaboration among program participants. For example, researchers and students in Tanzania collaborated by using smart phones and mobile blogs, also called “moblogs.”

In the education environment, people still rely heavily on the traditional teaching experience in which professors “deliver” content to students. “In a global, design-thinking method, teaching switches from a delivery model to an active construction model,” Steinbeck said.

Stanford University's Design Innovation course (ME310) exemplifies a design-thinking teaching method. It offers students the chance to work with others in universities around the globe. One such example is a collaborative project between Stanford students and those at Pontificia Universidad Javeriana in Columbia.

Students worked in multidisciplinary, global teams to find innovative ways to solve complex problems. “The Columbian university pilot project prepared students to be globally aware, become system thinkers, function across cultures and on multidisciplinary teams and designers of sustainability,” he said.

Steinbeck said that by the end of the course, the ME310 students owned their own learning experience. “They were not doing what someone else told them to do or to learn, but they really engaged in their own learning process,” he said.

Those with interest can view an archived copy of Steinbeck's presentation online through UD's classroom capture system.

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http://www.udel.edu/udaily/2010/jun/designthinking060910.html