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Coalition for Science Literacy

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Building Better Teachers

"Faculty used to learn their craft through on-the-job training and modeling the great teachers of their past," says Jim Eison, director of USF's Center for Teaching Enhancement. All of that is changing.

In 1989, the State University System sponsored a competition to improve undergraduate education. The result was USF's Center for Teaching Enhancement. Then-Provost Gerry Meisels submitted the top-ranked proposal and the university received $143,000 in seed money. The next year, Eison submitted a proposal to SUS for a 10-day summer workshop on active learning and received $60,000.

Active learning is perhaps the cornerstone of USF's teaching enhancement programs. Eison is the expert when it comes to active learning. He literally wrote the book on the subject.

"Active learning is any instructor strategy that gets students to do things and think about what they're doing," says Eison. Active learning strategies include skilful discussion leading, informal and formal writing, case-method teaching, cooperative learning, a focus on learning styles and assessment alternatives.

"The major pressure on university teaching is the tyranny of content and the wide range of abilities that students bring to the classroom," says Eison. "The workshops demonstrate techniques and provide approaches to solving teaching dilemmas. The participants learn from each other by sharing their 'classroom-tested teaching practices.'"

Teaching effectiveness workshops are the core of the center's services to faculty. These intensive participation sessions are led by facilitators who model effective teaching techniques. More than 150 USF faculty members and countless graduate teaching assistants have attended. Faculty evaluations document that 90 percent of the participants find the workshops effective and an asset to enhanced classroom performance.

"It's one of the best things the university has been spending money on," says Thom McLaughlin, associate professor of art. McLaughlin has participated in three

Mastering Science and Math

Center for Excellence

In 1983, A Nation at Risk warned that American children's shortcomings in math and science bore dire consequences for the future. Then-Gov. Bob Graham and House Speaker Lee Mofitt recommended the creation of Centers of Excellence throughout the state of Florida to address the problem. In 1983, a pilot program for the 13 counties of West Central Florida (designated as Region IV) was instituted at USF with $100,000 in seed money. A center at Florida Atlantic University in Boca Raton was added later that year. Since then four additional centers have been created.

"We were chosen because Ralph Turlington (former Education Commissioner) thought USF had the best service outreach to public schools," says Carl Riggs, who has served as director of the Center for Excellence in Mathematics, Science, Computers, and Technology throughout its 12-year existence. The Center works with the Florida Department of Education to improve the levels of achievement in math and science skills in K-12 through community outreach services.

Among its many programs, the center supports teachers through workshops and a mini-grants program that promote classroom innovation. It also helps develop curriculum guides and other classroom support publications. Through its math lecture series, teaching teams visit classrooms throughout the region to talk about professions in math. The center also provides mentoring for local science fair winners, sponsors an annual statewide computer programming competition and offers scholarships to high achievers. A Center for Excellence Honor Society provides academically-gifted high school students with recognition, educational enhancement on-campus programs and the opportunity to compete for a full scholarship.

USF has the distinction of not only being the first center, but the only state university-based center to survive in its original location.

Coalition for Science Literacy

Understanding science and math is critical, not just to an intellectual elite, but also to all members of society. The Coalition for Science Literacy believes former USF provost Gerry Meisels. His mission is to find new ways of teaching science to reach everyone.

"We can no longer presume that our students are interested in science, we must create the interest," he said. "We can no longer view our function as screening out unqualified students but should see it as our responsibility to develop interest and competence in science in all people."

In 1994, he founded the Coalition for
Nurturing Great Minds

USF's Honors Program for academically gifted students has existed since 1983. This four-year program was the first of its kind in the state. In 1994, a two-year honors program for transfer students was added.

Honors Program students are entitled to preferred registration, their own study/lounge area complete with computers, housing, social activities, opportunities for service work and individualized advising. Academically they have their own sequence of nine honors classes which provides a multidisciplinary overview of the liberal arts and fulfills the university's general education and exit requirements. From the basic course, "Acquisition of Knowledge" to the senior thesis, they are unlike any other classes offered at the university.

Honors is not an easy program to get into. Entering freshmen must have a minimum 3.5 GPA and a 1270 SAT score or 28 ACT based upon the latest scale. Average SAT scores are 1350. Transfer students also require a 3.5 GPA. Prospective students must complete a formal application, which includes two letters of recommendation and an essay.

"It's like being in a small liberal arts college in a large urban environment," says Stuart Silverman, program director since 1987. He adds with a smile: "It's the only program with a father and a mother," referring to himself and coordinator Sharon Geiger.

Silverman's office is filled with memories; the walls are covered with photos of "his kids." He shows off a book of photographs and several student paintings. He points out pictures of two pro-sports cheerleaders, varsity athletes and a nationally ranked mountain biker — all current and former students. A bulletin board in the coffee room displays snapshots of former honors students with their young offspring and eight married couples who met in the program. Past and present students also include 28 siblings and a mother and daughter. "One of the biggest advantages of the program," says Silverman, "is small classes taught by some of the best faculty."

Honors students are taught by professors that typical freshman rarely have access to — Jacob Neusner, distinguished research professor in Religious Studies; Duane Eichler, professor of Medicine; Sape Zylstra, professor of Architecture; Steve Turner, professor of Philosophy, Kwasi Wiredu, a world leader in the study of African Philosophy; and Michael Gibbons, the chair of USF's Government and International Affairs department.

"Students explore a wider range of material (than is normally taught to freshmen)," says Silverman. The classes are team-taught and the content is interdisciplinary, fluid and flexible. Because classes are small, students have the opportunity for greater individual attention.

Another big advantage of the Honors Program is money.

"Every student in the program gets some kind of scholarship from the university," says Silverman. Scholarships range from $400 per year to $7,500 for National Merit Scholars.

Over the past 16 years, the Honors Program has grown — from about 30 original class members to the 150 freshmen and 40 transfer students admitted this year. Currently 450 students are enrolled in honors classes.

This past August, a Scholars Community was established as an adjunct to the Honors Program and is open to all Florida Academic Scholars, out-of-state and transfer honors students. Scholars' Community students who do not participate in the Honors Program curriculum are still entitled to the same preferred services, housing and social activities. Almost 600 students are participating in the Scholars Community.

Stories on these pages by Lynn Rothman

Science Literacy, housed at USF St. Petersburg. The coalition is a network of K-12 schools, community colleges, universities, public agencies and private businesses.

A key goal of the coalition is to instill in students the ability to think critically, which is the heart of science literacy. General education science requirements should focus on connections between the natural and social sciences and their relation to math and technology.

Meisels is particularly interested in working with elementary school teachers, explaining that many have difficulty understanding and teaching science; consequently, many children lose interest in the subject by the time they reach the third grade.

"Science is the key to our future," says Meisels. "Reasoning skills help protect us from charlatans, unscrupulous sales practices and political demagogues."

workshops and believes the program serves an important retreat function, giving faculty of various disciplines an opportunity to get together.

In addition to workshops, the center's other services include course planning, individual consultations, classroom observations, videotape feedback and student feedback. All services are free and confidential.

Since more than 50 percent of USF's juniors and seniors are community college graduates, the center also offers workshops to area community college faculty and recently conducted workshops exploring the themes in USF's new liberal arts curriculum.

The center also supports a vast library of resource materials that are available to faculty and distributes an instructional resource guide covering everything from counseling, access to equipment, instruction strategies, university policies and handling emergencies. Despite the fact that state funding has been eliminated, the university continues to support the center.