

Random Thoughts . . .

A TEACHER'S TEACHER

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One of the giants of engineering education hit a couple of milestones recently. Jim Stice, the Bob R. Dorsey Professor Emeritus in Engineering at the University of Texas at Austin, celebrated his 80th birthday last year, and last June he retired from the ASEE National Effective Teaching Institute, which he co-founded two decades ago. To old-timers in the world of engineering education Jim is legendary, but many youngsters of, say, 60 and below, don't know who he is or how much he's done for our profession. I'd like to remedy that deficiency.

A little personal history first. When I was a fresh young assistant professor, like virtually all of my faculty colleagues I had never been taught a thing about teaching before I walked into my first class. Not knowing any better, I did unto my students as my professors had done unto me, mechanically transcribing my lecture notes onto the chalkboard so my students could mechanically transcribe them into their notebooks. (At least they had to stay awake to do that—luckily for them, PowerPoint hadn't been invented yet.) I went on like that for years, assuming that the glazed eyes and low attendance and abysmal test grades I kept seeing were unavoidable facts of life in engineering.

Then one day I stumbled into a Jim Stice talk at an AIChE conference. In his uniquely droll style, he told us that there were more effective ways to teach than nonstop board stenography, most of which involved engaging students actively and getting them to take more responsibility for their own learning. He also made me aware for the first time that an engineering professor could make teaching and learning the focus of his faculty career at a research university and the sky wouldn't fall. Those two radical notions became the foundation of the last 25 years of my 40-year academic career. I have had several defining experiences in my life, but none of them had a greater catalytic effect on me than that 20-minute conference presentation.

In the years since then I've been lucky enough to collaborate and hang out with Jim and find out how truly remarkable he is. Since most of you who are reading this haven't had that privilege, let me introduce him to you.



Jim Stice holding forth at the 2009 National Effective Teaching Institute.

James Edward Stice was born and raised in the Arkansas Ozarks. He got his B.S.Ch.E. from the University of Arkansas in 1949 and his M.S. in chemical engineering from the Illinois Institute of Technology in 1952, spent a few years in industry finding out what engineers actually do, joined the Arkansas faculty as an assistant professor in 1954, went back to IIT in 1957 to get a Ph.D., and returned to Arkansas once more in 1962 as an associate professor. In 1968 he moved into a faculty position at the University of Texas, and he's been in Austin ever since. He retired from the UT faculty in 1996, but fortunately for the profession he continued sharing his wisdom and humor in teaching seminars and workshops at Texas and elsewhere.

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Jim's teaching throughout his 43-year active faculty career was exemplary. He always set high standards for his students, routinely posing problems that involved high-level analysis and critical and creative thinking, and challenging his students to do more than they ever imagined they could. Students often rebel against that sort of challenge, but thanks to the clarity of Jim's explanations and his unique Ozarkian humor, most of the students lucky enough to be in his classes met or exceeded his expectations and loved him. He won a teaching award in his first term at the University of Arkansas and at Texas he won nine more—including one for being the best teacher on the entire campus—along with two awards for excellence in advising.

So far that's a fairly conventional story, but if there is one thing James E. Stice is not, it is conventional. On his journey from bright young assistant professor to venerable sage, Jim did some groundbreaking things. Here are some of them.

When Jim went to Texas in 1968 at the invitation of Dean John McKetta, it was to create and direct the Bureau of Engineering Teaching, the first center for engineering teaching and learning in the United States and probably the world. It was an idea ahead of its time—so far ahead, in fact, that 40 years later most engineering schools still haven't figured out that a pedagogically savvy engineering professor is much more likely than a social scientist to persuade engineering professors to change how they teach. One of his landmark contributions as Bureau director was to create the first-ever course on College Teaching for engineering graduate students, a course he taught from 1972 through 1997. Jim had so much success helping his engineering faculty colleagues improve their teaching that UT made him the director of the nation's first campus-wide Center for Teaching Effectiveness, a position he held for 16 years.

Jim's list of publications includes 55 articles and two books, but the numbers don't tell the real story. Several of the articles deal with now-familiar concepts that were virtually unknown in engineering education when Jim introduced them to the rest of us. They include learning objectives and *Bloom's Taxonomy*, engineering-specific instructional development, and diverse student learning styles and "teaching around the cycle." He also wrote landmark papers on computer-based instruction (written years before large-scale implementation of instructional technology became feasible), the lack of correlation between grades in college and professional success, and teaching problem-solving

skills. Few engineering professors can match the number of Jim's education-related publications, and none can match the impact of those publications on the discipline. If he had chosen a different career, engineering education would not be what it is today.

As important as Jim's publications are, however, his professional development activities arguably constitute his greatest legacy to the profession. He has given hundreds of invited seminars and teaching workshops at conferences and on campuses all over the country, and he co-developed the ASEE National Effective Teaching Institute and co-facilitated it every year from its first offering in 1991 through 2009. Thousands of engineering faculty are better teachers today because of their participation in Jim's programs, and hundreds of thousands of students have benefited from the improved instruction they received from those participants. Jim's contributions to education have been honored with a number of national awards, including the ASEE Chester F. Carlson Award for Innovation in Engineering Education and the first ASEE Chemical Engineering Division Lifetime Achievement Award for Pedagogical Scholarship.

Last June at the 2009 Annual ASEE Conference on his home turf in Austin, Jim announced that he would be stepping down as NETI co-director, which is sad news for future participants. They will not have the unique privilege of hearing about the strange and colorful characters who inhabit Jim's past, like his former roommate who was so thin he could take a shower in a rifle barrel, or the fellow who was so bow-legged he couldn't trap a hog in a ditch, or his frustrated student who in a particularly bad moment screamed like a mashed owl. I know and love and could recite his words at future NETI's, but they'd just sound silly with a New York accent.

And so I celebrate Jim Stice—my mentor, role model, and dear friend. Jim, Rebecca and I will sorely miss visiting with you and Betty every June, enjoying our ceremonial pre-workshop martinis (yours with Tanqueray and three olives), sitting in the back of the room during your presentations and watching a true master engaged in his craft, having our celebratory post-workshop blowout dinner, and doing a whole lot of laughing for four days. Thanks for all you've done for an uncountable number of engineering teachers and students. Thanks for showing me that if your passion is teaching and learning you can also make it your profession. Thanks for all the wisdom, and all the friendship, and all the laughter. Here's to you! ☐

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