

**AcademiCast Transcript**  
**Texas Tech University**  
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**Pierce:** Texas Tech reports record-high enrollment figures and rolls out a database for research opportunities in this edition of *AcademiCast*. I'm Rachel Pierce.

Student enrollment at Texas Tech is at an all-time high this fall. The university reports more than 32,000 students are registered for classes on campus. That figure includes undergraduate, graduate, and law students. The recent results follow recognition by *The Wall Street Journal*, *U.S. News & World Report*, and the *Fiske Guide to Colleges*. This is the third-straight year that Texas Tech's student population has grown, and the results put the university on track to reach its enrollment goal of 40,000 students by 2020.

In Washington, Excelencia in Education honored Texas Tech and South Plains College for their collaboration on the Step 2 Program. The program enables students to attain their teaching credentials in a two-part sequence. South Plains students complete Step 1 by earning an associate degree in teaching and then move on to Step 2 by transferring to Texas Tech's College of Education to finish a bachelor's degree. Excelencia in Education recognized the program for its commitment to Latino students.

Back in Lubbock, Texas Tech is helping its faculty find federally funded research opportunities through a recently launched online database. The database is updated daily and features an advanced search tool so researchers can specify their areas of interest. The database can be accessed from the Vice President for Research website. The Office of Information Technology helped to develop the database, and faculty also gave their input.

Mathematics professor Jerry Dwyer is a stellar example of the Integrated Scholar. His teaching, research and service efforts reach around the world. Provost Bob Smith talks with him about growing up in Ireland, teaching in Texas, and travelling to Africa.

**Smith:** One could have predicted very early on that Jerry Dwyer's life would somehow involve mathematics.

**Dwyer:** *My mother would complain that I was counting everything. I could tell that the neighbors had 27 cows. Not 26, not 28, but 27 cows, and if there was a missing cow I noticed it.*

**Smith:** Growing up in humble circumstances in Ireland, it was assumed that he would drop out of school at age 12, as his parents had done. But a teacher advised that he stay in school, and that began him down a path to teaching mathematics. After rejecting potential careers in medicine and the sciences, Professor Dwyer fell back on his love of numbers when he went to college. But he was still unsure of what he would do with a math degree.

**Dwyer:** *I went to college and decided OK I am going to be a teacher, but after a couple of years in college I thought, well if I am going to be a teacher I have to go back to high school and I have got to teach people who have no interest in math so maybe I would rather teach at the university so I am going to stay in college, so I stayed and I did more math and then I did more math and I still stayed in college and I still haven't decide what I want to be but I'm still doing math and while I can do that I'm still happy, and teaching, so I kind of feel like I drifted into. I am a bit weary of people who tell you at the age of 12 that they are going to get a Ph.D. in something. You know how do you know? So I had a vague idea that I like doing math and I like teaching so I ended up with the best job in the world.*

**Smith:** Dr. Dwyer's research interest is in applied mathematics and currently involves using computer simulations and the mathematics behind those simulations to solve practical engineering problems.

**Dwyer:** *So these were problems of say, fracture. If you have a piece of metal and there is a crack in it, how does the crack propagate? Or if you have a glacier, and there is a sudden sort of a break in it, there is some kind of a large hole in it and it starts to move, what happens to the ice? How does the ice move?*

**Smith:** He is also passionate not only in interesting future students in the study of mathematics, but also in the education of mathematics teachers. Indeed, he is part of a \$1 million grant Texas Tech received from the National Science Foundation to help teach math teachers.

**Dwyer:** *So I have become much more interested, in the last 10 years, in the mathematical education of teachers because if you can really train teachers then you can influence a whole generation of students. I can go into a high school today and teach 10 kids and maybe they will learn something, but if I teach 25 teachers then I'm impacting 400 kids over the next few years. So the mathematical education of teachers has become a big interest of mine.*

**Smith:** Dr. Dwyer is also very interested in service learning, placing students as tutors in local schools. He believes that it is important for a person to use their expertise to help another. His service extends well beyond the campus of Texas Tech to summer periods, for example, in Africa where he works with schools to better train teachers, and to work with students one on one. He also participates in fund raising efforts to help hire teachers.

**Dwyer:** *When we worked with a school and their average math grade 4 years ago was 42 percent and they needed a teacher. So we did some fundraising and we funded a*

*thousand dollars. And with that thousand dollars we hired a teacher and their math grades went up 58 percent in two years. Last year they needed another teacher. We were able to fundraise them again and guide them a little bit and now their math grades have gone up to 72 percent the problem is when you go in there to teach them mathematics they don't understand me half of the time because their English is very weak so now we have to try to find somebody to pay an English teacher. So I'm looking at kind of the point again that providing a teaching resource impacts a greater number. Now ideally if I could get a whole bunch of African teachers and put them into a course so I can train a whole bunch of them that would be even better. We are capable of trying to do some linkage here, maybe somewhere where we can do some exchange of teacher preparation so that we can take a few of their teachers and make them more qualified because it's amazing what one or two good teachers, the multiple effect it can have.*

**Smith:** For his younger colleagues, Dwyer's advice is to understand what is expected of professors and have the discipline to write the papers and apply for the grants that are necessary. He also strongly believes that to be a teacher, you must love to teach.

*Dwyer: I just came from a talk about teaching at a workshop we are doing this week for graduate students. And somebody said, "Know your subject, know your audience, and know yourself," and I was going to modify that and say, "Love your subject and love your audience." So as for teaching I would say if just that alone, if you love your subject your passion is going to come out.*

**Smith:** Good advice. It is his passion for teaching, research and service to others that makes Dr. Dwyer an Integrated Scholar. He is one of many excellent faculty members who allow Texas Tech to provide students with an exceptional education.

Thanks for listening! I'm Bob Smith.

**Pierce:** Finally, the Texas Tech debate team is celebrating the successful opening of its 2011 season. Strong individual performances earned the team its first ever sweepstakes championship at William Jewell College in Liberty, Missouri. The award is given to the leading school at William Jewell's two debate tournaments. Texas Tech's debate team competed against 60 other teams from 11 states.

That concludes this edition of *AcademiCast*, brought to you by Texas Tech University.