

## Brain drain

### Districts fight for needed math, science teachers

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Texas public schools are facing a critical shortage of math and science teachers, forcing school districts to offer generous signing bonuses to new hires to compete with other employers.

For years, the Lubbock Independent School District offered a \$1,500 signing bonus to new math and science teachers. But the monetary incentive wasn't attracting the number of specialized educators the district of 28,500 students needed, so the administration asked the board of trustees to sweeten the pot and offer a \$5,000 bonus.

"We recommended the \$5,000 effective immediately," said Rafael Madrid, assistant superintendent for personnel. "The shortage of math and science teachers is very critical."

Amarillo ISD, with a student population of 30,500, does not offer hiring bonuses "but we are having those conversations right now," said Daniel Coward, assistant superintendent for personnel. "The supply (of those teachers) is not meeting the demand."

The much-smaller Dumas ISD, with a student population of about 4,000, has not offered signing bonuses either, but at the next board meeting the administration plans to ask the trustees to change the policy and offer as much as \$3,000 to new teachers with master's degrees certified in either math or science.

"This won't surprise the board," Dumas assistant superintendent Mark Stroebel said. "We've been talking about it for a while. We are in the same boat that all districts are."

"There is a math and science teacher shortage and that's not a surprise to anybody," said Ed Fuller, a public education expert at the University of Texas at Austin. "(But) it's most acute in poor and minority schools as well as low-achieving schools."

As a result, "districts are trying within the resources they have to attract teachers," Texas Education Agency Associate Commissioner Raymond T. Glynn said.

#### Root of the problem

Texas' math and science teacher shortage is more acute now because a law approved by the Legislature in 2005 went into effect this year.

The new law, known as the "four by four" curriculum, requires high school students to pass four math courses and four science courses to graduate.

The problem? State colleges and universities are not graduating enough math and science teachers, Fuller said. To make things worse, school districts are losing thousands of those educators to the private sector because they pay more and - in some instances - the jobs offered are less stressful.

About 4,000 math and science teachers left their jobs last year and it may cost the state \$27 million to replace them, Fuller said.

"There is a huge incentive for math and science teachers to quit and go make a whole lot more money doing something else, and the conditions are usually better as well," he explained.

Many companies pay \$70,000 a year, twice the starting teaching salary average of \$34,505. In West Texas, a teacher with 10 years of experience makes an average of \$40,000 a year.

To complicate matters, Texas has very strict requirements for the certification of math and science teachers, critics said.

"Texas' traditional and alternative certification process is prescriptive, time-consuming, expensive and full of unnecessary requirements. This has prevented many talented, aspiring teachers from teaching in public schools." Brooke Dollens Terry and Raz Shafer of the Texas Public Policy Foundation wrote in an October newsletter.

Don Van Slyke, a retired IBM executive with 28 years of experience in the information technology industry, agrees.

When he retired from IBM, he wanted to join his wife and teach a computer course at the local high school. But when he applied for the position he was turned down.

"They said you really need to be highly qualified and have a teaching certificate," Van Slyke said. "I guess the main message is that if you have 28 years at IBM, a master's in computer science, you just can't teach computer science unless you are certified."

For many would-be math and science teachers it is not easy to get certified, TEA's associate commissioner Glynn acknowledged.

The average cost of certification programs offered by universities or private vendors is \$6,000; at some private institutions it can cost as much as \$30,000. The programs last about a year.

Student population in the state keeps growing, and most school districts are having a hard time keeping up with the pace, said LISD Superintendent Wayne Havens.

Particularly in large metropolitan areas such as Dallas, Houston and San Antonio, the school districts just can't keep with the growth, Havens said.

That growth has put small districts in West Texas at a disadvantage, Stroebel said. They just don't have the money to compete.

"We can't offer what the districts in the Metroplex offer," Stroebel said.

Young, single teachers just out of college don't want to live in rural, isolated areas such as Dumas.

### **Proposed solutions**

The Foundation and educators say that although hiring bonuses may attract more math and science teachers, the long-term solution is reducing certification requirements.

"With a general understanding of marketplace principles, a reduction of state certification barriers and a more competitive pay structure, it is possible for Texas to attract excellent math and science teachers to teaching," Terry and Shafer wrote.

Legislature may have to authorize more money for higher salaries.

"If we don't recognize that problem and start paying those teachers more, the private sector is going to take our best teachers," Havens said.

Despite the seriousness of the shortage, some educators say the state will weather the current storm and adequately prepare its students for tomorrow's world.

"I am a big supporter of public education," said Sundown ISD Superintendent Mike Metheral. "We are producing better and better students.

"We are working very hard to take them to new levels and working with our legislators to see that our students get a good, solid education. The future of education in Texas looks great."

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