Teaching of science, math changing
By SARA KINCAID Bismarck Tribune  |  Posted: Tuesday, July 20, 2010 2:00 am  |  (0) Comments

The way science and math education is taught in Bismarck Public Schools will change.

The trend is to integrate science and math with technology and engineering classes. It uses projects for students to apply what they learn to a real-world situation.

"Kids like that," said Dale Hoerauf, the director of career and technical education in Bismarck Public Schools.

This type of teaching is called STEM, which stands for science, technology, engineering and math.

In the new career and technical center, classrooms are designed so that students can work in groups and work on projects. Display cases will let the teachers show off the students' best works.

Classrooms in Bismarck State College's Technical Center also are being remodeled to fit this method of teaching.

Students are already familiar with STEM-type projects if they participate in activities like Science Olympiad or a summer camp, such as the Legos camp at High Prairie Arts and Science. Then, there are competitions like the Real World Design Challenge and ExploraVision.

"One of the award winners developed a nasal mist to replace insulin shots," teacher Paul Keidel said about an ExploraVision contest that he judged. "They were 13, 14 years old and had pharmacy companies courting them."

A team of Bismarck Public Schools students also participated in the Real World Design challenge and presented their new wing and tail design to reduce an airplane's fuel consumption at the national competition in Washington, D.C. Throughout the project, the students worked with Larry Taborsky, the director of the North Dakota Aeronautics Commission and communicated electronically with people from the National Aeronautics and Space Administration.

This type of problem solving can happen in the classroom while teaching math and science. It also teaches the type of skills that prospective employers want, Hoerauf said.
STEM education also opens up the possibility of partnerships with higher education and businesses. One potential partnership is with Valley City State University. The university received money in the last legislative session to fund a STEM education center.

Teachers take courses online and can earn a STEM certificate.

"It's more in demand out-of-state than here," said Don Fischer, STEM program coordinator with the Great Plains STEM Center at Valley City State University.

The STEM center at VCSU trains already licensed teachers and those earning their teaching degree on how to integrate these subjects in the classroom. The goal is to give teachers tools on how to make the lessons thought-provoking and engage critical thinking skills.

At the federal level, education law is changing to reflect a push toward schools implementing STEM education. The U.S. Department of Education budgeted $300 million toward STEM and math and science partnerships. In 2010, the department budgeted $180 million.

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