

BLAINE AIRPORT PROMOTION GROUP

Taking Your Ambitions Skyward

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THE EDUCATION COORDINATOR JULY 14, 2011

In the small towns and rural America of our recent past it was common for children to grow up under the mentoring of shop keepers, farmers, and craftsmen. The high-tech globalization world of today has brought students to urban centers of education, keyboard writing and flat screen interpretive analyses. The erasing of these times spent experiencing in-neighborhood industries reduced a third dimension of learning; hands-on learning opportunities.

Looking forward, jobs available in 2020 are yet to be invented. Aerospace is a large part of the innovative world of STEM and will continue to be a provider of job opportunities into the future. To be successful, the STEM initiative will need to rely on community involvement and the community is where the sleeves are rolled up and the hands-on work is done. This takes a commitment on the part of business owners to see that students and parents understand that there are great opportunities in engineering and the manufacturing sector.

In January 2011 the Blaine Airport Promotion Group set in motion, an idea of promotion and developing an identity to our community. From that initiative our outreach began to connect with Aerospace schools and middle schools that have an interest in STEM related programs. We have played host to several school groups both small and large to promote and invest in science, technology, engineering and math education to our community.

A June 7, 2011 news release by Quad Community Press by staff writer Nicholas Backus, is an introduction to a STEM program in Lino Lakes, MN.

Lino Lakes Elementary introducing STEM instruction this fall

by Nicholas Backus
Staff Writer

ARCHIVES * QUAD COMMUNITY PRESS * NEWS

Published:
Tuesday, June 7, 2011 11:13 AM CDT

LINO LAKES – School administrators are implementing a STEM program, or science, technology, engineering and math, at Lino Lakes Elementary this fall.

The educational model emphasizes a project-based integration of the four subjects. Third- through sixth-grade students at Lino Lakes Elementary will receive the instruction. The school hopes to make 33 percent of class time STEM-based by 2014.

"(STEM) uses hands-on projects where schools have control to take them to any degree of sophistication possible," Principal Ron Burris said. "Gifted students can demonstrate their skills on a project, but students who might be struggling can also take the same project and go in a different direction that fits their skill set."

Burris used an example of students building a tower of toothpicks and marshmallows. The goal of the project is to make the tallest possible structure without it falling.

"Everyone has ideas and you can build on them to improve," he said. "We don't want to create a sense of right or wrong, it's about the challenge that is before them."

According to the Minnesota High Tech Association, STEM directs students toward the value of rigorous courses, particularly math and science. Minnesota Department of Employment and Economic Development research forecasts a 20 to 33 percent increase in scientific and technical occupations in Minnesota over the next 10 years. Additionally, 18 out of the 20 fastest growing occupations will be tied to STEM disciplines,

DEED numbers state.

"We're in the business of training our students to be citizens of the 21st-century and there are no excuses not to do so" Burris said. "The American workplace wants innovation and creativity. We want our students to be creative, try things and not be afraid to fail."

Lino Lakes Elementary will be the first STEM school in the Forest Lake District. School officials were exploring STEM initiatives for the past three years through research, discussions with experts and visits to other area STEM schools, including Cedar Park Elementary in Apple Valley and Cannon River Charter School in Faribault.

Burris said STEM will help elementary-aged students continue to be engaged in class instruction as they advance from kindergarten to the upper grades.

"Kindergartners are excited about their world and we're trying to tap into that," he said.

Classes will visit a special STEM lab for instruction. Burris wasn't sure if individual classes would take the classroom or if they would share with fellow classes at the same grade level.

Funding for STEM is coming through the district and various school fundraisers to help buy equipment such as laptop computers.

Other northeast metro schools are employing the use of the STEM concept including elementaries in Mounds View and Mahtohmedi. Burris said new state laws that require engineering instruction at the elementary level is spurring STEM's growth in Minnesota schools.

The article also refers to DEED, Minnesota Department of Employment Development. Their job assessment has been included with this article to show the economic impact and jobs outlook for the future.

Will There Be STEM-Related Jobs When I Graduate?

"Minnesota Employment Projections in STEM Disciplines: Growth between 2006 to 2016"

Minnesota Employment Projections in STEM Disciplines Growth between 2006 to 2016				
OCCUPATION	New Jobs	Replacement Openings	Total Openings	New Job Growth
Technology/Computer Sciences	23,896	24,560	48,456	19.8%
Engineering	6,079	15,010	21,089	8.5%
Natural/Life Sciences	5,628	9,870	15,498	11.1%
Mathematical Sciences	540	780	1,320	15.4%

Source: DEED, Labor Market Information Office, Minnesota Employment Projections

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This kind of community effort can not be accomplished without the strong support that we have received in the planning and carrying out of some large scale programs during the summer school season. We are not about bringing bus loads of students for a few hours away from school. We have a dedication and belief in what we can do for our community and have set in motion a program that supports the mandated STEM program.

When Harvey Karth made a call to Principal Ron Burris to introduce him to our program, Burris responded with great enthusiasm. Our goal is to do our part to help Burris achieve his goal of having 33 percent of class time STEM-based by 2014.

The summer tours have followed at least a week of summer school so we match lessons related to the in-classroom-time material. Shelly Supan of the Civil Air Patrol has organized several cadets and staff members to do teaching programs during the tour of the entire field. Six to eight stations are set up and the students move between the stations every 20 minutes or so giving a view of aviation and related technology. Volunteers at Golden Wings Museum continue to be there for giving information and advice to students of all ages as they tour the museum.

The control tower staff has been involved to give support to groups that have advanced training as well as actual tours of the facility. Key Air, Life Link, Twin City Aviation, Cirrus, R.C. Avionics, Bolduc Aviation, and Golden Wings Museum are on our list of places to see and study on our tour programs.

We received two messages from two Field Coordinators that best describe the results from one of our tours.

"The Golden Wings and Civil Air Patrol tour guides were FABULOUS. Thanks for your willingness to work with us and for all the support along the way."

Pam McDonald

"The Young Scholars are very bright young learners who are chosen for this program. Experience such as our field trip today are linked to our science standards and bring to life all of the learning the students have been a part of this week. Watching their faces as they are able to speak with knowledgeable professionals is very rewarding. These children have absorbed a plethora of information and your team has likely sparked professional career choices for many students."

Stephanie Madson

