



Students at the new STEM Academy in the **Fond du Lac School District** collaborate on a hands-on project.

Taking Learning to the **Next Level**

Two districts focus on project-based and international learning | *Shelby Anderson*

If you ask **John Whitsett**, a former science teacher and administrator at Fond du Lac High School and a former president of the National Science Teachers Association, STEM subjects (science, technology, engineering, and mathematics) aren't as hard as people think.

"They are often viewed as difficult subject areas," Whitsett said. "I don't think they are necessarily difficult subjects, we just have a lack of real-world learning in our schools in those areas. We need to teach those subjects in the right contexts."

That has been the goal of the Fond du Lac School District, which launched the STEM Academy this school year to provide students with STEM learning in a project-based atmosphere, where students work with science, technology, engineering, and math principles in real-world situations.

A similar emphasis on 21st century skills is happening in the

Green Lake School District where student learning takes place in a global context through the district's International Baccalaureate Program. The program's mission is "to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect." Projects, while rooted in core subjects, focus on social and global issues.

Both districts have been recognized by the Partnership for 21st Century Skills, a national organization that "advocates for 21st century readiness for every student," as exemplary districts that are



LEARN MORE at Convention

This article features only a handful of projects and strategies behind the work of the Green Lake and Fond du Lac School Districts. Learn more at their session "Exemplary 21st Century Learning – What Does it Take?" on **Thursday, Jan. 24, 2013** in Milwaukee. For more information, visit wasb.org/convention.



Green Lake students with their artwork inspired by cultures from around the world.

LEARN MORE ABOUT 'GOLD COLLAR' CAREERS at Convention

Representatives from Manufacturing Works (see next page, "Drawing Students to 'Gold Collar' Careers") will present a special session, "Best Kept Secrets and Missed Opportunities," on **Thursday, Jan. 24, 2013** in room 201CD from 10:15-11:15 am in the Delta Center at the State Education Convention in Milwaukee.

providing learning opportunities to students that will prepare them for post-secondary education or relevant careers.

International Education in Green Lake

In 2010, the Green Lake School District completed a lengthy and involved application process to be named an International Baccalaureate (IB) School. Across the world, 3,474 schools in 144 countries are certified IB Schools.

Ken Bates, superintendent of the Green Lake School District, said the IB program provides an operating system or framework for the district's 4K-12th grade students that emphasizes strong core subject work through a global perspective. The Partnership for 21st Century Skills' four C's are also emphasized: creativity, communication, collaboration, and critical thinking.

Course offerings at the Green Lake School District are a little different than the typical school

district. Students take a Theory of Knowledge class where they discuss and learn about learning. There is a 21st Century Communications class where students learn about good web resources. The class also covers good use of the Internet including cyberbullying and social media etiquette.

In one project, students in sixth grade work together on a special exhibition where students tackle a global issue such as senior care, health care, genocide, etc. The students research their issues and present solutions. The students make presentations to fellow students and teachers, but also to parents and community members.

"One of the main tenets is to view things with a more global perspective," Bates said. "We try to have our students think about how someone their age in another country might think about what they're working on."

Another way global awareness is fostered is through foreign language.

Drawing Students to ‘GOLD Collar Careers’

Manufacturing Works, a volunteer organization led by manufacturing leaders in northwest Wisconsin, is committed to educating K-12 students about the many opportunities that are available in skilled manufacturing jobs, or, as they have come to call them, Gold Collar Careers.

In the mid 2000s, Dan Conroy, human resources director for the Nexen Group, Inc., said the manufacturing industry noticed a gap forming between the number of qualified job applicants and the number of skilled manufacturing jobs available. As Conroy said, these are not dirty, boring manufacturing jobs — those have been sent overseas. The manufacturing jobs available in the U.S., including Wisconsin, are high-tech, challenging careers that require technical college degrees.

“We can’t hire people out of high school,” Conroy said. About 70 percent of jobs in the U.S. now require technical college training, compared to about 10 percent for high school degrees. This is a drastic shift from past

decades when a high school degree could qualify someone for steady, quality employment.

Manufacturing Works has been partnering with school districts and other organizations to increase the number of high school graduates interested in pursuing highly skilled manufacturing careers, which Conroy says, are not the old-fashioned manufacturing jobs that people might think they are.

“These are high-tech, clean careers where people are doing amazingly awesome stuff,” Conroy said. “It’s all great, high-paying work and it’s hidden. Kids in high school don’t know about it.”

Because of the efforts of Manufacturing Works, Conroy said they have seen an increase in the number of students enrolling in the local technical college. It’s a start, but Conroy and his colleagues are eager to work with as many public schools as possible.

“The K-12 schools are great partners, like us, they want their students to reach their potentials.” Want to learn more about ‘Gold Collar Careers’? See the sidebar on page 6.



One mission of Fond du Lac School District's STEM Academy is to get more girls interested in STEM subjects.



All students in the district are required to take a foreign language from second to 10th grade. The emphasis on international study starts with students at a young age. Bates said first graders start out by learning about their own community and surrounding area and how it fits into the larger world.

Even in kindergarten, students take charge of their learning, helping set-up field trips, and other lessons. Bates said the district wants to make students understand from a young age that they can take charge and be proactive in their learning.

■ Project-Based Learning in Fond du Lac

This fall, the Fond du Lac School District opened the STEM Academy, an elementary charter school that emphasizes STEM learning. The academy is unique for a couple of different reasons. First of all, the

school was developed through a partnership between Mercury Marine, one of the country's largest manufacturers of marine engines

based in Fond du Lac, and the Fond du Lac School District. Whitsett, the former Fond du Lac science teacher and administrator who worked on the development of the STEM Academy, said the partnership with Mercury Marine went beyond financial support.

"We wanted them to be a full partner in developing the school," Whitsett said. "We needed to have the business side of it as well as the engineering side and Mercury Marine brought that to the table."

Representatives from Mercury Marine worked closely with the district to develop a project-based learning curriculum. With the school now open, engineers at Mercury Marine serve as role models and work with students at the STEM Academy, all in an effort to bring relevant lessons to the students.

The STEM Academy is also unique in that it enrolls students in third through fifth grades. Among other reasons for opening a STEM school for younger students, the district wants girls to consider a STEM career. Whitsett said research has shown that if girls don't consider a career by fifth grade, they are very unlikely to pursue it later in life. ■

Anderson is editor of Wisconsin School News.



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