School Matters

Special Insert
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School News for Residents of the Kimberly Area School District

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Superintendent

In this special insert edition I want to highlight the expansion of our computer science offerings. Our educators are able to help students gain awareness of careers through Academic and Career Planning (ACP). This takes collaboration between educators, parents and local businesses to help children to become productive, successful, and competitive members of our 21st century global society. By providing students of all ages with STEM (Science, Technology, Engineering and Math) learning opportunities, we will better prepare them for high-demand and good paying careers that exist right here in our community.

-- Bob Mayfield

Expanding Computer Science Opportunities

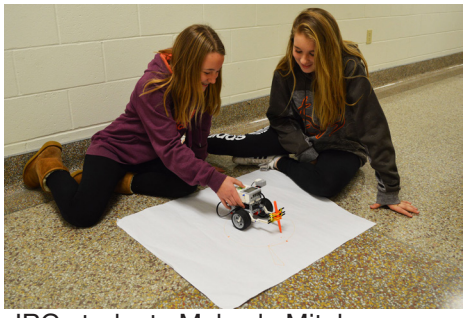
In order to better prepare students for life after graduation, education about computer science is undergoing an expansion within the Kimberly Area School District. The role of computer science is rapidly growing in modern society and, accordingly, so are information technology (IT) career opportunities. A recent study showed that by 2020, there will be about 4,000 unfilled IT jobs in northeast Wisconsin.

District educators recognized an opportunity to improve their curriculum to prepare students for this high-demand field. This school year brought a partnership with Microsoft's TEALS program, newly adopted academic standards and exciting regional innovations coming to our community. Students will have more opportunities to reach their potential in this high demand and high paying career field.

Raising Academic Standards for Career Preparation

Holly Prast, Assistant Superintendent, along with Aimee Froze, Technology Education Teacher at J.R. Gerritts Middle School, recently studied and presented academic standards for computer science to the District's Board of Education for approval.

By using academic standards, student learning scaffolds, which means that students build on their computer science knowledge year over year. "When you align to standards, kids will have guaranteed experiences as they move up from kindergarten through 12th grade," said Prast. "They will have a basis in computer programming and then the rigor of those classes will increase."



JRG students Makayla Mitala, Madison Deltour and Bryton Klapps (not pictured) created a robot that can draw a pumpkin. View a video of their robot.

The goals of the standards adopted by the District are to emphasize problem solving, teach critical thinking and prepare students for a career rather than a job. "This field is changing at an exceptionally rapid pace and it's likely we could train kids for jobs that will disappear before they graduate high school," said Prast. "We didn't want to train students for specific jobs, we wanted to make sure that the standards we selected were very career-oriented and gave them the skills they need to transcend any career." For example, critical thinking and problem solving are skills emphasized in the standards that will benefit students in any career path they choose.

Preparing students for the next step in their lives, such as college and careers, is the ultimate goal of the Kimberly Area School District. Recent data from the Bureau of Labor and Statistics 2016-2026 indicated that there are over 46,000 job openings annually in computer science fields and salaries are in the high

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range. “The future is bright in these careers,” said Prast. “There are hundreds of careers in these particular strands.” Also, it would be difficult to find a career in modern society that does not use technology. “Even if a student is not interested in working in the IT field it is really important for them to have an understanding of what’s going on behind the scenes with the technology in any field,” said Froze.

Introducing Computer Science at a Young Age

Students at Mapleview Intermediate School participated in the Hour of Code.

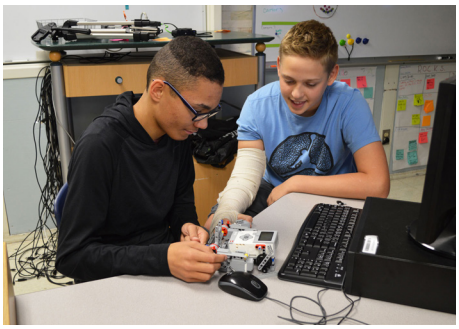
District educators are able to introduce students to computer science at a young age. This is especially beneficial for children who do not have much interaction with technology at home. Kimberly schools can offer them experiences to use technology in a hands-on and structured way. KASD recently adopted the Computer Science Teachers of America’s Standards which, when fully implemented over the next three years, will provide learning opportunities for students as young as kindergarten.

Parents can help encourage curiosity in computer science by pointing out the technology behind so many aspects of our lives, from games and toys to the features within buildings and cars. Raising awareness about technology and the careers of those who create those items can help children develop a curiosity about how the world around them works and the technology that makes it run.

Learning to Code

Many elementary, intermediate and middle school students across the District participated in the Hour of Code this December. Hour of Code is an experience where students learn how to code computers during the world’s largest learning event organized by Code.org. To make coding accessible and interesting to people of all ages, the tutorials go through an hour of coding in pop culture themed lessons like Star Wars, Wonder Woman, Minecraft and Frozen. Due to growing student interest in programming, Mapleview Intermediate School and J.R. Gerritts Middle School (JRG) created student Coding Clubs.

At JRG, students also have opportunities to take computer science classes. Students Sam Klein and Kanye Spikes, both eighth graders, built a Lego robot in their Integrated Computing Strategies class. Their robot can sketch two dimensional buildings. “It makes a scale drawing so the designers wouldn’t have to draw it and that makes it faster,” said Sam. “We use the computer to program the robot to move up and down, and side to side with a pencil.” One of the most interesting things Sam said he learned in this class was about capabilities. “Legos can use all these different sensors to make some neat things,” said Sam. “You can have a sensor that can detect different colors and make the robot go a different way or stop because of the colors.”



Kanye Spikes and Sam Klein built a robot that can draw buildings.

The Importance of Hands-On Learning

For those interested in computer science, the field is so broad that it almost becomes a barrier unto itself. Preconceived ideas about what tasks and work environments are like for IT professionals offer a limited view into a diverse field. At a recent Computer Science advisory meeting at Kimberly High School, the student representatives, parents and industry leaders in attendance felt that hands-on experiences were described as especially beneficial to those considering this career field.

Some examples of hands-on experiences include job fairs, guest speakers, apprenticeships, job shadows and field trips. Providing more hands-on opportunities for students, an important aspect of the District’s Academic and Career Planning (ACP) resources, will require creativity and additional resources both by schools and also local organizations. By having the opportunity to experience the career first hand, students can develop a better understanding about the careers that interest them.

The future of computer science in the Kimberly Area School District and in our society is bright. As more developments in the enhanced curriculum come together, they will be communicated with students and parents. If at any time you have questions or would like to know more ways to help your child learn about computer science, please know that you can reach out their teachers or principal.