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ROGER HINES: Kell Robotics: Learning, leading and loving it

Ideas may be a dime a dozen, but thinkers and doers who give legs to ideas are not. Ed Barker is one such thinker and doer. An engineer by trade, Barker graduated from the University of South Carolina with a degree in electrical engineering. First and foremost he is a science and technology enthusiast.

Among other interests and gifts, Barker's chief interest is promoting science and math education, particularly technology and engineering. One of his gifts is the ability to corral individuals, organizations and businesses and plant his ideas deep into their minds as well. The centerpiece of Barker's chief interest and mission is young minds. That's why, with the support of the school's administration, he became involved in Kell Robotics in 2005 at Cobb County's Kell High School, starting with only six students.

From six students, Kell's Robotics Club grew to become a community team with members from five different high schools and from home schooled students. While the Robotics Team studies technology and participates in competitions, its scope and purpose reaches beyond robots. In Barker's words, the endeavor is about "aiding young people in becoming science and technology leaders and training them to be both innovators and effective communicators."

To achieve this purpose, Barker has poured his time, energy and personal resources into teaching and training youth in engineering technology. At his Robotics Team meetings, students don't just discuss technology or listen to lectures. They build robots. It's hard to call their meetings a class. The one I attended (where aluminum lay everywhere) was too fun-filled, too student-driven, too active and too hands-on to be labeled a traditional classroom.

Barker's definition of robot is "a machine run by a computer." When I recently asked him about the issue of robots destroying jobs, he acknowledged that reality but countered that "work and military technology has always turned out for the betterment of people, beginning with the Industrial Revolution." Perhaps his thinking is supported by the fact that the Pentagon has long been developing technology such as aerial drones that,

instead of leveling cities, can pinpoint and reach specific targets, thus avoiding the monstrous, widespread effect of nuclear bombs. “Contrary to what so many think, technology is absolutely about humanity,” he asserts. “It’s about food.”

Because of the success of the Kell High School beginnings and the interest they created, Barker began to dream bigger dreams. This led to the formation of a 501(c)3 foundation known as the STEM Leadership Foundation. STEM, of course, is the common acronym for science, technology, engineering, and math. Barker leads both the STEM Leadership Foundation and the Kell Robotics Team.

An understanding of mental development has led STEM Foundation to start 14 Lego Teams for students in grades 4-8. Given the nation’s shortage of scientists and engineers, Barker believes building skills should start early. For both its Lego and Robotics teams, over 20 corporate sponsors help provide financial support.

Kell Robotics is a participant in the FIRST Robotics Competition. FIRST (For Inspiration and Recognition of Science and Technology) is a national organization with which Kell Robotics is allied. In FIRST robot competitions, students in a team have 45 days from learning what their engineering assignment/challenge is to deliver a finished robot. During the 45 days, the team must, without any parts kit or instruction manual, design and produce a robot of at least 120 pounds. One can see why they are called teams and must truly function as teams.

In a publication titled “The STEM Pipeline is Broken,” published in association with the Georgia Board of Regents and Kennesaw State University, Barker lays out the need for technology education. Not enough students are being trained in engineering and computer science. Across the nation, jobs await the yet untrained. While many school systems show interest in alleviating the need, they face a scarcity of teachers to teach technological subjects.

“I was naive when I began working with Kell students,” Barker stated. “I learned that, regarding technology, the field of education doesn’t know what it doesn’t know.”

Another aspect of the need is that not enough students are choosing technological studies. This is why Kell Robotics and the STEM Foundation are making technology education appealing to children and youth, giving them challenging work to do and teaching leadership and communication through teams.

Barker views Georgia as the perfect place to advance helpful technology. From the progress, he, his mentors, and his sponsors have made, and the goodwill and support he has garnered, Georgia is primed to be a leader and many youths are going to find their niche.

Roger Hines is a retired high school English teacher and state legislator in Kennesaw.