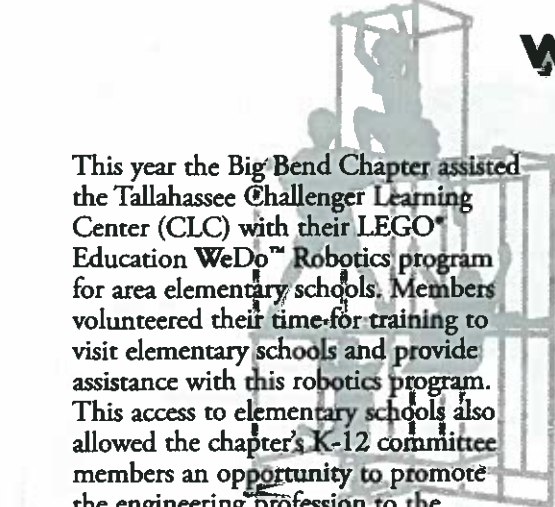


WeDo in the Big Bend

By Sean K. Marston, PE, Big Bend K-12 Representative



This year the Big Bend Chapter assisted the Tallahassee Challenger Learning Center (CLC) with their LEGO® Education WeDo™ Robotics program for area elementary schools. Members volunteered their time for training to visit elementary schools and provide assistance with this robotics program. This access to elementary schools also allowed the chapter's K-12 committee members an opportunity to promote the engineering profession to the students.

The Tallahassee Challenger Learning Center is one of 47 centers located throughout the United States, Canada, the United Kingdom and South Korea. The state of Florida has three such centers, the others located in Jacksonville and Tampa. These often work with science centers, museums, universities and schools. The Tallahassee Challenger Learning Center (CLC) is partnered with the Florida A&M University-Florida State University (FAMU-FSU) College of Engineering. The mission of the CLC is to create a scientifically literate population that can excel in a world driven by information and technology. This goal is promoted at the CLC by offerings such as mock NASA mission simulations for students. These encourage decision-making, teamwork, problem solving and communication. Community outreach programs such as LEGO® WeDo™ Robotics also promote the CLC mission.

The WeDo™ Robotics program is based on the scientific method, with students instructed to build simple robotic machines. Students are asked to form hypotheses on how the machines will operate with minor modifications. Then they are asked to observe the operations and form conclusions. The LEGO® WeDo™ package consists of a laptop computer loaded with the WeDo™ software and a LEGO® construction kit. The construction kit includes LEGO® pieces, rotors, gears, and axles. Students assemble preselected robotic machines by following the instructor and the step-by-step WeDo™ software. The laptop computer provides power to the robotic machines, and computer programs can be developed which allow the machines to rotate,

spin, and make sounds. The machines are modified by using LEGO® pieces varying in size which can alter rotation and speed.

Prior to this school year, the Tallahassee CLC had an agreement with the Leon County School Board (LCSB) to offer the WeDo™ program to all the area 5th grade classes. The LCSB provided the CLC with two employees to assist with implementing the program to the 24 elementary schools. However, due to budget cuts the LCSB was not able to provide the employees this year. This unfortunate reality forced the CLC to have the program offered only to the elementary schools designated as Title I schools. (Title I schools have at least 60% or more of their students on free or reduced lunch.) There are 10 elementary schools in Leon County designated as Title I. Even with the reduction in school programs, the CLC has a limited staff. Therefore, Big Bend members were able to step up and support the CLC efforts.



Big Bend Chapter members with members of the FAMU/FSU College of Engineering Student Chapter being trained in the WeDo™ program

Training was required before any K-12 committee members could provide meaningful volunteer hours. They, along with members of the FAMU/FSU College of Engineering Student Chapter, met at the Challenger Learning Center in January for training. This included going through the exact WeDo™ program that is taught to the students, along with tips for troubleshooting problems

typically encountered. The training was very enjoyable, and it was interesting watching professional engineers encountering the same problems experienced by 5th graders. At times there was a feeling of, "Are you really smarter than a 5th grader?"

Armed with the new training, Big Bend members and engineering students were able to assist the CLC by volunteering at five elementary schools. One of the schools I was able to volunteer at was Ruediger Elementary School. I found that the students were very enthusiastic about the program and hungry to learn. The speed at which they were able to assemble and program the machines seemed breakneck compared to the training. Due to the students' speed and understanding of the program, there was time left at the end of the day to address the class. This provided me an opportunity to discuss the engineering profession, and provide everyday applications. The discussion encouraged many questions, a reaction which was energizing to witness.

The Big Bend Chapter was excited this year to partner with the CLC to help with volunteer opportunities. Not only were we able to align with an established group that has similar K-12 initiatives, but we were also able to gain the attention of future engineers. Hopefully, we were able to provide a spark in some young minds to set the goal of entering our profession. The Big Bend Chapter would like to extend a special thank you to Michelle Personette, Executive Director of the Tallahassee CLC, for allowing the opportunity to reach out to area 5th graders. Special thanks are also extended to Susan Borland and Harry Hawbecker for the training and program implementation.

In the future, the CLC hopes to expand the WeDo™ program to other neighboring counties such as Gadsden, Jefferson and Wakulla. With this being our initial year, the Big Bend Chapter hopes to increase member involvement to help CLC's mission. For more information about the CLC, please visit their website (www.challengertlh.com).