Today’s Learners, Tomorrow’s Leaders: InTrans Offers Collaborative STEM Activities Steered Toward Transportation

Knowing well the importance of education to the workforce of tomorrow, the Midwest Transportation Center (MTC, the Region 7 University Transportation Center) at Iowa State University’s Institute for Transportation (InTrans) teamed up with the Iowa Department of Transportation (Iowa DOT) to offer a series of annual workshops for Iowa teachers and students. Held during summer 2015, the three workshops exposed students to engineering concepts and transportation-related professions while providing teachers the tools to stimulate team-building, critical thinking, and interest in the transportation field.

The InTrans and Iowa DOT partnership expanded to include the Science Center of Iowa in Des Moines, Iowa, and the three organizations went on to host the first annual Ready. Set. Build! Bridge-Building Challenge in November 2015.

Transportation Institute for High School Educators

In June 2015, the Transportation Institute, a weeklong professional development workshop, funded, in part, by the Iowa DOT, was held at InTrans. A total of 12 high school and middle school teachers (who reach nearly 1,200 students) attended the workshop, participating in the creation of transportation-related activities (e.g., yellow light timing, runaway truck ramps, etc.) to bring into their STEM (Science, Technology, Engineering, Math) classrooms and after-school programs.

Throughout the week they listened to speakers and transportation professionals from the Iowa DOT, who provided them with the background knowledge they needed to use the newly developed activities in their classrooms.

Go! Further Workshop for High School Students

In June 2015, 19 students from classrooms across Iowa, such as Des Moines Public Schools, attended the Go! Further Workshop, which was funded by both the MTC and Iowa DOT. This weeklong educational workshop focused on leadership training and team-building.

Working in teams throughout the whole process, students participated in a ropes course in Marshalltown, Iowa, where they traversed a challenging rope-climbing obstacle course.

At InTrans students were able to test drive the MiniCym—a driving simulator that allowed them as the drivers to respond to various obstacles and hazards. Then students were able to see what a snow plow operator really does by driving in a snow plow simulator housed at the Iowa DOT. And students learned the true value of leadership by giving forward as volunteers at a local area food pantry.
Teaching in the Fast Lane Workshop for Elementary Teachers

In July 2015, 24 elementary teachers from across Iowa attended Teaching in the Fast Lane, a workshop where teachers participated in activities based on the American Association of State Highway and Transportation Officials (AASHTO) Roadways in Developing Elementary Students (RIDES) kit.

The AASHTO RIDES kit is aligned with national Core Curriculum Standards for math and science and takes students on multiple adventures learning about transportation in relation to both math and science concepts. After the workshop, teachers were provided with a mini kit containing these materials, which would enable them to implement transportation and engineering lessons easily into their classrooms.

Participating teachers also visited actual bridge testing sites and heard from visiting Iowa DOT and InTrans speakers on the importance of engineering education.

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