

The Global Technology & Engineering Consortium (GTEC) has developed a model for educating students, K-12 and higher education, to succeed in a *flat* and *diverse globe*. GTEC partners with colleges, school districts in the US and the UK currently and several companies and agencies.

High school students, mentored by college students and under the direction of their teachers, learn diversity, engineering and 21st century skills and knowledge so they can develop/implement/manage projects effectively across geography, understand how to engage in STEM (science, technology, engineering, mathematics) projects and work in other cultures. They practice global engineering/technology teamwork roles, relationships and communication skills used by business and industry.

At the end of this program, this is one of their stories:

Forty high school students gather together...On this day, a few are in a classroom in Russia, a few are in their homes in Portugal, Switzerland, Germany, a few are in classrooms in the UK, US, China and India. At Olin College there are eight juniors and a faculty member who have been acting as mentors. In the high school classrooms there is also a teacher and a few professional engineers from global companies who have also been mentors.

This is the virtual conference which culminates their GTEC program. Whether they have learned how to work together, leveraging their diversity, learning how to use cultural cues as indicators for action, to solve an engineering challenge through completing a project is being determined by a group of business leaders from companies that have provided the challenges to them. The business leaders also are attending virtually from those countries.

The companies have proposed actual challenges to these students to extend their companies' capacity to produce results that can be used in their design and

manufacturing. The project at this time is to create a vehicle which can be suspended over traffic to move people and material around crowded cities.

Elements needing consideration are:

- size
- cost
- ease of production
- energy efficiency
- aesthetics/comfort.

The students, all part of one global team focusing on the project, have used a 3D printer (which sits on, and prints, to a desk) to share and rework designs across national boundaries. They are presenting together as if they were in one location. All have learned enough English to be able to speak across boundaries through video communication systems.

The group has prepared a digital, multimedia presentation about the process of designing the vehicle while exploring the challenges of working together in a virtual global team. They have kept journals of their experiences so they could discuss those challenges and resolve them. The presentation is followed by a question and answer period moderated by one of the GTEC leadership team.

At the end of the three hours, the companies debrief online. The students also debrief and assess their performance and achievement.

The next day, a couple of the companies invite the team to their countries to work with the in-house development team to produce a mock up model that can operate in a variety of countries. The students have demonstrated that they are ready to work and lead in a global environment. They are the future work force of the world.