

Using Competition to Bring Students to STEM

Alka Harriger
Purdue University

Brad Harriger
Purdue University

Ron Baysinger
Phoenix

Arnold Offner
Phoenix

Patty Marrero
Phoenix

STEM-related university programs use a variety of methods to raise student awareness and interest in their fields. Methods that incorporate competition can bolster that interest by adding an element of reward. In 2009 as part of their STEM outreach initiatives, an international controls company began offering a national competition for US student teams that focused on programming and controls. The first four years the “national” competition was really more of a local scope because nearly all teams were within a few hours of their headquarters. In 2012, the authors were invited to help expand the competition by organizing a Midwest regional competition. The regional would determine national qualifiers who would then compete against other regional teams near the corporate US headquarters.

All levels of the competition give the students an opportunity to use their creativity to innovate/improve their own product that addresses some general criteria provided by the contest sponsors. In addition to learning about innovation with technology, the experience allows students to strengthen their ability to work in a cohesive team. While the goal of the competition is to expose students to a variety of technologies, the regional competitions provide the organizers opportunities for a soft sale of academic programs that would align well with the skills that they used and enhanced in the process of building their projects. The sponsor increases the reach of their STEM service, increases their visibility, and strengthens their relationship with the host schools of the regional contests. Thus, this competition provides a venue with benefits similar to a science fair, all designed to increase student interest in pursuing STEM.