A STEM Brainstorm at NASA

By Tom Farmer

NASA has its own education department and offers programs and materials for teachers, but career information is scarce, Baine says. “There are bookmarks for engineering, but it’s not anything that’s compelling. You’ve got to make students feel like they could be a part of it.”

Forum members divided into groups and brainstormed ways top students could be persuaded to choose STEM-related careers. Among the ideas were summer programs and camps, competitions, more career strands, student tours of NASA sites, and STEM in the classroom, and better videos touting careers.

“I remember being stunned by what the kids had to say,” Baine noted. “They gave a different perspective. A girl talked about how she was interested in space and had gotten to the point where she was making her teacher mad because she knew so much more than the teacher, and the teacher thought she was being a know-it-all. These kids really needed a mentor and couldn’t feel like they could be a part of it.”

NASA Experience

The day before the forum, participants enjoyed a tour of Kennedy Space Center and the International Space Station exhibit in Florida. Equivalent in size to three football fields, the space station is composed of nodes, some of which Baine found fascinating in the exhibit. “I was thinking how interesting it would be to be an engineer who develops these things for a weightless environment. You could put controls on the ceiling, put things everywhere,” she said. “Even the beds were vertical. Astronauts have to be strapped in to sleep.” Another thought occurred to Baine as she toured the facilities and the exhibit. “It didn’t seem real,” Baine said. “I watched launches and it was interesting, but I never had enough information about it. I thought you had to be an aero space engineer. Now, I see they’re hiring biomedical engineers, mechanical engineers, industrial engineers. There are thousands and thousands of engineers working for NASA.” Baine is personally addressing one of the most glaring needs by writing a NASA career guide, and she plans to incorporate more references to NASA in her “Engineers Can Do Anything” presentation and other educational programs she presents in schools across the country.

“This didn’t seem real,” Baine said. “I watched launches and it was interesting, but I never had enough information about it. I thought you had to be an aerospace engineer. Now, I see they’re hiring biomedical engineers, mechanical engineers, industrial engineers. There are thousands and thousands of engineers working for NASA.” Baine is personally addressing one of the most glaring needs by writing a NASA career guide, and she plans to incorporate more references to NASA in her “Engineers Can Do Anything” presentation and other educational programs she presents in schools across the country.

NASA isn’t the only entity noticing students’ lack of interest in STEM careers. Baine says 38 states are considering adding engineering to their education standards, just as a few other states already have done. “I’m so happy to see that it’s happening,” she said. “Six states have been on board for quite some time.” Another way to get students interested in careers at NASA is to show them firsthand what’s involved. “They should find more ways to give high school kids internships at NASA, have students work with the space program,” Baine said. “We need students more involved at a younger age.”

And more attention must be focused on top students—the cream of the crop. “How do we nurture them? That’s a big question. The school systems tend to teach to the middle,” Baine said.

Forum leaders planned to compile the group’s findings, issue a report, and remain in contact with participants to keep ideas flowing for ways to stimulate student interest in STEM.