Future engineers try thinking outside the sandbox

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For four hours Friday evening, a group of about 70 Purdue University students and their teachers gathered at the school's Discovery Learning Research Center.

Some might say they were there for child's play -- but not the kind you might think. The group had gathered for a seminar focusing on the engineering and design of children's toys, everything from interactive dolls to card-based games.

Part of an elective mechanical engineering class, the seminar was a way to inject some creativity and innovation into the students' education, said Purdue mechanical engineer professor Karthik Ramani.

"Most engineers, like all people when they grow up, they lose the play," he said. "We want to recreate that kind of divergent thinking and ... build creativity and ingenuity into their thinking."

Ramani created the class and has been teaching it since 1992, though Purdue professor David Anderson teaches the section that met Friday night.

The class runs in the fall and winter, and always fills to capacity, Ramani said.

He speculated that it's popular because there's a strong desire among future engineers to become more creative and innovative -- traits that are likely to help their careers no matter their trajectory, he said.

"There's a high chance that a lot of students will use this knowledge sometime in their careers in ways we'll never know," he said.

At the seminar Friday night, students heard from University of Minnesota professor Barry Kudrowitz, a toy designer whose master's work -- and subsequent classes he taught -- were funded by toy giant Hasbro at the Massachusetts Institute of Technology.

During the seminar, Kudrowitz showed the students the Atom Blaster -- a NERF toy he designed that shoots foam balls.

In the second half of the seminar, the students, split into 20 groups, sketched potential toy designs. By semester's end, those designs will turn into one working toy per group, Ramani said.

Several students said they took the class as a way to inject some creativity into their future.

"It's definitely showing me different ways of looking at things, rather than the straight-forward way," said Purdue senior Peter Stroh.

Barry Kudrowitz, an assistant professor of product design at the University of Minnesota, talks Friday with a class of Purdue students about play in West Lafayette. (By Brent Drinkul/Journal & Courier)