**Summer 2013 GEAR UP Teachers’ Professional Development**

Talking Circle, a professional development program funded by the GEAR UP grant and Stephen F. Austin State University’s STEM (Science, Technology, Engineering and Mathematics) Research and Learning Center, brought algebra teachers from five area school districts to campus June 10-14. The training provided participants with teaching strategies that foster confidence, natural curiosity and perseverance in students solving problems in novel situations. Teachers from the Central, Hudson, Lufkin, Nacogdoches and Woden school districts participated in the training, which was led by faculty members in SFA's Department of Mathematics and Statistics.

**Expanded Information:**

**Teaching strategies:** mathematical problem solving. Teachers worked the entire morning solving novel math problems to which solutions were not immediately obvious.

**Teachers’ responsibilities:** In the morning session, teachers engaged in these novel mathematical problems. The goal of the problem-solving endeavors was to grow their “problem-solving toolkit” and to learn strategies that would better able them to equip their students to solve unfamiliar problems. This simulated the experience of a student who is asked to solve novel problems. These goals fit well with the revised TEKS and NCTM focal points, which emphasize problem-solving skills.

**Faculty members:** The morning session was led by SFA’s Department of Mathematics and Statistics, including Dr. Lesa Beverly, Dr. Debbie Pace, Dr. Tom Judson, Dr. Clint Richardson and Dr. Jane Long, who provided problems and research for the teachers. They shared that research supports that students’ mathematical learning and measured performance will improve if their mathematical instruction includes a focus on skills necessary to solve unfamiliar problems, rather than only a focusing on execution of straightforward exercises.

Each afternoon, they focused on classroom connections of the problem-solving skills and other ideas from the morning sessions. Linda Bruton coordinated those discussions.