



## UTSA/Basic School Network Math, Science, and Technology Collaborative

Participating teachers work with students from minority/low-income populations. To maximize impact, the specific topics of the training sessions are aligned with the outcome of an initial needs assessment. Furthermore, the training will be responsive to needs that might arise within, or as the result of individual training session.

### **Activities:**

The Math and Science Education faculty at the COEHD will model an integrative teaching style by co-planning and co-teaching the seminars. The UTSA faculty works with the Basic School Center San Antonio's director, Victor Herrera, and mentors to coordinate these programs. Each organization designates one person to be responsible for arranging program logistics. In addition to teaching techniques, content will include the integration of technology into Math and Science instruction.

Participating teachers have opportunities to experience mathematics, science, and technology education within the framework of Technological, Pedagogical, and Content Knowledge (TPCK).

The project invites participants to:

- Become familiar with current learning technologies.
- Experience activities as learners and as teachers.
- Analyze the state standards.
- Collaboratively create lesson plans following the 5E Model: engagement, exploration, explanation, elaboration, and evaluation.
- Engage in reflection and in face-to-face and online discussion.
- Become members of a science and mathematics education-mentoring network.
- Deepen their content knowledge in the areas of mathematics and science education.

## **Key Personnel from UTSA**

- **Dr. Carmen Fies**

Dr. Carmen Fies (Co-PI) is an Assistant Professor of Science Education and Instructional Technology in the COEHD and has experience in developing, directing, and evaluating undergraduate and graduate programs at UTSA. She has nine years of experience teaching at the university level in both face-to-face and online settings. Dr. Fies' teaching practice includes systems thinking as foundational practice, ePortfolio work, and mentoring as enacted content. Her research centers on learning in Science, Technology, Engineering, and Mathematics (STEM) fields as it occurs in diverse settings, with diverse learners, and as it is supported by instructional technologies. She developed curricular models centering on uses of instructional technology tools in science education; specifically, Classroom Response Systems in completely anonymous and group-based interactions, participatory simulations in science learning, as well as an online jigsaw model for physical science courses in the pre-service teacher program. Beyond her work with undergraduate and graduate students, Dr. Fies provides professional development to the in-service teacher population around issues of STEM education and instructional technology use. With the community at large, she engages in STEM-related events and activities across varied interactions that include membership in the Science Educator's Steering Committee, the Organizing Committee of the North American Energy Summit, as well as the ExxonMobil Texas Science and Engineering Fair, 2006 - 2008.

- **Dr. Jenifer Thornton**

Dr. Jenifer Thornton is a former early childhood and elementary classroom teacher who has taught in both general education and inclusive education settings. In addition to her classroom teaching experience, Dr. Thornton has served as both a literacy and mathematics coach for early childhood teachers in diverse, urban settings. Currently, Dr. Thornton is an Assistant Professor of Early Childhood and Elementary Education in the COEHD. She has six years of experience teaching both graduate and undergraduate students at the university level. Her areas of focus include early childhood and elementary mathematics, differentiated instructional practices, technology-based instructional practices in the area of mathematics, and effective professional development models for early childhood educators. Outside of her work with pre-service teachers, Dr. Thornton provides ongoing professional development for early childhood and elementary educators in the area of mathematics.