Background

- SMTE - Science, Mathematics and Technology Edu., program at TAMUCC supports students preparing to become science/mathematics teachers in public schools.
- The mathematics courses in the SMTE sequence are: SMTE 1350, SMTE 1351, SMTE 3313 and SMTE 4382.
- The course being redesigned is SMTE 1351 - Fundamental Mathematics II.
- SMTE 1351 focuses on topics in proportional reasoning, percent, statistics and probability, and algebra.
- Core objectives of SMTE 1351:
  --- Use, model, justify and explain relationships, operations and algorithms involving the above topics.
  --- Communicate mathematical ideas appropriately through multiple representations.

Rationale for Redesign

- Students in the SMTE Program complete coursework during 1st, 2nd and 3rd Year of their study.
- Internship opportunity comes in final year (4th Year).
  --- This seems to come too little and too late for candidates that may consider changing majors, and/or refine their educational and career goals.
- SMTE 1351 will be redesigned to include hands-on experiential learning opportunities for the teacher candidates prior to internship in the senior year.

Purpose of Enhancement

- The purpose of the early internship is to provide students in SMTE program the opportunity to examine teaching in practice – observing teachers, interacting with students, learning about themselves as professionals, and building professional networks as early as possible.
- Provide sufficient window for students make decisions concerning career changes (if any)
- Help students better prepare for their chosen careers, and strengthen relationships with faculty.

HIPs Addressed

- Collaborative Assignments and Projects
- Internships
  --- Provide students with direct experience in a work setting related to their career interests.
  --- Interactions with faculty and peers about substantive matters.
  --- Discover relevance of learning through real-world applications.

Schedule of Enhancement

First Visit

- Observation and acclimatization
- Each student will work one-on-one with a student posing mathematical problems (10-20 minutes, depending on age level).
- These sessions can take place outside of the classroom, in the hallway, at any point during the session.

Second Visit

- Each student will work one-on-one with one student posing mathematical problems (10-20 minutes). These sessions should involve different students from the first session.
- This session can take place outside of the classroom, in the hallway, at any point during the session.
- As a pair, the candidates will facilitate a 10 minutes whole class activity on a topic negotiated with the CT (with input from UP).
- The Cooperating Teacher (CT) will observe and provide verbal feedback to the teachers after their teaching.

Third Visit

- Each student will facilitate a grade level appropriate mathematical game with a small group of students on a topic negotiated with the CT (with input from the UP).
- After explaining the rules of the game to the entire class, the class will be divided into 3 groups, each lead by the cooperating teacher or one of the students.
- After playing the game in small groups, the students will lead a short whole class discussion about student strategies and mathematical ideas within the game.

Fourth Visit

- The students will team-teach a complete mathematics lesson on this day. As in all other cases, the students will teach a topic negotiated with the CT (with input from the UP).
- The CT will observe and provide written feedback to the teachers after their teaching.

Assessment Component

- Classroom Teacher & University Professor:
  - Observe and provide feedback (verbal and written) to the students.
- Student Reflection: in terms of their—
  - General experience and personal development during the internship experience.
  - General success of the lessons they taught.
  - What went well in the lesson?
  - What could have gone better?
  - What they learn about children, teaching, and/or mathematics (principles, ideals, issues) from the experience.

Anticipated Challenges

- Conflicts between field days and students’ other class schedules.
- Availability and suitability of host schools/teachers.
- Transportation logistics (to & from sites).