

1086-VR-2584      **Minerva Cordero, James Epperson and Theresa Jorgensen\*** (jorgensen@uta.edu).

*Students communicating mathematics to a broader audience: using vertical connections in mathematics and school district partnerships as a vehicle.*

Finite geometries in 7th grade mathematics, ring theory in high school Algebra II, and modeling neurotransmitter flow in high school calculus – these are examples of lessons implemented by university mathematics students in middle and high school math classrooms. Through the University of Texas at Arlington NSF GK-12 project, we have developed a program in which mathematics graduate student fellows are paired with local school district math teachers to create school math lessons that integrate the fellows’ university level mathematics into the school teachers’ curriculum. The fellows must first communicate the essence of the mathematics they are studying to the schoolteachers, and then eventually, to the students in the teachers’ classroom. The ultimate goal is to create mathematicians who can communicate their mathematics in a meaningful way to a broader audience.

We present an efficient framework for facilitating this collaboration. We will provide the targeted activities used to lead the pairs to develop the vertically connected math lessons integrating university and grade 7-12 level mathematics. Though this project has been conducted with graduate level students, the process highlighted here can be adapted to work with undergraduate mathematics students. (Received September 25, 2012)