The goal of the HR-PAL partnership funded through the NSF MSP-Start program is to engage both higher education and K-12 faculty in building an effective partnership to enhance problem-solving skills in algebra. This initiative includes Hampton University faculty from engineering, mathematics, education, and art departments working with K-12 mathematics, technology and art teachers from the Hampton Roads area schools to develop a “system analysis” approach to teaching. In this talk, we will address the successes of our program with training teachers to embrace the system analysis and design approach to teaching algebra, and how art, and technology projects can be successfully implemented into mathematics discussions. In particular, we will discuss design projects, which utilize algebra and technology, that were successfully completed by secondary school teachers at a summer teachers institute held at Hampton University, and are in the beginning stages of being implemented into select school systems in the area. We will, also, discuss how art classes will be used to reiterate the knowledge acquired in the algebra courses. (Received September 25, 2012)