This paper will present the results from the State Council for Higher Education in Virginia (SCHEV) funded K-12 Improving Teacher Quality project called IMPACT: Improving Mathematical Practices through Algebraic Connections and Technology. The goal of IMPACT is to increase student learning by improving teachers’ algebraic, technology and pedagogical knowledge in the middle grades at targeted high-need districts and low-performing schools. This project has already impacted over 100 K-12 teachers and administrators with summer institutes focused on mathematics content and pedagogy, follow-up Lesson Study and by establishing a collaborative mentoring network with participants and university faculty. This collaboration has provided sustainable professional learning and a mentoring infrastructure to continue and broaden the impact of this project. We hope to share the results from our work and present effective techniques that K-12 teachers can use in teaching algebra in the classroom. (Received September 21, 2009)