The NJ Department of Education has funded the Math & Science Partnership grant. Dr. Brian Baldwin, NJ Center for Science, Technology and Mathematics at Kean University, will serve as the PI of the project. An intensive, two-week long summer professional development institute, hosted at the NJ Center for Science, Technology and Mathematics at Kean University will directly focus on the relationship between content knowledge in math and science, and the specific standards within the NJCCCS that have been documented to be traditional problem areas for students.

Throughout the academic year, a number of different professional development activities will be implemented to continue the momentum obtained during the summer institutes. All teachers will participate in professional development as part of a modified Japanese Lesson Study model, focusing on the design, development, implementation and reflection of one particular lesson that directly focuses on the content investigated during the summer institute.

A unique aspect of the project is the ability of the teacher-participants to register for one course in the online Seminars on Science, offered through the American Museum of Natural History in New York. A special opportunity has been developed for the teachers to attend an in-person professional development workshop held at the museum, led by a staff scientist and pedagogical expert. The focus of learning math and science in informal settings through applications such as museum resources (both online and in-person) will be stressed during this workshop.

The maintenance of the Professional Learning Communities (PLCs) through this series of activities over the course of three years will help tie together the teachers, sustain learning and spur additional growth in teachers’ PCK during and after the formal lifetime of the program. The use of technological resources of discussion forums and videoconferencing between participants in different school districts will provide a smooth transition between face-to-face professional development meetings.

External evaluation of this project will take two foci: a focus on a gain in content knowledge through pre-post test comparisons of content tested on previous HSPA and EOC exams, as well as development of teachers’ sense of self-efficacy (their self-confidence in their own abilities to be successful at completion of professional tasks) and a lessening of their content-area anxieties. Reliable and validated instruments such as the Science Teachers Self-Efficacy and Beliefs Instrument (STEBI) and the sMARS (Short Mathematics Anxiety Rating Scale) will be utilized to analyze the growth of these teacher skills over time.