Sustaining Successes of CEEMS as Grant Comes to an End in August

The Cincinnati Engineering Enhanced Math and Science (CEEMS) Program, funded by an NSF Math and Science Partnership (MSP) grant (DLR-1102990) for $9.2 Million, in which Dr. Anant Kukreli has served as the PI, will conclude this August. There are many accomplishments to report as an outcome of the (CEEMS) program which is now in its 7th and final year. Starting in 2012 with teacher Cohort 1 and ending in this spring with Cohort 5, a total of 77 teachers have completed the two year program with 36 of them earning a master's degree in Curriculum and Instruction and a Certificate in Engineering Education. The estimated number of students impacted by CEEMS teachers over the past 6 years is now over 12,000.

The evaluation results collected so far have been outstanding; in comparison to non-CEEMS instruction, there was an 8% greater increase in learning due to implementation of two teaching pedagogies, Challenge Based Learning (CBL) and Engineering Design Process (EDP), in secondary math and science classrooms.

Over the past year there have been extensive efforts to sustain the many successes experienced by CEEMS participants. As a result, a variety of streamlined methods for delivering Professional Development (PD) on CBL and EDP have been developed so that more teachers can continue to benefit from implementing these best practices in the classroom. These sustainability initiatives include the establishment of the online Graduate Certificate Courses through CEAS. This winter/spring semester, 10 teachers enrolled with completion expected by the end of summer session. For those teachers not seeking class credit, STEMucation Academy has been established so that PD can be provided to individual and/or groups of teachers in either an online or face to face format. In addition, a book on CEEMS has been drafted, submitted, and approved by National Science Teachers Association (NSTA) for publication. As well as showcasing teachers’ successes in the classroom using CBL and EDP, the book describes the scope of the grant and features the factors that have contributed to its success. Finally, an annual STEM Conference offered to STEM educators throughout the Greater Cincinnati area has been established through a partnership between NKU and UC. Initially funded through the CEEMS grant, the STEM Conference is now being sustained through other donations.