RESEARCH EXPERIENCE FOR TEACHERS: A ROAD MAP FOR EDUCATIONAL ENHANCEMENT AND GROWTH IN STEM ENROLLMENT TRENDS

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ABSTRACT

Scientific research and development represent an essential element in supporting and improving education systems in the United States (U.S.). To equip the K-12 teachers with scientific discoveries, new technologies, and research significant changes in curriculum and teaching standards is required such that student's interest in STEM fields of study grow more. One of the very successful initiatives funded by the National Science Foundation (NSF) that works on achieving the above goals is the Research Experiences for Teachers (RET) in Engineering and Computer Science. The program was released on 2001 with the aims at laying the early foundation and igniting the spark for R&D in K-12 by involving a selected group of qualified teachers in a practical, applied, research university atmosphere. RET goals are not only to instruct the participants (i.e., teachers) on research process of the STEM in real-world applications but also to convey a new perception of science and technology to their students thus encouraging them to pursue careers in engineering and computer science. In this paper, we provide the milestone that is essential for developing a successful RET program and discussed the program's positive impact on the U.S. education systems and progress of student STEM enrollment throughout the nation.

Keywords: Research Experience for Teacher, Education, K-12 teachers, STEM enrollments.