



Strategic Growth Opportunities in STEM (Science, Technology, Engineering And Math) Education

Diane Boothe, Ross Vaughn

Boise State University (USA)

dianeboothe@boisestate.edu, rvaughn@boisestate.edu

Throughout the world, public schools are struggling to provide quality educators in STEM education fields. Shortages of qualified STEM instructors impacts education at all levels particularly students age 12 to 18. This crucial requirement continues to be on the horizon for teacher preparation programs as we prioritize our needs for the future of education. Challenges often relate to numerous factors including larger salaries and increased opportunities in private sector companies causing STEM majors to select occupations other than teaching when they graduate from universities. This paper discusses strategies and practices for recruiting outstanding educators in STEM fields with sustained effectiveness and commitment toward excellence in teaching. Innovative and transformative teacher education programs to prepare STEM educators are discussed including processes to prepare teachers who have previously served in other STEM fields and are interested in moving into STEM teaching positions. To optimize innovative teaching and learning and motivate potential teachers, successful methodologies and clinical practice in STEM fields are suggested that will strengthen and reinforce pedagogy related to best practices in preparing STEM educators. Partnerships with schools and agencies we serve, as well as partnerships among universities are explored. By meeting this global challenge and making positive strides in STEM education, dramatic success will be realized as we enhance STEM education and provide quality teachers for all students.