Science Mathematics And Technology Education (SMATE)

Western Washington University

What is SMATE's mission?

Our mission is to be a national model of effective recruiting and preparation of the highest quality future elementary and secondary science and mathematics teachers. We participate in research and dissemination of new knowledge in science and mathematics education reform to the university and K-12 communities, and serve as a valuable resource to the university and broader community to improve science and mathematics teaching and learning.

What is SMATE?

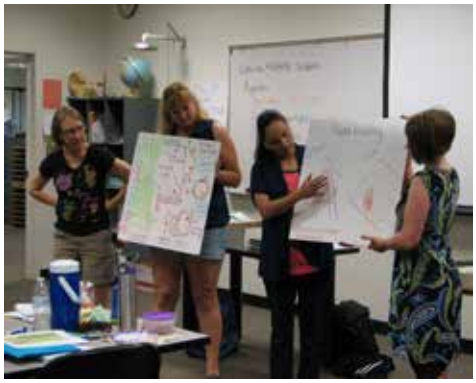
SMATE is a center at Western Washington University that houses science and education faculty and staff. Faculty have half time appointments in SMATE and half time appointments in their disciplinary departments. Currently there are two faculty each in Biology, Chemistry, Geology, Physics, Computer Science, and Education who are jointly appointed with SMATE. These faculty teach courses in both SMATE and their science or education departments. We currently have no formally appointed SMATE/math faculty, but engage in regular collaborations with math education faculty (math education is housed fully in the math department at WWU). SMATE also includes staff who specialize in K12 outreach, professional development, research, and evaluation of science education-related projects. We have a 15,000 square foot space that houses classrooms, a learning resource center/library with elementary and secondary science curricula and study space, as well as a stockroom of supplies for science instruction.

What do we do at SMATE?

Teacher Preparation: We teach courses for future elementary teachers and secondary science teachers. We also house a general science major for pre-service elementary teachers interested in specializing in science. We use a locally developed, innovative elementary science course sequence for introductory physics, geology, biology, and chemistry, developed specifically for pre-service elementary teachers. We model effective science teaching, learning, and assessment practices emphasizing Next Generation Science Standards (NGSS) and connections to Common Core State Standards in Math. We also collaborate with other Washington state institutions to create new models of teacher preparation.

K-12 Teacher and Administrator Professional Development and K-12 School Reform: We maintain, and strive to develop more, collaborations between teachers, administrators, and higher education faculty to improve K-12 teaching and learning as envisioned in the Next Generation Science Standards, the Common Core State Standards in Mathematics, and the Teacher Principal Evaluation Program.

Undergraduate STEM Education: We cultivate collaborations and engage in professional development with faculty in Biology, Chemistry, Engineering, Environmental Science, Geology, Physics, Math, Computer Science, and Education in order to improve undergraduate teaching and learning for all students and increase the diversity of the STEM workforce.



What can SMATE and schools learn from each other?

We at SMATE rely on ongoing relationships with local schools in order to maintain robust and relevant science/STEM teacher preparation programs, and more generally to work together toward advancing high-quality STEM education for all children. SMATE faculty and staff regularly secure grant funding from state and national sources to support improvements in K-16 teaching and learning, through research, curriculum development, and professional development. What kinds of work can we do together to advance our educational goals?

Contact SMATE

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