Promoting University-wide Strategic, Cohesive STEM Education Outreach Programming

CSATS Mission
The Center for Science and the Schools (CSATS) at Penn State University works to develop and support mutually beneficial and sustainable relationships between Penn State STEM researchers and outreach providers, and K-12 schools that enhance K-12 science education across Pennsylvania.

CSATS Funding
CSATS activities are funded primarily through the Penn State Provost’s Office. Additional funds have come from the following:

- **GOALS**
  - Methods of Science/Engineering
  - Discourse and Practices of Science
  - Scientific Thinking: Creativity, Critical Thinking, Problem Solving
  - Recruit and Retain Interest in STEM
  - Diversity Awareness/Perspective
  - Cross-Domain Communication Skills

- **DIMENSIONS**
  - Formal/Informal Education (curricular, co-curricular, extra-curricular)
  - Equity: Diversity/Underrepresented groups/Special Needs/ELL
  - Urban, suburban, rural
  - Discipline Areas: Individual STEM/Interdisciplinary STEM/Integrated STEM + non-STEM
  - Access: Face to face/Distance Learning/Blended
  - Instructional Styles: Didactic/Demonstration/Active engagement/Inquiry-based

Engaging in Research
CSATS also engages in research examining aspects of teacher-researcher partnerships that will inform future work and optimize benefits for each partner. This research includes:

- Understanding how researchers learn the skills needed to design and carry out a research plan.
- Identifying gaps in teacher understanding of this process.

One outcome of this research has been the Modeling Authentic Science, Technology, and Engineering Research (MASTER) model.

Modeling Authentic Science, Technology Science Research (MASTER) Model
The MASTER model provides a scaffold for helping researchers translate the complexities of their own funded research projects to teachers, who in turn use this scaffold to work with students to design and implement classroom research projects.

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