Alternative STEM Measures

William J. Slotnik, Founder and Chief Executive Officer

Community Training and Assistance Center (CTAC)
Leadership of STEM: The PreK-12 Pathway

- Project Partners
  - Community Training and Assistance Center (CTAC)
  - Tracy Unified School District

- Key Components
  - Integrated STEM units: PreK-12
  - Partnerships
  - Professional learning and development

- Provides each student a STEM pathway
Project Principles and Mindset

- **Principles**
  - Every child has access to STEM pre-kindergarten through grade 12
  - STEM is integrated into the core curriculum

- **Mindset**
  - Each student can and will learn STEM
  - Student inputs inform and help drive instruction
  - Students benefit from collaborating with STEM professionals
  - Systems need to respond to emerging priorities
Project Logic Model

Integrated STEM units

Partnerships

Professional learning and development

Implement units at a high level of quality

Collect partner insight for decision-making

Provide STEM training and capacity-building

Focus PLCs on units

Increased achievement in English, math, and science

Increased enrollment in IB/AP courses

Increase completion of A-G courses
Measure 1: Design Challenges

Design Challenge Features
- Solves a problem
- Applies an engineering design process
- Incorporates computer science
- Results in work products
- Requires students to share products

Design Challenge Success Criteria
- NGSS performance expectation criteria
- Engineering design descriptors
- Computational artifact criteria
- Communication skills descriptor
- Collaboration criteria
Measure 2: Community Collaboratory

Purpose
Connect students with STEM industry professionals

Function
Find unit-related leads to work with students

Increase the number of STEM industry professionals who partner with students during integrated STEM units

Members
Local community and STEM industry executives
Measure 3: Collaborative Instructional Review

- Focuses on student actions related to rigor, relevance, and engagement
- Serves as district framework for high-quality instruction
- Involves peer teachers, administrators, and district leaders
- Informs site and district supports
- Comes from ICLE
Telling the Story

- A story from four perspectives:
  - Students: Ensuring robust STEM learning for all
  - Teachers: Making pedagogy more dynamic
  - District and School Leaders: Focusing instructional leadership on STEM
  - Systems: Changing how people think and behave
Thoughts? Reactions? Questions?