

# Research+Practice Collaboratory

## THE PROBLEM

Long-term and large-scale improvement of STEM education, including the successful implementation of the new standards, will require significant shifts in practice across communities of educators, researchers, and policymakers in both formal and informal settings.

The Research+Practice Collaboratory addresses a persistent historical gap between educational research and practice that limits the potential for transformational and sustainable change in STEM education. But “research and practice” is not a one-way street, though the problem is often characterized as if it is.

There is a need to reframe the problem and to reimagine and test new cultural models of the relationship between research and practice.



## MISSION

Learning from new cultural exchange research models in the medical sciences, we will use a framework of cultural exchange across the communities of research and practice to:

- Expand access to** usable knowledge generated through research and practice in dialogue with one another,
- Create forums for** critical engagement across research and practice communities, and
- Develop and study new models of** research-practice collaborations that can lead to transformational and sustainable change in STEM education.

## CORE STRATEGY

Collaboratory activities are organized around three strategic levers:

- To focus our efforts,** the Research+Practice Collaboratory will address four domains that are critical to STEM education and, specifically, to the successful implementation of the Common Core Mathematics and ELA Science & Technology and Next Generation Science Standards: **STEM Practices, Formative Assessment, Cyberlearning, and Cross-Setting Learning.**
- To achieve broad impacts,** the Research+Practice Collaboratory will work with existing STEM education professional associations and improvement networks, like MSPs, to expand and enrich their efforts to engage their constituencies in the concerns, findings, and improvement strategies of both research and practice.
- To advance current knowledge,** we employ a design-based implementation research approach to supporting and disseminating results of new collaborations between researchers and practitioners.

## GOALS AND ACTIVITIES

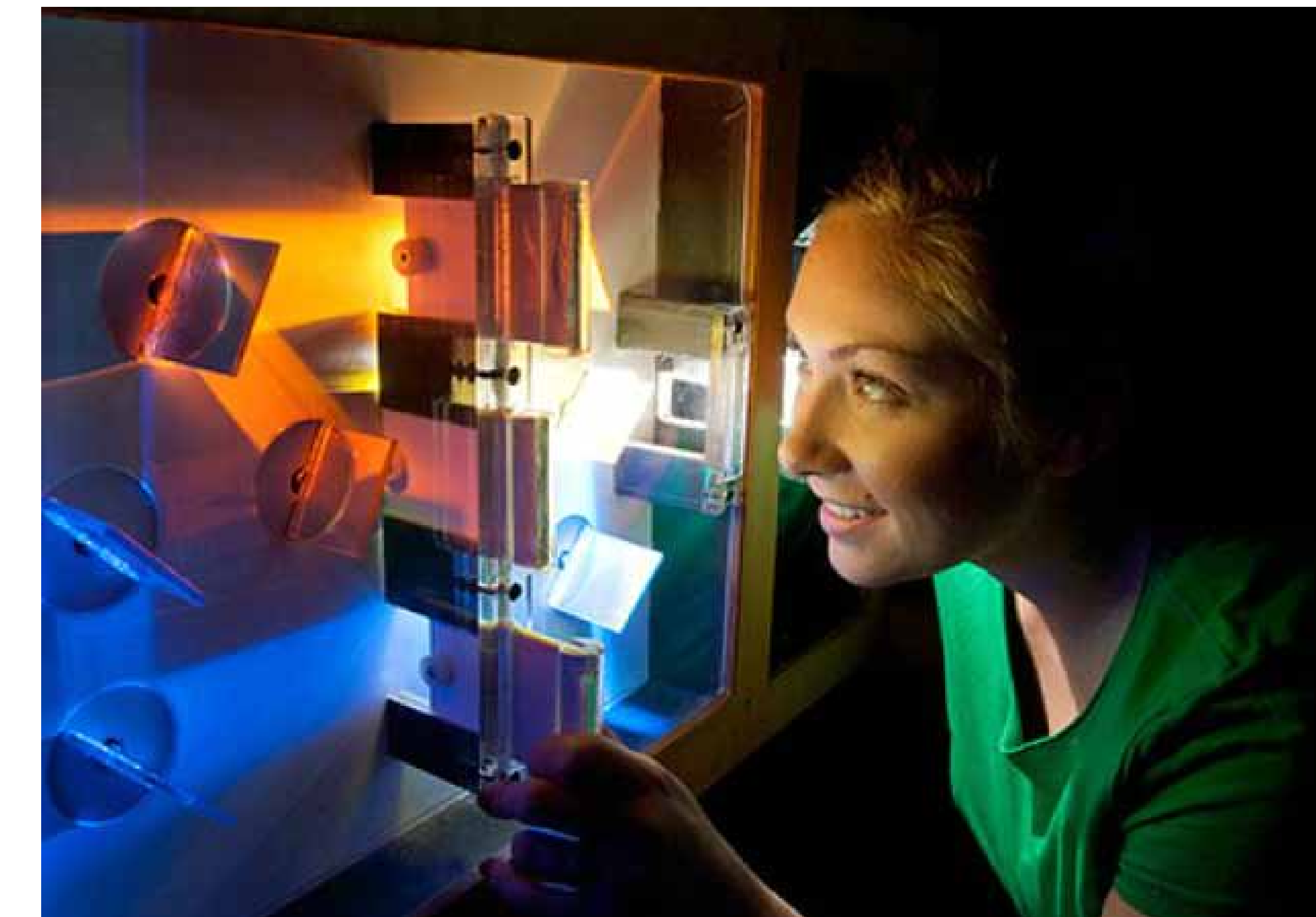
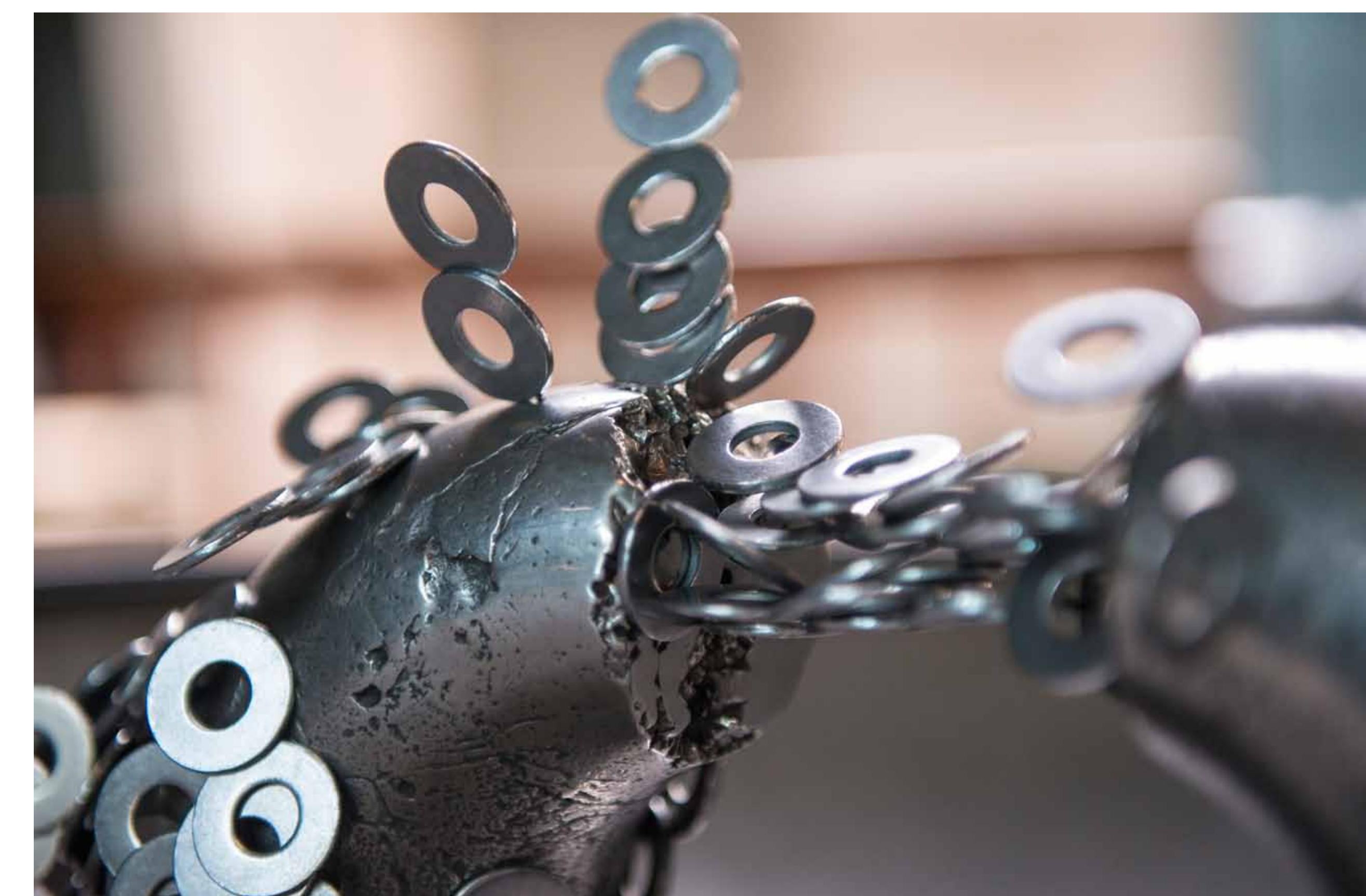
- Expand access to** and awareness of usable resources (knowledge, tools, and models) generated through research-practice engagements:
  - Organize professional associations network
  - Build digital resource center
- Create forums for** critical engagement across research and practice communities:
  - Catalyze inquiry groups
  - Host cross-sector summits
- Develop and study new models of** research-practice collaborations that can lead to transformational and sustainable change in STEM education:
  - Develop three adaptation sites
  - Build network of research-practice partnerships

## MEASURES OF SUCCESS

- Documented widespread integration of Collaboratory resources into existing professional associations and networks’ activities and dissemination mechanisms
- Professional associations, networks, and Collaboratory participants report that resources are useful and of high quality
- Through cross-sector engagements (research and practice, formal and informal, science education and social and behavioral sciences), salient questions, challenges, and approaches are identified and elucidated to help standards implementation with respect to four focal themes



- Professional association networks undertake new approaches to advance dialogue between researchers and practitioners
- Strategic projects, partnerships, and collaborations are developed as a result of new understanding through critical engagement
- Participating researchers and practitioners use, refine, and develop new tools integrating practical and scholarly concerns and knowledge
- Adaptation sites produce effective new tools, practices, and critiques that are integrated and used through access and awareness channels
- New knowledge and analysis is developed and disseminated through peer-reviewed publications, trade journals, and other professional mechanisms



## OUR QUESTIONS FOR YOU

How do you currently engage your project participants with findings from research? From practice?

What “problems of practice” do you anticipate related to the four domains (practices, formative assessment, cyberlearning, and cross-setting learning)?

Which of our activities sound most compelling to you? How might your project want to participate in the activities we have planned?

## PARTNERS

Exploratorium, University of Colorado Boulder, Educational Development Center, Inverness Research, TERC, and the University of Washington

## REFERENCES

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