STEM-INSIGHTS: Capability Enhancer menu

Helping STEM education and engagement programs to strengthen delivery and measure, understand, and contribute to shared impact

Many STEM education program providers, particularly smaller organisations where staff undertake multiple roles, have limited capacity to undertake evaluation and other evidence-generating activities.

The Capability Enhancer (a STEM-INSIGHTS initiative led by CSIRO Education and Outreach) offers collaboration options that support program providers with accessing relevant evidence and addressing barriers to undertaking monitoring, evaluation and learning (MEL) activities. These collaborations contribute to the development of shared resources and tools that promote consistent language and strengthen the STEM education sector's ability to learn about what works.

Building capability for the STEM education and engagement sector

We've heard from small program providers that they don't have the time or in-house expertise to design evaluations, analyse data, engage with research literature, or translate best practice into program design and improvement. We've piloted capability approaches and are continually gathering insights around what knowledges and skills are needed to understand, access and use evidence.

While we continue to explore options for building individual and organisational capability, we've learned that this should be supplemented with scalable processes that shortcut design thinking effort and support learning both within and across organisations.

Capability Enhancer now focuses on co-developing practical tools for sector use, promoting shared language and infrastructure, and embracing proportionate approaches to evidence use. This approach enables the STEM education ecosystem to learn from insights that program providers generate through their work.

Who Capability Enhancer is for

- STEM education and engagaement program managers
- Monitoring, Evaluation and Learning practitioners
- Program designers

The collaborative process and available resources can be applied to existing programs, new initiatives, pilots, or portfolios of programs.

What collaboration could look like for you

Embed evidence into practice (ADOPT)

Suitable for: teams who want to find tools and approaches that can help strengthen their capability to improve STEM program delivery and make evidence-informed decisions

Commitment level: Low

Engagement activities include one of the following:

- Exploring the STEM-INSIGHTS Knowledge Hub containing curated resources and evidence summaries
- CSIRO recommending appropriate resources after an initial discovery discussion

What you may get:

- Access to essential knowledge on evidence use and supportive toolkits
- Guidance on what approach to implement within your program or organisation
- Guidance on what outcomes to measure and what data to collect, informed by the STEM-INSIGHTS outcome framework

What you contribute to the sector:

By using these recommended approaches, you are demonstrating your program's contribution to shared outcomes in the STEM education ecosystem and supporting consistent language for measuring impact.

Apply a tool to your context (ADAPT)

Suitable for: organisations looking to tailor existing tools to their program

Commitment level: High

Engagement activities include:

- For interested organisations, CSIRO facilitates a discovery process to clarify your evidence interests, existing capabilities, alignment with strategic priorities, and readiness to collaborate.
- Eligible participants then undertake a Collaboration Agreement with CSIRO, which outlines shared objectives, potential outputs and contributions to the collaborative process.
- CSIRO supports you to trial the use of an established tool or approach within your organisation. The goal is to identify and share learnings around its application to a new context.

What you may get:

- Draft work products or practice guides
- A better understanding of how select tools and approaches could be implemented in your organisation, and what changes are needed to make it fit for purpose

What you contribute to the sector:

- Input into the ideation of sector-wide resources *(What are the implementation barriers? What can be developed to address them?)*
- A practice case study or guidance to support sector learning *(What tools worked? In what contexts?)*

Examples of previous collaborations:

- **Practice case study:** Applying the Ngaa-bi-nya framework to STEM education programs
- **Practice case study:** Identifying outcome chains to map a program's pathway to impact

What is not included:

- **Direct implementation support or bespoke deliverables**: Capability Enhancer does not deliver work that is solely for the benefit of the collaborator's program or organisation. The focus is on identifying what shareable tools can be developed that will support evidence use across the program delivery cycle.

- **End-to-end development of a resource**: ADAPT collaborations focus on identifying what can be potentially shared with the STEM education sector. Further testing and prototype development will be undertaken through CO-CREATE collaborations (see below).
- **A formal partnership between institutions**: The Collaboration Agreement outlines the shared contributions for work scoped through Capability Enhancer, with a focus on identifying and sharing process learnings and products for sector use.

CO-CREATE tools and approaches for the sector

Suitable for: organisations who are motivated to collaborate on developing new or improving existing tools and approaches so that they are optimised for ecosystem use

Commitment level: Medium to High

Engagement activities include one of the following:

1. **For draft tools, approaches and frameworks ready for finalisation and dissemination:** Provide user feedback on their relevance, usefulness and fit
2. **For the active co-development of pre-identified tools, approaches and frameworks:** Eligible participants undertake a Collaboration Agreement with CSIRO, which outlines shared objectives and contributions to the collaborative process. Both organisations jointly develop a prototype that directly responds to a sector-identified need.

What you may get:

- Prototypes of resources to use in your practice
- Credit as a co-producer

What you contribute to the sector:

Finalised, endorsed knowledge products that reflect user/sector needs and strengthen the STEM education ecosystem's capability for learning from evidence

Examples of previous collaborations and current work ready for endorsement:

- **Endorse a resource:** Help curate a list of good practice MEL resources for the sector by completing this form
- **Case study:** Co-developing a catalogue model to strengthen the delivery of STEM outreach activities

REFER

As part of our discovery process, we may find that some opportunities may not align with the Capability Enhancer team's priorities, capabilities or capacity. In these instances, we will endeavour to connect you with a colleague within CSIRO, a member of the STEM-INSIGHTS Network, or another contact with the relevant interests and expertise.

Ready to collaborate?

Contact the STEM-INSIGHTS team for a brief discovery conversation: SInetwork@csiro.au