

# FOSTERING STEAM

## Designing art-science activities with equity and access in mind



Laura Carsten Conner,<sup>1</sup> Blakely Tsurusaki,<sup>2</sup> Carrie Tzou,<sup>2</sup> Mareca Guthrie,<sup>3</sup> Stephen Pompea,<sup>4</sup> and Perrin Teal-Sullivan<sup>1</sup>

<sup>1</sup>University of Alaska Fairbanks; <sup>2</sup>University of Washington, Bothell; <sup>3</sup>University of Alaska Museum of the North; <sup>4</sup>National Optical Astronomy Observatory

### Overview

Many informal learning institutions use STEAM approaches to engage diverse learners. Our project aims to support educators in libraries, museums, and after school programs through a STEAM professional development (PD) series.

Our PD approach is centered around a set of core STEAM practices that prioritize STEAM mindset and identity work. Participants engage in exemplar activities and design new experiences for their specific teaching and learning contexts. The series involves in-person sessions, online training, and team coaching during the design phase.

### Why this approach?

Activating interest and personal relevance sets youth on a path for developing life-long science engagement. We also know that youth become extremely self-critical of their own art around late elementary school age, and can stop participating as a result. Our STEAM practices can quiet the “inner negative voice” and allow youth to fully engage. Our STEAM model stresses supporting STEAM identity work through:

- Allowing opportunities for agency & choice
- Positioning learners as emerging experts
- Reflecting on how STEM and art connect to everyday life
- Using STEAM practices
- Connecting STEAM to learners’ everyday lives and cultural practices

### Example of practices in action: Painting with Chemistry

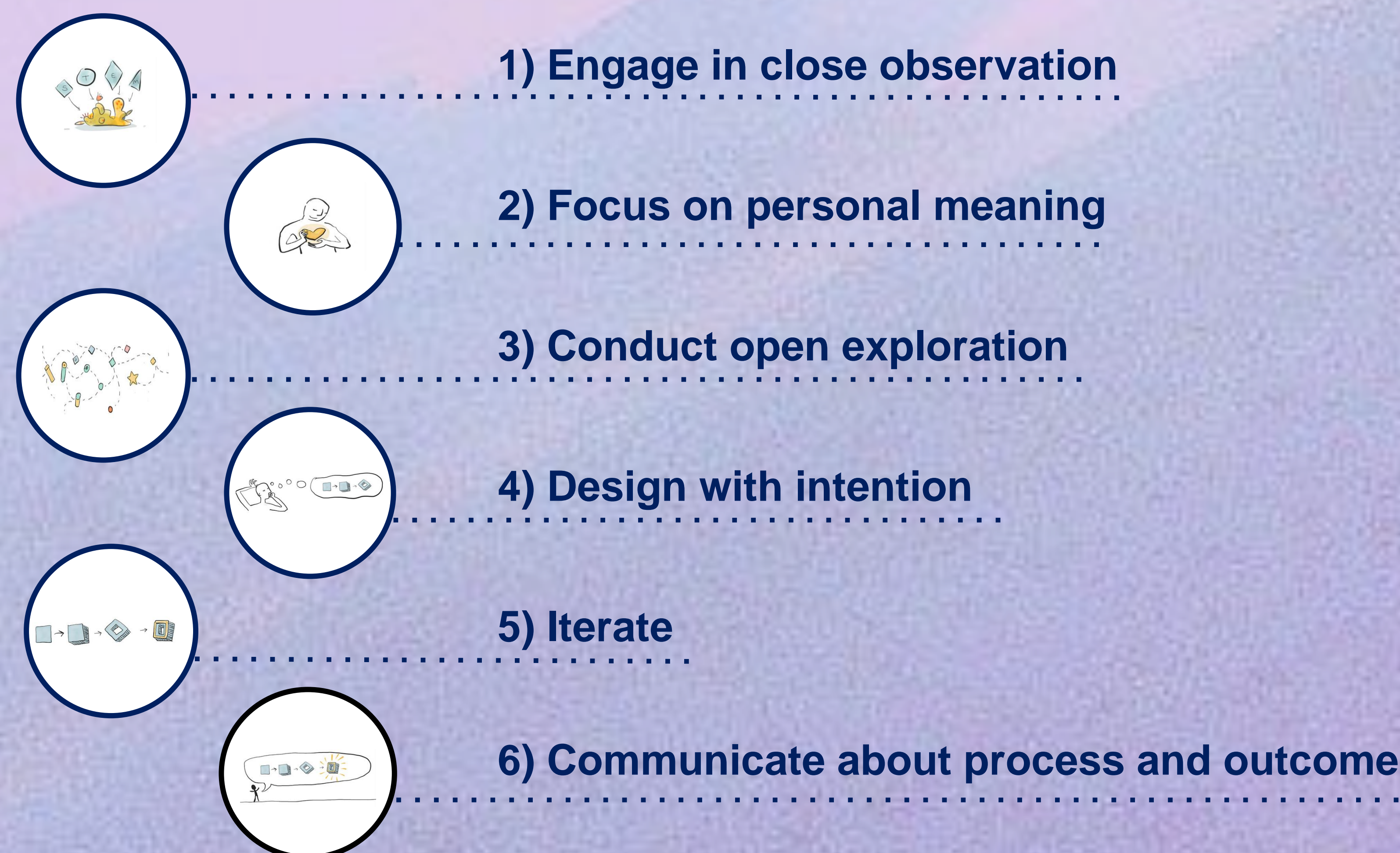
**Close observation:** what happens when different substances are combined?  
**Open exploration:** curiosity-driven “messing around” to explore learner questions



**Design with intention:** creation of color palette through chemistry experimentation



### Core STEAM Practices



### Outstanding questions/challenges

- We are working with a variety of ISL institutions. Question: Can one PD model fit the needs of multiple ISL practitioners/institution types?
- What are the best methods for supporting educators to move through the whole PD series?
- How can we support educators in a complex system to design and implement STEAM programming?

**Personal meaning:** learner directed content and composition



**Iteration:** results inform new designs

**Communicating process and outcome:** presentation and feedback to peers



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