

Facilitating Computational Tinkering | AWARD # 2005764

Community Partners: Denver Public Library ideaLABs, Clubhouse Network

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www.facilitatingcomputationaltinkering.org/

Project Description

Informal learning educators play important roles in making and tinkering spaces to cultivate creative and equitable environments for their communities, especially for groups that have been excluded and marginalized from computing. Guided by commitments to equity in multi-year collaborations with informal educators, we worked collectively to imagine and design computational tinkering activities, tools, and resources through a pedagogical approach that supported young people to create and express themselves with computing.

Key Achievements

Through extensive collaborative work with hundreds of informal educators across multiple informal settings, our project team:

- Launched a free mobile coding app, OctoStudio, that is available for use offline, leveraging the built-in sensors on mobile devices
- Advanced knowledge about the infrastructures of informal learning environments and educators' iterative practices to support equitable learning experiences
- Developed exploration areas to develop new computational tinkering learning experiences situated within partner sites
- Developed tools and resources *surrounding* computational activities: explicitly supporting adaptation and equity-centered facilitation
- Disseminated resources, research, and stories through dozens of educator workshops, a project website, and a newsletter called *Tinkering Together*

Audience & Settings

Audience: Informal learning educators, young people, families, general public

Disciplinary area: STEM/CS

Learning environment: museums, libraries, community-based organizations

Access and Inclusion

- We intentionally selected community-based organizations, who support and center the experiences of youth and families from marginalized groups, as project partners in engage with the project team in collaborative research and design.
- We have developed resources for educators to consider what equitable facilitation practices look like in their contexts through Facilitation Dialogue Cards and a zine called “What Equity Means to Me”
- In our collaborative process as a project team, we have established time for reflection and emergent collaboration of ideas, influenced by and including local networks of long-time educator partners, regularly circling back to questions about value orienting project progress, design, and evaluation
- Our team has organized various ways to share and learn with informal learning educators, attending to schedules and capacity and inviting partnership over time, including workshops and codesign experiences
- The knowledge building process and resources themselves foreground voice and perspectives of community-based educators

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(Above) A video about the OctoStudio mobile coding app and a video about the global partners that contributed to its development.

(Top right) A workshop at the Tinkering Studio at the Exploratorium inviting young people to create interactive animations with OctoStudio

(Middle Right) Educators engage in small groups about what equity looks like in their spaces using the equity zine as a resource

(Bottom Right) Educators share their projects a virtual the "Making Faces" workshop

