

Designing for Equitable Collaboration



The Tinkering Studio views equity as a practice of examining assumptions and takes an iterative approach to development and design. Reflecting on the historical trends and the impact of the pandemic on the early learning field, the Tinkering Studio also needed to consider the ways in which the digital design of the *Tinkering Together* event could further exacerbate inequalities in the community. In order to design the event with equity as the guiding element *Tinkering Together* was conceptualized and developed in three iterative, equity-centered phases:

Phase 1

Reflection on definitions of justice and exploration of compatible online learning approaches.

Phase 2

Development of a conference model based on sound theoretical principles that align with the tinkering approach and the goals for the project.

Phase 3

Translation of the concept of the event from an idea to a digital product.

PHASE 1

The challenge in designing

online experiences centered around equity is that there are no theoretical models or approaches that fit neatly into real-world scenarios. Phase 1 of this nuanced iterative process involves intentional steps to develop clear definitions of values and examining how these values play out in the design of the event. Developing foundational definitions furthered our aim to integrate educational approaches with sound theory to reimagine the work and to incorporate learning models reflective of the latest in online learning and engagement. Different philosophical and learning approaches were used as guideposts to facilitate design innovation and were not intended to provide a prescriptive formula for development.

Given the cultural moment, a critical step in the process was to question assumptions about the values held around “typical” conference programs that tend to elevate voices in the early childhood field that already hold power and status and who have

the flexibility to leave their work sites to attend professional development opportunities. It became essential to engage in an exploration of the definition of “equity” in order to position these values as the driving element in the conference design. Of particular concern was the digital format of the event and ways in which we could wield technology to advance our stance on equity, rather than ignore its lack of neutrality.

In the beginning stages of crafting the concept for the *Tinkering Together* festival, leading voices such as Sasha Constanza-Chock and Nishant Shah inspired the Tinkering Studio team to challenge and refine philosophical stances related to ideas and definitions of justice.

Shah’s Future Justice is an emerging approach that helps to reexamine the relationship between crisis and justice by asserting that crisis can’t be the only compass by which we define the future (2022). Future Justice provides a paradigm that “aims at unfolding alternative

ideas of justice, which are informed by ideas of collectivity, care, restoration, non-violence and compassion”. Making this theoretical pivot, Shah explains, empowers us to make space for the invention of different ideas, narratives and media that are essential for those that have been historically marginalized. Future Justice helped to shape the philosophical stance from which to begin to prioritize the voices we were committed to elevating and the space to be bold to do away with a traditional keynote and breakout session conference model in favor of showcasing a community of practitioner voices.

Costanza-Chock describes the ways design and designers perpetuate structural inequality and oppression in online spaces (2018). His work influenced the development of core commitments related to anti-racist practices that became integral to the the iterative process of designing the event architecture and the curatorial choices made for speakers, technology, and schedule.

The Tinkering Studio team further reflected on the relationship between justice and pedagogy by examining core commitments and praxis in order to explore alignments between the tinkering approach and compatible online learning approaches. The Connected Learning approach which “advocates for broadened access to learning that is socially embedded, interest-driven, and oriented toward educational, economic, or political

opportunity” (Ito et al., 2013) provided another starting point from which to begin to grapple with the complexity of the informal learning ecosystem and systemic educational inequality. Connected Learning’s stance on progressive education helped us to explore the interconnection between digital and in-person spaces and the impact of digital experiences and environments on learners of all ages. This model defines learning as an

“ongoing process, connected to a diverse and evolving ecosystem of learning resources, institutions, communities, and outcomes” (Freire, 1970, as cited in Ito et al., 2013). Importantly, Connected Learning embraces the opportunities in digital media environments (Ito, et al., 2013) and has provided practical principles for program design for groups of practitioners such as educators and librarians.

PHASE 2

Once we developed guiding ideas related to justice, we moved on to shaping the content strands by exploring alignments between the values-stance, online learning approaches, and the overarching goals of the event.

Tinkering Together was designed to convene stakeholders from the tinkering and early childhood ecosystems and further the exploration and evolution of practitioner and researcher knowledge about tinkering in the early childhood context. The ultimate long-term goal of the project included having more young children introduced to STEM learning through tinkering’s personally-meaningful, play-based approaches that align with the developmental needs of early learners.

The core content strands of *Tinkering Together* are designed to holistically address and examine the needs of both adults and children in early childhood learning contexts, the ways these contexts can be made more equitable through culturally sustaining pedagogies; and the influence of tinkering-based learning experiences on very young learners. Also, the event facilitates the sharing of promising practices that use tinkering to support the STEM learning of young children, as well as surface challenges and questions facing this emergent field.

The three main content strands Key Voices, Stories of Practice, and Community Resources, act as interlocking elements complementing one another to:

- **Analyze and document the state of the field of STEM-rich tinkering in informal early childhood contexts.**

- **Provide tangible resources to the field highlighting current promising practices and future opportunities for development to advance research and support practitioners in deepening their impact.**

- **Further the understanding of how tinkering interventions may contribute to the development of STEM interest, identity and learning amongst early childhood audiences.**

Tinkering Together featured podcasts, videos, and resources reimagine the traditional conference genre to support broader field building and engagement.

PHASE 3

The *Tinkering Together* website is the result of an intentional approach to the design of online civic and learning spaces. The production of the website in Phase 3 is the culmination of a design trajectory that builds on the values mapping and understandings related to online learning approaches from Phase 1 and the development of the content strands as related to the overall

goals of the project in Phase 2. Together, the three Phases follow an interdependent arc of design blending values, theory, and practice.

Tinkering Together was designed as a mobile-first multimedia experience enabling participants to access on-demand conference programming and resources. The user-friendly interface offers

intuitive side bar navigation and a visually compelling and elevated visual art direction to optimize uptake and engagement of the content. *Tinkering Together* is also a hub for resources and is the main channel for participant recruitment, dissemination, sharing conference insights in real-time, and distributing post-conference materials and publications.

COLLABORATIONS

In 2018, with support from the Early Learning and Care Division of the California Department of Education, the Tinkering Studio launched STEAM Starters, a two-year pilot project bringing tinkering into child development centers in San Francisco. This project included direct work in classrooms, the development of age-appropriate adaptations of tinkering phenomena and experiences for young children, and the training of early childhood educators to become tinkering facilitators.

Based on the success of this effort, the Tinkering Studio developed a set of online tinkering modules for early childhood educators in California. The STEAM Starters online professional development modules are intended to engage early childhood teachers and caregivers in tinkering-based learning explorations rich with science practices.

Tinkering Together has been primarily co-created with the early learning educators that collaborated with us in the STEAM Starters project. The innovative vision for the event was possible because the Tinkering Studio has developed close working relationships with the early learning community. This work, rooted in justice and professional respect, has allowed us all to grow and to continue asking questions about the ways children, educators, and communities might engage in tinkering to enhance their learning of STEAM and their comfort with science, but also support the development of children and educators who are confident and capable learners.