## *Connected Learning Guide*: Putting Theory Into Practice

Gina Grant (Chicago Learning Exchange), Kiley Larson (Kansas City Social Innovation Center), & Sam Dyson (Rita Allen Foundation)

The Chicago Learning Exchange has developed a *Connected Learning Guide* that translates that research into a one-stop reference for educators, mentors, and other youth-serving professionals. Connected learning is a model for youth engagement and includes a set of powerful design principles based on research into the kinds of experiences that sustain and deepen youth learning. Engagement matters because it is the key sign of a person's motivation to learn. Attendees will use the *Connected Learning Guide* as a tool to reflect upon their own practice, to identify their strengths, and to gain some practical guidance in areas where they would like to build their knowledge and skills. In the spirit of connected learning, this workshop will help you learn from and contribute to the wisdom of your peers. Registrants are encouraged to familiarize themselves with the guide before the workshop. Find the latest version of the guide at:

https://chicagolx.org/resources/connected-learning-guide

## State of Sound: Recording Community

Jason Evans Groth (North Carolina State University Libraries) & Alexander Valencia (North Carolina State University Libraries)

State of Sound is a North Carolina State University Libraries initiative. It invites the NC State sound-making community to share its work and hear the work of others. Whatever sounds the community is making—music, podcasts, oral histories, anything recorded with intention—is welcome to be shared. Understanding and practicing recording sound can lead to stories and ideas being shared to wider audiences faster, can foster creative collaborations, can showcase innovative work, and can build communities of sound makers who motivate one another to develop media-communication skills. In this workshop, two North Carolina State University librarians will lead attendees through hands-on activities that make use of innovative and accessible sound-making and recording technologies and practices. The first activity—Songwriting in 15 Minutes—will result in everyone in the room writing, recording, and sharing a song to State of Sound in a very short time. The second activity—Making Music With Music—puts attendees behind the decks in a DJ workshop, showing how records and recorded sounds are accessible instruments that can be remixed to share new ideas. All technology will be provided. At the end of the workshop, attendees will have a greater understanding of and appreciation for accessible sound making, sharing, and recording technologies and practices. They will see how stories can be told and how creative work can be showcased using these accessible technologies. And they will see how the State of Sound model inspires community, collaboration, and creativity through sound making.

## Fiber-Crafting STEM Learning

Anna Keune (University of California, Irvine), Naomi Thompson (Indiana University), Lillyanna Faimon (Indiana University), & Kylie Peppler (University of California, Irvine)

In the history of technology innovation, fiber crafts have played a prominent role. One notable example is the Jacquard loom that inspired the use of punch cards in the first programmable computer in the 1940s (Plant, 1995). Other examples

of the tight interconnection of scientific innovation and fiber crafts include modeling hyperbolic planes through crochet in mathematics (Henderson & Taimina, 2001). Despite the tight coupling, fiber crafts are frequently associated with less valued domestic practices. One prominent exception is e-textiles, which can foster learning of computer science and engineering concepts (Kafai et. al, 2019; Peppler & Glosson, 2013). Still, it remains underexplored how nonelectronic fiber crafts can be leveraged for high-quality STEM learning with ramifications of who and what is recognized as STEM. The workshop was organized as a make-test gallery walk around three main STEM themes: (a) computer science, (b) engineering, and (c) mathematics–with multiple crafts that facilitated playing with STEM concepts. The craft activities correspond with each of the three STEM areas. For computer sciences, activities included weaving a skip or lace pattern as well as embroidering a twisted square pattern to explore computer science concepts, such as conditional statements, variables, and parallelism. For engineering, activities included folding a basket, creating a doll skirt, and animating a twisted square to materialize spatial visualization as well as to sew 3D rotations and hinges. For mathematics, activities included weaving on a frame loom, pleating a bag, and crocheting a circle to explore mathematics principles such as slope and multiplicative proportional reasoning.

http://creativitylabs.com


## *City Settlers:* Sustainability Education Through Embodied Participatory Simulations in Classrooms

Vishesh Kumar (University of Wisconsin-Madison) & Mike Tissenbaum (University of Illinois at Urbana-Champaign)

In this hands-on workshop, participants played *City Settlers*–an immersive and interactive participatory game in which players consider sustainability, interdependent ecosystems, interpersonal relationships, resource management, trade, and divergent forms of collaboration, while working to build a thriving and successful [virtual] city. *City Settlers* involves negotiations among team-based managers of cities in a shared mixed-reality universe, where participants work to acquire resources, grow their city, and manage progress while striving to achieve their own self-determined success. It is designed to be played in a classroom where sections of the classroom have overlays of virtual resources and space to establish and expand their cities. Because there is no single win condition–with groups deciding what matters to them for their city to be successful–players discuss within their own team (i.e., their city) how they want their city to grow, and they collaborate or negotiate with other cities to achieve these goals. *City Settlers* is a hybrid digital-physical game with some aspects of the game–such as trading, how pollution spreads, and how resources are used–tied to where players are physically situated in the room, creating a uniquely immersive, embodied, and personally relevant form of gameplay.

https://visheshk.github.io/citysettlers/


## Making Observations: Identifying Values of Learning to Support Evaluation

Caitlin Martin (CKM Consulting), Eric Reyes (YOUmedia, Chicago), Ephran Ramirez (YOUmedia, Chicago), Peter Wardrip (University of Wisconsin-Madison), & Lisa Brahms (Children's Museum of Pittsburgh)

Spaces where youth and teens have opportunities to make and learn things they care about on their own time have proliferated in formal and informal settings. These spaces are often messy and busy and although there may be common goals and practices, they are highly unique from place to place and community to community. Young people are