

Tinkering Together *Visual Stories*

Tinkering Together Visual Stories is a four-part miniseries showcasing tinkering in action by real-world early learning practitioners. The series highlights family child care providers, informal care providers, libraries, and museums.





Julie and Maggie use a play-based curriculum to implement tinkering for early learners in their family child care program. As Julie notes, “I guess I had been using tinkering without knowing I was using tinkering. I didn’t know tinkering existed. It’s hands-on, it’s learning through fun, it’s learning through exploration.” They use common household items such as paper clips and balls to support children’s tinkering, and they encourage families to do the same because children are surprisingly creative with those items. Julie and Maggie believe that tinkering benefits children and the adults who facilitate it. Maggie explains that helping children tinker is a learning experience for her as an educator. She explains that, “It’s important for me to learn what

they’re telling me... I’m reflecting on what they’re saying to one another when they’re learning together. They’re teaching me every day as I’m guiding them in life.” Julie adds that tinkering is similar to the scientific method, and she sees value in children learning how to accept the inevitable failures that happen during tinkering. When children persist through the failures, she explains, they have a “huge sense of accomplishment” when they ultimately succeed.

Melissa and Jeanne child care providers in the Quartz Valley Indian Reservation, integrate tinkering into existing cultural practices. Melissa has always been a hands-on learner, and believes that “when we make

something fun, it interests [children] more. Play helps kids discover for themselves.” Tinkering has helped Melissa and Jeanne realize that they have been doing math and science all along with children in their center. For example, inspired by *The Hungry Caterpillar* they observed the growth of a worm they found when they were shucking corn together. Melissa and Jeanne use their propensity as “natural gatherers” and their connection to the natural world to support children’s tinkering with the materials that are around them, such as rocks, streams, the sun, and the moon. When children brought a pretty rock to Melissa, she shined a light through it and invited them to find other rocks and objects that would reflect



light. She says, “It’s exciting when the kids discover something that we weren’t even thinking about. It’s really exciting because they’re excited. They’ll talk about it to each other.” Jeanne appreciates that tinkering broadens children’s horizons and provides experiences that will put them on an equal footing when they start school. She explains that these experiences are especially important because of the remote location of the reservation. For this reason, Jeanne says, “[Tinkering] is everything to me. It’s a big ball of fun. Let’s do this!”

Raemona, Alejandra, and Mirabel share the philosophy of the Learning Bus, a play-based learning center on wheels from the Marin County Free Library. The Learning

Bus is addressing the county’s disparities in access to enriching early learning opportunities by inviting young children and caregivers to read, build, and tinker together. By encouraging play and experimentation, the Learning Bus also is helping to build a growth mindset in young children. As Raemona explains, “Children are natural tinkerers. If you give them materials they will start to create.” A key element of the Learning Bus is to help adults see how children are learning through play and think about how to provide those experiences in their own homes. For Mirabel, “One of my favorite things about the Learning Bus is seeing how the parents interact with their child.” Books are central to the Learning Bus experience. Having books plus an activity combines hands-on learning with the joy of learning how to read. Because Learning Bus staff members recognize that all children bring unique strengths, they intentionally design the activities to help each child to reach their full potential and find joy in learning. Alejandra approaches her work with the belief that, “We are here to spark their interest and follow that interest.”

Delia and Samantha, museum educators at the New York Hall of Science, implement bilingual, multi-generational approaches for making and learning with early learners and their families.

These programs are based on the philosophy that “play is how children make sense of the world” and that hands-on learning experiences “allow people to feel like they are smart and that they are capable of doing really cool things.” Delia and Sam honor the diversity and strengths of the families who tinker in their space: the workshops are conducted in Spanish, parents are co-owners, and they use everyday materials. Delia explains, “Where I thought that bringing in 3-D printers or laser cutters would be a good idea, what resonated was using simpler materials and simpler tools.” For example, one workshop used a tortilla maker in the traditional way to make tortillas and then to make artistic prints. Sam agrees that it is important “to use tools and materials that are familiar to people, especially things that have associations with them already, like woodworking.” She uses woodworking to “flip the narrative” about gender and power tools, noting that, “Anyone can use woodworking equipment, not just boys.” Through these experiences, the museum is trying to build parents’ confidence to help children explore their curiosity and express their creativity as they learn science at home. They also emphasize the idea that knowledge is shared among all participants. As Delia explains, “The learning journey belongs to the child, it doesn’t belong to the educator.”