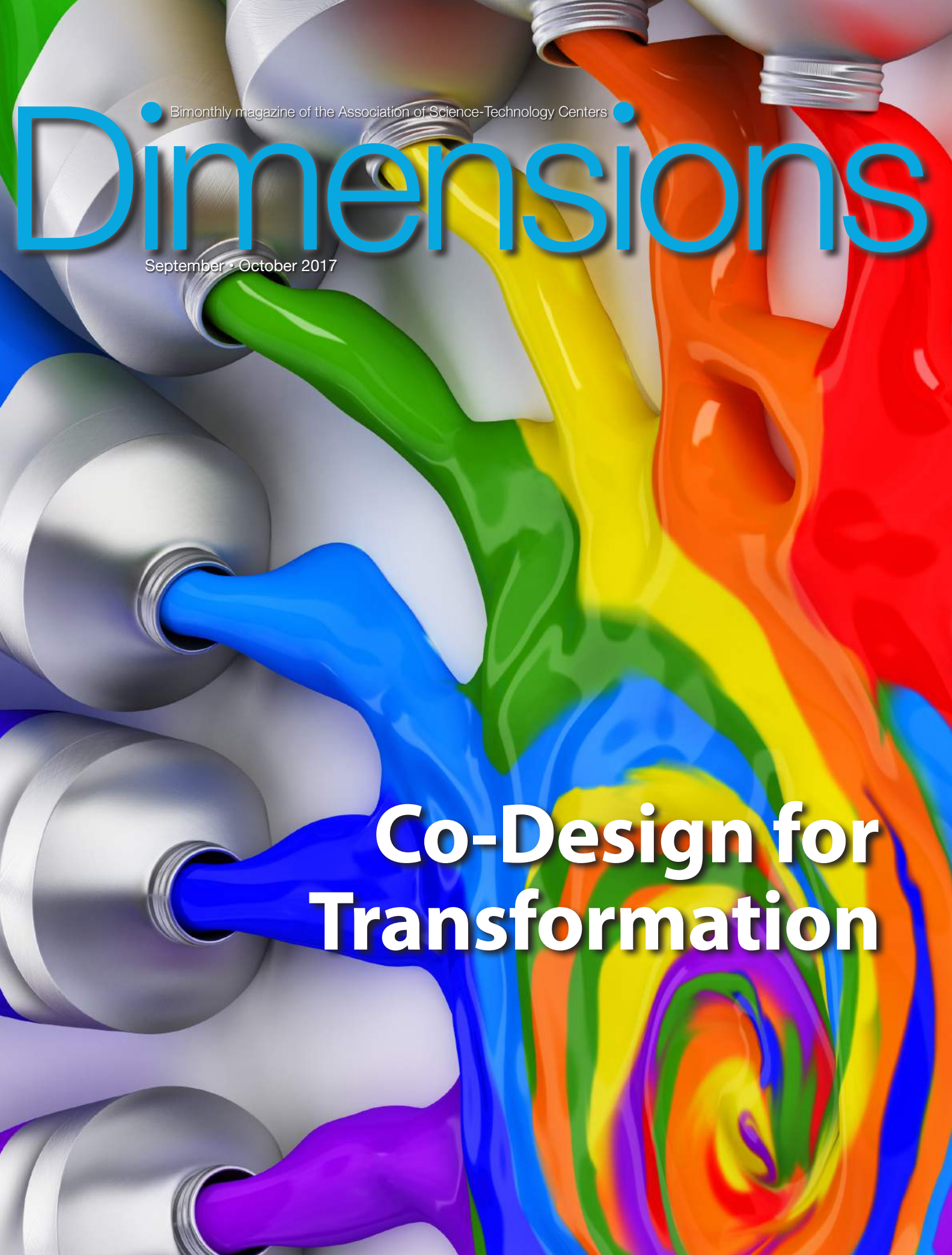


● Bimonthly magazine of the Association of Science-Technology Centers ●

Dimensions

September • October 2017

**Co-Design for
Transformation**



Learning to Move Collectively

By Holly Truitt

For years, I felt confident about our work at the University of Montana spectrUM Discovery Area in Missoula. I thought we were inspiring the next generation of Montanans about science, technology, engineering, and math (STEM); higher education; and ultimately their futures. Annually we were reaching over 50,000 people in a rural state with a population of only 1 million. Our museum had grown from a small, on-campus site to a beautiful downtown location. Our well-funded and celebrated rural and tribal mobile science program had developed to serve three-quarters of Montana counties and all seven of our state's American Indian reservations regularly.

But then I met Lynn Luckow, known for his work with the Noyce Leadership Institute, an organization that fosters leaders of organizations striving to engage their communities with science. He asked me, "To what end does your museum exist?" By this he meant, "What change do you want to create in the world?" Luckow observed that there was a gap between what we were doing—go-it-alone, often one-and-done programming—and the systemic change we wanted to create for Montana: paving robust educational and career pathways, closing opportunity and achievement gaps, and catalyzing social mobility.

This realization sent me into a cave of self-reflection, learning, and research. I went to the stacks for answers and on coffee dates with rural, tribal, and state leaders from various sectors to learn about our



communities' and state's needs. This searching clarified that the change we wanted to effect was grander than what we could do on our own through nice, tidy programming. We needed to replace our organizational impact mindset with a collective impact mindset.

COLLECTIVE IMPACT IN A NUTSHELL

John Kania and Mark Kramer (2011) of the global nonprofit consulting firm FSG explained that "large-scale social change requires broad cross-sector coordination, yet the social sector remains focused on the

EmPower Place provides a space for learning and creativity at the Missoula Food Bank. At EmPower Place's grand opening, children celebrated indoors and out. Photo courtesy Cal Stewart

isolated interventions of individual organizations."

Kania and Kramer define collective impact as "the commitment of a group of actors from different sectors to a common agenda for solving a specific social problem, using a structured form of collaboration." They identify five key conditions for collective impact to succeed and flourish:

- backbone organization(s) to provide centralized support and dedicated staff for the initiative

- common agenda and purpose
- shared and mutually agreed-upon metrics to measure impact
- continuous communication
- agreed-upon, reinforcing activities among all participants.

When this article came across my desk, I thought, "Yes!"



Intended to nourish both bodies and minds, EmPower Place is a family learning center embedded in the Missoula Food Bank. Missoulians celebrated EmPower Place's grand opening with a barbecue in July 2017. Photo courtesy Cal Stewart

OUT OF THE CAVE AND INTO THE COLLECTIVE

What does this look like on the ground? And what does it mean to the science and children's museum field? Started as a small experiment, spectrUM's transformation from an organizational mindset to a more community-based, collective mindset is a case study in an institutional shift toward collective impact.

In 2013, I convened a number of existing partners on the Flathead Indian Reservation, where spectrUM has been working since 2007. Situated 17 miles (27 kilometers) from Missoula, the reservation is home to the Confederated Salish and Kootenai Tribes, whose 1,200 K-12 students experience significant barriers to education and economic success. The unemployment rate among tribal members on the reservation is more than triple the statewide rate (CSKT Economic Development Office, 2014). High school students in Ronan, one of the largest communities on the reservation, are less than half as likely to be considered advanced or proficient in science as their peers statewide (Montana Office of Public Instruction, 2016). S&K Technologies, a tribally owned aerospace, technology, and logistics

conglomerate, would like to develop a vibrant, Native STEM workforce, but currently employs mostly non-Native STEM professionals.

We met with our partners on the reservation to explore moving collectively, first by simply reimagining spectrUM's existing Science Learning Tent at the Arlee Celebration, the reservation's largest annual powwow, to be community based and more culturally relevant. As we looked at years past, we realized that primarily non-Native role models from the university and museum had staffed the tent. Activities and exhibits had been chosen without any input from the community. In our efforts to put the community in the driver's seat and further our common goal of fostering a homegrown, Native STEM workforce, we chose exhibits that aligned with the Tribes' economic plan and workforce needs; changed signage to feature local, Native STEM role models; and invited other Native STEM career and high school "near-peers" to serve as educators in the tent. The experiment was well received. "It was an overwhelming success that exceeded all involved parties' expectations," B.L. Azure wrote in *Char-Koosta News*, the official newspaper of the Flathead Nation (2014).

SCINATION

Building on this momentum, SciNation on the Flathead Reservation was born. With spectrUM as its backbone, SciNation includes members from the Confederated Salish and Kootenai Tribes' health, natural resources, and education departments; local K-12 schools; and the University of Montana, with support from Tribal Council, the Tribes' culture committees, and S&K Technologies. Programs include the Science Learning Tent at two powwows annually, Science Bytes that embed STEM enrichment at free summer meal sites on the reservation, a mobile museum and family science night that travels to reservation schools, and, most recently, the (U.S.) National Science Foundation (NSF)-funded Kwul 'T'kin Maker Truck, a mobile makerspace co-created with the Tribes that combines cultural activities like drum making, beading, and basket weaving with high-tech tools and materials like laser cutters, 3D printers, and circuitry. This year, spectrUM and SciNation are joining Salish Kootenai College and other reservation partners in a U.S. Department of Education-funded initiative to advance early childhood STEM education opportunities and college-readiness programming.

SciNation and our partners have focused our research and evaluation on three areas: assessing SciNation's ability to work collaboratively and co-create in a way that is culturally sensitive and relevant; evaluating our efforts to shift youth participants' perceptions of STEM and higher education as a place for them; and determining whether weaving culturally relevant role models and materials into STEM learning advances and creates entry points for our Native students.

Preliminary findings from our NSF-funded work suggest our cultural making activities spark interest in STEM and design thinking. My co-principal investigator Lisa Blank, a University of Montana research professor and spectrUM board member, found that participants spent an average of 29 minutes at the cultural STEM making experiences versus seven minutes at noncultural science activities, with equal participation by males and females. Adults were also more likely to engage with their

children at the beading and drum stations. In the coming year, we hope to add a longitudinal study to our ongoing SciNation research and evaluation.

EMPOWER PLACE

Our lessons learned from SciNation are now fueling a number of other community-based collective impact efforts, including our newest project, EmPower Place. This vibrant family learning center is embedded in the Missoula Food Bank, which annually serves over a quarter of Missoula's residents, including more than 6,000 children—35% of its overall clientele. Despite its reputation as a prosperous college town, Missoula is a challenging place for many of its children: 16% live in poverty and nearly 2% experience homelessness in a given year (Montana Realtors Association, 2017, and Montana Kids Count, 2016).

Dedicated to nourishing both the bodies and minds of Missoula's most vulnerable children, EmPower Place is rich with hands-on science exhibits, STEM role models, books, activities, and early literacy programming, as well as free lunch and dinner for children. Since the grand opening in July, attendance has risen steadily to an average of 147 visitors daily.

Powered by the Missoula Redevelopment Agency and the (U.S.) Institute of Museum and Library Services, EmPower Place is a collective impact effort by spectrUM, Missoula Food Bank, and Missoula Public Library, with spectrUM and MFB serving as backbone organizations. Other partners include WIC (the U.S. federal government's Special Supplemental Nutrition Program for Women, Infants, and Children); the Salvation Army; and the university's college of education. All of these partners share the goals of reducing the stigma felt by children whose families use food bank services and closing opportunity and achievement gaps for children experiencing food insecurity. These goals guide the programming and ongoing innovation in EmPower Place.

The collective is in the process of deciding key metrics with our internal and external evaluators. Our findings and experiences will inform spectrUM's

and the collective's expansion into Missoula's new \$35 million library-museum complex that will emulate the Nordic "culture house" model of locating arts, cultural, and social services under one roof. When the structure is completed in 2020, children and families will have a free, one-stop shop where they can explore hands-on exhibits, read and check out books, visit a makerspace, or eat free breakfast or lunch provided by the food bank. (To learn more, see "Coming Under One Roof: Creating a Culture House in Missoula" in the January/February 2016 issue of *Dimensions*, astc.org/DimensionsPDFS/2016/JanFeb.pdf)

WHAT'S NEXT?

Like other collective-minded leaders I have spoken to (see the sidebar on page 39), spectrUM has found that when you think and act collectively, the money follows. In the past year and half, we brought in \$3 million in new federal and private foundation funds to advance collective efforts like EmPower Place and SciNation. These numbers are unprecedented for my small organization.

Working collectively not only yields more impact and investments but creates joy. In a sector where

A monthly SciNation meeting at the St. Ignatius Fitness and Community Center on Montana's Flathead Indian Reservation, under a mural of celebrated tribal elders. Photo courtesy Gravity Media Productions



leaders often feel isolated, surrounding oneself with like-minded partners is a gift.

Like others, I have come to think of collective-impact efforts as constellations of hope and change for communities. Each organization is a unique star held together by a purpose larger than itself, allowing it to be more significant, brighter, and impactful.

I encourage our field to continue to collectively ask: To what end do we exist? What change do we want to create in the world? Where are there gaps between what we do and this change we want to create? And whom—especially beyond our sector—should we be joining with to create this change? ■

Holly Truitt (Holly.Truitt@umontana.umt.edu) is director of the University of Montana spectrUM Discovery Area in Missoula. She also regularly teaches classes and consults on architecting social and behavioral change.

REFERENCES

Azure, B.L. (2014, August 21). Tribal Health and spectrUM looking back, looking ahead. *Char-Koosta News*. Retrieved from www.charkoosta.com/2014/2014_08_21/THHS_and_spectrUM.html.

Confederated Salish and Kootenai Tribes Economic Development Office, the University of Montana Bureau of Business and Economic Research, and the Sustainable Economic Development Project Partners. (2014). *Confederated Salish and Kootenai Tribes sustainable economic development study: A profile of the Flathead Reservation economy and tribal member job and training needs*.

Kania, J., & Kramer, M. (2011, Winter). Collective impact. *Stanford Social Innovation Review*. Retrieved from ssir.org/articles/entry/collective_impact.

Montana Kids Count. (2016). Retrieved from www.montanakidscount.org/wp-content/uploads/2016/09/kcdatabook-full.pdf.

Montana Office of Public Instruction. (2016). *Growth and enhancement of Montana students* [data set]. Retrieved from gems.opi.mt.gov/Pages/HomePage.aspx.

Montana Realtors Association. (2017). *2017 Missoula housing report*. Retrieved from 2qn4zz20akwa476o1x36frnx.wpengine.netdna-cdn.com/wp-content/uploads/2017/07/MOR_housing_report_2017_proof-6.pdf.

Truitt, H. (2016, January/February). Coming under one roof: Creating a culture house in Missoula. *Dimensions*, 18(1), 44–47. Retrieved from astc.org/DimensionsPDFS/2016/JanFeb.pdf.

COLLECTIVE STREET SMARTS

Along this transformative journey from an organizational to collective mindset, I have documented our lessons learned and interviewed other collective-minded leaders from the United States and Nordic countries about their efforts and approach. I think of the insights that have emerged as "street smarts." Below are a few for those diving in:

- **Cultivate.** Like a great wine, collective impact should respond to the community's soil: its environment, conditions, needs, and opportunities. There is no cookie cutter for collective impact. The collective's agenda, strategy, cross-sector partnerships, and desired impact should come from the place where it intends to grow. It should respond to these real needs and opportunities, pulling the right cross-sector leaders and backbone organization(s) from the landscape.
- **Trust the process.** We cannot create systemic change—eradicating poverty, ending hunger, or closing opportunity and achievement gaps—overnight. It is beneficial to start small, build trust in each other and in working collectively, and then evolve, scaffold, and grow efforts, strategies, and impact. EmPower Place and SciNation leveraged, formalized, and grew partnerships that had existed for many years around shared purpose.
- **Seed a new culture.** Promoting a cultural shift in your institution and community from organizational to collective is vital. A state leader at United Way told me, "It is no longer enough to do good work. We need to change lives." When spectrUM began the transition from working organizationally to collectively, we strategically retooled our board to include cross-sector thinkers and doers who were open to and had experience working collectively. Among the members are a local real estate developer, our mayor, the university president, the Montana state senate's first female majority leader, a

local leader in economic justice, and leading ecological and health science researchers who do team-based work.

- **Little barbs are often warnings.** Collective efforts thrive when there is a clearly identified backbone and collective communication and decision-making channels. Without these in place, the partner organizations often lose sight of Luckow's "to what end." A colleague in Sweden recently told a story about a partner who kept leaving nasty notes on the coffee maker in their shared space, with tips on how to grind the beans and make a proper brew. As a wise, adaptive leader, my colleague recognized that these notes were not simply commentary about coffee preparation, but rather an alert that the collective's communication and decision-making channels needed attention. She immediately began holding weekly meetings to get partners to better connect, build trust, and open lines of communication. The notes stopped.
- **Attend to the backbone.** One of my greatest personal leadership lessons has been to ensure the needs of the backbone (spectrUM) are met before taking care of the collective. I think of it as the same practical advice flight attendants give: put on your own oxygen mask before helping others. In our early efforts, we leaned into the collective to the point that we were overlooking the health of spectrUM. We now focus on balancing both our own and the collective's well-being, knowing that we are in it for the long haul.

—H.T.