

Spring 2019

## Afterschool Matters Spring 2019

National Institute on Out-of-School Time

Wellesley Centers for Women

Follow this and additional works at: <https://repository.wellesley.edu/afterschoolmatters>



Part of the [Social and Behavioral Sciences Commons](#)

---

### Recommended Citation

National Institute on Out-of-School Time and Wellesley Centers for Women, "Afterschool Matters Spring 2019" (2019). *Afterschool Matters*. 39.

<https://repository.wellesley.edu/afterschoolmatters/39>

This Book is brought to you for free and open access by the Wellesley Centers for Women at Wellesley College Digital Scholarship and Archive. It has been accepted for inclusion in Afterschool Matters by an authorized administrator of Wellesley College Digital Scholarship and Archive. For more information, please contact [ir@wellesley.edu](mailto:ir@wellesley.edu).

# Afterschool Matters

Number 29 • Spring 2019



## ESSAY

*Process Over Product  
How Creative Youth Development  
Can Lead to Peace*  
Adam Jacobs

*Beyond the Webinar  
Dynamic Online STEM Professional  
Development*  
Alexandria Brasili and Sue Allen

*Supporting Latinx Youth Participation  
in Out-of-School Time Programs  
A Research Synthesis*  
Nancy Erbstein and James O. Fabionar

*The Unique Challenges of Afterschool  
Research  
A Practical Guide for Evaluators and  
Practitioners*  
Lizzie Murchison, Katie Brohawn, Cheri  
Fancsali, Andrea D. Beesley, and  
Erin Stafford

*Being and Becoming Scientists  
Design-Based STEM Programming  
for Girls*  
Jasmine M. Nation, Danielle Harlow,  
Diana J. Arya, and Maya Longtin

**VOICES FROM THE FIELD**  
*Relationships  
The Key to Student Success in  
Afterschool Programs*  
Ginger Shea

National  
Institute on  
Out-of-School  
Time

AT THE WELLESLEY  
CENTERS FOR WOMEN

**Afterschool Matters**  
**Editorial Review Board**

Ken Anthony  
*Connecticut Afterschool Network*

Annessa Bontrager  
*Alliance for a Healthier Generation*

Rudy Garcia  
*New York Public Library*  
*BridgeUP OST Program*

Ian Hippensteele  
*Sea Education Association*

Anne Lawrence  
*Center for Educational Options*

Rebecca Lee  
*Harvard School of Public Health*

Julia Rugg  
*Wings*

Jocelyn Wiedow  
*Sprockets Saint Paul*

**Photo Credits**

Cover, page 1: Kids Creative, New York, NY

Page 36: The STEMInist Program

See the inside back cover for the call for papers for future issues of Afterschool Matters.

# table of contents

Afterschool Matters Number 29, Spring 2019

## ii

Welcome



**1**

**ESSAY**  
**Process Over Product**  
*How Creative Youth Development Can Lead to Peace*  
**Adam Jacobs**  
Creativity and an orientation toward process facilitate peace education in this youth development program.

**Beyond the Webinar**  
*Dynamic Online STEM Professional Development*  
**Alexandria Brasili and Sue Allen**

Today's tools, paired with the right facilitation skills, make online professional development relational and interactive.



**9**



**28**

**The Unique Challenges of Afterschool Research**  
*A Practical Guide for Evaluators and Practitioners*  
**Lizzie Murchison, Katie Brohawn,**

**Cheri Fancsali, Andrea D. Beesley, and Erin Stafford**  
Experienced researchers offer advice for evaluators transitioning from K–12 to afterschool research and for the program leaders who work with them.

**Being and Becoming Scientists**  
*Design-Based STEM Programming for Girls*  
**Jasmine M. Nation, Danielle Harlow, Diana J. Arya, and Maya Longtin**

Design-based implementation research explores a university-community partnership program to help girls identify as scientists.



**36**



**17**

**Supporting Latinx Youth Participation in Out-of-School Time Programs**  
*A Research Synthesis*  
**Nancy Erbstein and James O. Fabionar**  
A literature review suggests strategies for engaging Latinx youth in high-quality OST programming.

**VOICES FROM THE FIELD**  
**Relationships**  
*The Key to Student Success in Afterschool Programs*  
**Ginger Shea**



**45**

Frameworks outlining key developmental assets and relationships guide professional development in one citywide afterschool program.



## WELCOME



My favorite daughters, with the youngest as Annie

About eight years ago, I took my then six-year-old daughter to a local children's theater performance of *The Wizard of Oz*. During intermission, she made it clear to me that, next time, *she* wanted to be on stage. So began an incredible journey into the dramatic arts that was topped off last January with her final youth theater performance.

Having very little theater experience myself as a child, I was overwhelmed to see how much my daughter and her peers grew through their program. Putting together the 10 or so shows they performed during that time sparked tremendous social, emotional, and creative growth. When, at age 10, my daughter took center stage in the lead role in *Annie*, I cried as she sang out the hope and determination of the lyrics, "I'll just stick out my chin and grin, and say, the sun'll come out tomorrow."

My daughter and the other child actors didn't write those words of hope and determination, but they did bring their own grit and joy to their songs and lines. So much of what happens on stage in a youth theater program is really about how the individual young people express themselves in their roles to make their characters come alive. In the process, they build communication skills and the confidence and persistence that are critical to success in school and in life.

Children need opportunities to work together and push each other to develop their creativity. Theater is one of just many ways in which out-of-school time programs can help to fulfill that need. Whatever the focus of our afterschool programs, we should be looking to make space for youth to create. With support and the right structure, young people can create rich, meaningful activities and a powerful environment for learning—more powerful than anything adults can offer based on our own ideas and expectations.

Over the next couple of issues of *Afterschool Matters*, we are including a special focus on creative youth development (CYD). We are thrilled to partner with the Clare Rose Foundation in this important work. According to the Creative Youth Development National Partnership ([creativematters.org](http://creativematters.org)), CYD "is a recent term for a longstanding theory of practice that integrates creative skill-building, inquiry, and expression with positive youth development principles, fueling young people's imaginations and building critical learning and life skills."

Quoting these words in the essay that opens this issue, Adam Jacobs goes on to show how his CYD program not only fosters creativity but also builds peace in participants' relationships. With this strong beginning, we look forward to bringing you more stories and ideas about the intersection between creativity and youth development.

GEORGIA HALL, PhD  
Director & Senior Research Scientist, NIOST  
Managing Editor, *Afterschool Matters*

Georgia Hall  
Managing Editor

Sara Hill  
Senior Research Consultant

Jan Gallagher  
Editor

Daniella van Gennep  
Designer

*Afterschool Matters* is a national, peer-reviewed journal dedicated to promoting professionalism, scholarship, and consciousness in the field of afterschool education. Published by the National Institute on Out-of-School Time with legacy support from the Robert Browne Foundation, the journal serves those involved in developing and running programs for youth during the out-of-school hours, in addition to those engaged in research and shaping policy. For information on *Afterschool Matters* and the Afterschool Matters Initiative, contact

Georgia Hall  
Director &  
Senior Research Scientist  
National Institute on  
Out-of-School Time  
Wellesley Centers for Women  
Wellesley College  
106 Central Street  
Wellesley, MA 02481  
[asmsubmission@wellesley.edu](mailto:asmsubmission@wellesley.edu)



# Process Over Product

How Creative Youth Development Can Lead to Peace

Adam Jacobs

“The person who fell off the person who fell off.” This was the response of four-year-old Aaron to the question, “What do you want to do a play about?” in the Kids Creative Summer Camp.

Aaron meant to say “the person who fell off” only once. In most settings, such an accidental double phrasing would be corrected and forgotten. However, in Kids Creative, the rule is “All ideas are good.” Other campers built on Aaron’s slip-up to create a play called “The Journey to Find The Person Who Fell Off The Person Who Fell Off.” This group of 20 children, ages 4 to 12, who came from various New York City schools, engaged in a brainstorming session in which they shared ideas and asked questions. Everyone in the group, including the teaching artists, added their own ideas using the phrase, “Yes, and....” A storyline took shape: The vice president of Chocolateville was standing on the shoulders of the president of Chocolateville at their inauguration when they both slipped into the

Chocolate River. Now a group of heroes has to make a treacherous journey to find them. Each child created his or her character, and the group found ways to weave the story together. Thanks to the Kids Creative process-oriented environment, one idea from a four-year-old child developed into a five-part musical play, which was performed for friends and family at the close of the camp session.

This scenario took place in one of the first Kids Creative summer camps, shortly after I founded the organization with my brother in 2000. At the time, we worked with only about 50 kids each year. We ran the summer camp because we genuinely enjoyed the fun, unique ideas that were sparks for original musicals.

---

**ADAM JACOBS** is the co-founder and former executive director of Kids Creative and was a founding member of PS 536, a new public school in the Bronx, New York. He has an MA in peace education and a certificate in senior nonprofit leadership from Columbia University. He also leads peace education workshops and is a rock clown for kids.

Now, 19 years later, Kids Creative is a New York City nonprofit that runs afterschool and summer programs with over 1,000 youth each year. Our programs still use this creativity-oriented process to produce original musicals, works of art, videos, dances, and more.

In 2008, when Kids Creative received our first 21st Century Community Learning Centers grant funding, we were able to include more youth and add homework help, STEM, and sports to our arts offerings. Throughout this expansion, we have maintained our process-oriented educational structures. Whether they are creating a musical play or a Lego robot, playing chess or learning a martial art, all participants have a voice as contributors and collaborators.

At Kids Creative, the arts, science, and sports are vehicles for individual and community growth. We see ourselves as a creative youth development (CYD) program engaged in peace education. Our vision is that “a better, more peaceful future is achievable by teaching youth the creative, critical thinking, and social skills necessary to make peace within themselves and in society.” Our process-oriented approach to creativity builds what Elise Boulding (2000) calls a “peace culture.” She writes, “Peace cultures thrive on and are nourished by visions of how things might be, in a world where sharing and caring are part of the accepted lifeways for everyone” (p. 29).

To build peace, people must be able “to imagine something different and better than what currently exists” (Boulding, 2018, p. 29). That’s exactly what the young people in Kids Creative are doing when they dream up a place like Chocolateville—they are envisioning an entirely new world where they are integral parts of both the process and the outcome. In traditional education settings, children are seen as vessels to be filled with knowledge (Freire, 2018). A process-focused orientation considers all participants as equal contributors in building a new and more peaceable world here and now. In this world, what some may see as a mistake on the part of one of the youngest members of the group is actually the catalyst for a creative group project. In this world, when individuals see that their ideas are listened to and respected, everyone is motivated to create, support one another, and overcome obstacles that may otherwise undermine the product.

A process-focused orientation considers all participants as equal contributors in building a new and more peaceable world here and now.

## What Is Creative Youth Development?

According to the Creative Youth Development National Partnership (n.d.a), “CYD is a recent term for a longstanding theory of practice that integrates creative skill-building, inquiry, and expression with positive youth development principles.” Many people equate creativity with the arts and creative output with artistic products, like plays, music, and visual art. However, creativity is not simply the development of final products. Rather, it is the journey of learning, trying, thinking, failing, and succeeding. A common thread among CYD programs is that we are process-oriented.

The CYD National Partnership is building a community of practitioners, program partners, and funders who advocate for and support the use of the imagination in nontraditional learning environments. As Kids Creative has been combining arts education, youth development, and peace education for almost 20 years, we have in essence been doing CYD without calling it that. I am relieved to have a name for our work and a community across the country to define, develop, amplify, and fund programs that use creativity. The CYD National Partnership’s core values of “racial equity and social justice, youth voice, and collective action” (n.d.b) are particularly rooted in peace education.

Augusto Boal, founder of Theatre of the Oppressed (TO), saw his revolutionary project as a way “to reinvent the past and to invent the future” (1998, p. 7). Boal developed TO as an immersive storytelling process that enables participants to understand and reshape narratives around power, class, and race, while focusing on human rights. He even used TO as “legislative theatre” to help make laws when he was elected a member of parliament for Rio de Janeiro in 1993 (Boal, 1998). Although the stakes in CYD programs are not as high as they are in national legislation, CYD can be a training ground for future activism. In a safe environment, youth can use the process of creation to understand the past and work collectively to design a better future, valuing the process of sharing ideas as much as the products created.

All out-of-school (OST) programs have the potential to be process-oriented, and many already are. Because the academic requirements after school are not as stringent as during the school day, the curriculum can be more flexible. For some OST programs, doing CYD may

require only small shifts in training, philosophy, and curriculum—not a major overhaul of programmatic structures that often are already process-oriented. Doing CYD in an OST program, whether the focus is arts, science, or any other discipline that requires both creativity and critical thinking, simply means taking time for individual growth and community development—all of which, I argue, is a way of building peace.

### **Creativity, Process Orientation, and Peace**

Like the creative process, building peace is a journey, not an end goal. As the world shows us daily, peace is not a guarantee, and violence often rears its ugly head. The process of building peace requires creativity, ingenuity, patience, and perseverance. Peace educators commonly frame our work in the domains of *positive* and *negative peace*. This distinction has existed in both theory and practice for a long time (Bajaj, 2008). Martin Luther King, Jr., speaks of these domains in *Letter from a Birmingham Jail* (1963), calling for a “positive peace which is the presence of justice,” as opposed to negative peace, which is simply “the absence of tension.” Merely removing physical violence is not enough. In order to change society, people must pursue justice for all human beings (King, 1963).

To bring the distinction between negative and positive peace to life in our OST program, Kids Creative’s former program director Suzu Ledoux reframed them as *reactive* and *proactive peace*. Reactive (or negative) peace involves reacting to existing violence: stopping a physical fight, for example, or intervening in a verbal altercation. Reactive peace can be seen as a product: You stop the fight, surface-level tensions are dissipated, and a type of peace is achieved. By contrast, proactive (or positive) peace, which is the goal of Kids Creative programs, means creating a space where violence doesn’t have to happen. Proactive peace is a process. In fact, the process of pursuing justice is actually peace itself. If we are all focused on a unified goal, we have to learn collective, positive ways of engaging and collaborating. We have to listen to one another, and we have to remove obstacles from our path before they disrupt the peace of the community.

As peace educators, we must believe in our own agency as changemakers. Cesar Augusto Rossatto refers

Doing CYD in an OST program, whether the focus is arts, science, or any other discipline that requires both creativity and critical thinking, simply means taking time for individual growth and community development—all of which, I argue, is a way of building peace.

to “transformative optimism,” in which people see themselves as “necessary and viable participants in the collective process” of resisting structural violence (quoted in Bajaj, 2008). Transformative optimism enables us to believe that Kids Creative and other process-oriented OST programs can have an impact in the world. Paolo Freire, whose seminal work *Pedagogy of the Oppressed* (2018) guides many peace education practices, argues that the oppressed must be able to “perceive the reality of oppression not as a closed world from which there is no exit, but as a limiting

situation which they can transform” (p. 49). We believe that our youth, many of whom come from oppressed communities, must have the same perception—that they can change their world. I can think of at least three ways process-oriented CYD programs can help build a peaceable future where youth have the opportunity to thrive.

#### **1. Give Youth Voice**

In many traditional education systems, youth are not treated as valuable and engaged participants. They have no voice in, for example, creating programs in their schools. In this system, which Freire (2018) calls “banking education,” educators resist dialogue and treat students as “objects of assistance” (p. 83). They are often concerned with a power dynamic, thinking that giving kids choice means losing control. By contrast, the experience of Kids Creative is that allowing participants to choose how to participate means that they are engaged and therefore feel driven to agree to and abide by program guidelines. Freire calls this approach “problem-posing education,” where people are “authentic” because they are “engaged in inquiry and creative transformation” (p. 84). A well-thought-out process-oriented program, where youth have input and responsibility for setting and maintaining the program structure, actually can be safer for youth and staff because of a clear focus on engaging with and managing conflicts. By their very nature, hierarchical, product-oriented settings cannot give young people meaningful choices. They often require teaching staff to spend more time enforcing rules than engaging with the youth and the content.



## 2. Address Community Issues

OST programs in the U.S. exist in a highly unequal society. Often the areas with the greatest need for OST programs are high-poverty communities of color. The systems of oppression that create poverty and segregation are top-down, rules-heavy communities without much engagement from participants. These structures are replicated when underfunded OST programs brought in from the outside do not concern themselves with making positive, locally driven change. Though process-oriented CYD programs cannot solve all community woes, they do engage youth in the critical thinking and creativity skills that, as Boal (1998) says, allow them to “invent the future” (p. 7).

Process-oriented CYD programming relies heavily on individual relationships. Those relationships, in turn, can result in social change. The ability to make change and to build peace depends on being fully engaged in a collaborative process. In her book *Emergent Strategy: Shaping Change, Changing Worlds*, adrienne maree brown (2017) emphasizes the roles of process and relationships in change-driven work. She suggests that change-makers must “be like water” (p. 42), with enough malleability to adjust to specific situations. Another principle is “Move at the speed of trust. Focus on critical connections more than critical mass” (p. 42). Building relationships takes time, but the result is a stronger community that is driven to ensure that its collaborative product succeeds.

## 3. Build 21st Century Skills

Skills like conflict resolution and critical thinking are key to the creative process. When given the opportunity and guided with positive language, young people can use the same skills they need for an exciting creative brainstorming session to interact peacefully with others in the classroom, on the playground, or in their community. Participants are challenged to make connections between their imaginative stories and the world around them. As they grow older in Kids Creative and experience more sophisticated, nuanced stories, they can also critically analyze situations they encounter in the world in order to devise unique solutions.

When given the opportunity and guided with positive language, young people can use the same skills they need for an exciting creative brainstorming session to interact peacefully with others in the classroom, on the playground, or in their community.

## Creating Space for Creativity and Peace

Creativity is a key 21st century skill, but it does not live in a void. It needs structure, particularly when it is part of youth development. The innovative rock musician Frank Zappa said:

The most important thing in art is The Frame. For painting: literally; for other arts: figuratively—because, without this humble appliance, you can't know where The Art stops and The Real World begins. You have to put a “box” around it because otherwise, what is that...on the wall? (Zappa & Occhiogrosso, 1989, p. 140)

Kids Creative uses figurative frames in many ways. Goals and final products, for example, are important frames. We might say, “Group 1 is going to create a 15-minute musical play that we will perform in two weeks about whatever topic you decide as a group. Group 2 is going to put on a science fair in two weeks, with everyone developing their science projects in groups of four people each. After the two weeks, the groups will switch.” The frame of a specific goal—and the expectation of being able to fulfill the goal—builds camaraderie and trust among participants. It also helps the larger community see that they can rely on this CYD program to build something that everyone can see and be proud of.

### *The Cornerstones of a Process-Oriented Program*

Kids Creative frames our programs as peace education. Early on, we had to define how to make peace happen. The result is our Four Cornerstones, which guide how we engage with one another, giving us a structure for creative thinking and peace education.

#### 1. Be Safe, Don't Harm

A process-oriented CYD program aims to offer a space that is both physically and emotionally safe. Peace is visualized proactively, with the goal of building an equitable space for all. The entire program must be set up to identify potentially dangerous situations. Staff, participants, and families learn positive ways to engage with each other and with their environment. All are trained in conflict resolution techniques with the goal of avoiding harm. We also teach positive techniques to engage with

anyone who feels negatively “othered” or bullied and to take seriously any harm that may be done. Process-driven CYD programs clearly communicate that each person is valued, both as an individual and as part of the community. They have action steps to make that goal a reality.

Physical safety is the top priority. Everyone must be trained to keep themselves and others safe, no matter the situation. Many unsafe conditions, such as those that may arise when OST programs share space with other organizations and schools, can be anticipated and managed. OST groups should have plans in place should a situation become unsafe. Program staff and participants should proactively identify potential physical dangers and set up boundaries in a positive way.

“Safety first” refers not only to physical safety but also to emotional safety, with which it is linked. Children who feel emotionally unsafe may engage in physically unsafe behaviors. If they feel secure and supported, they are more likely to be self-aware and to support others in maintaining a safe space.

Bullying, for example, can lead to physical altercations. However, staff and participants can intervene before bullying gets that serious. Teenage author Aija Mayrock (2015), who has experienced being bullied herself, explains that unwanted, aggressive behavior that happens more than once involves multiple parties, not just the bully and the bullied. The “circle of bullying” includes those who assist, reinforce, observe, and try to stop the negative actions. To stop bullying, “no matter where a kid is in the circle of bullying, he or she needs support and guidance” (Mayrock, 2015, p. 17). Those who provide this support, such as teachers, must take care not to reinforce bullying through their words or actions.

At Kids Creative, we found early on that teasing was a challenge, even for adults, so we created the rule “No teasing or fake teasing.” The simple interpretation is that the person who feels teased gets to define what teasing means at that moment. The other parties are responsible for listening, trying to understand why the teased person feels that way, and taking steps to keep it from happening again. That may mean apologizing, using different language everyone agrees to, or changing the game the group is playing.

These tools enable youth to engage in conflict management so that conflicts can lead to growth instead of violence. Approaching conflicts in a positive and proactive way helps reduce harm. For example, everyone at Kids

Creative is trained to use “I statements” and to explain their feelings without attacking. With these tools, staff and participants can identify unsafe behavior and actions early on, when they are easier to resolve or redirect. Safety is a foundation for building peace in the program.

## 2. Support and Encourage

Part of helping each person feel safe in a creative space is showing support for all voices. Supportive strategies include active listening and asking questions to try to understand the other person’s ideas, actions, and motives. A great strategy during brainstorming is saying “Yes, and...” to ideas rather than “No, but...”

Through training and practice, CYD program participants learn to respond to ideas without attacking. They explore and face the underlying causes when someone feels unsupported and discouraged. With these skills, the whole group can recognize and celebrate each person’s contribution.

The skills of supporting and encouraging others, and the benefits of feeling supported and encouraged, can last a lifetime. If youth are trained early on to recognize systemic and individual biases, they can learn ways to avoid perpetuating the harm done by historical oppressions that still plague us today. Unfortunately, racism, sexism, homophobia, and other biases are a reality, but celebrating and supporting what makes us unique and learning how to truly listen to each other can be beneficial to all parties. These benefits can follow youth into the professional world, where systemic and individual biases often result in the underrepresentation and mistreatment of women and people of color. Columbia University scholar Valerie Purdie Greenaway (2017) explains that there are many benefits for teams in professional settings that recognize and respect differences. Such teams are successful because a multiplicity of voices are present, and the teams have tools to engage meaningfully with all those voices. Although no one OST program can dismantle systems of racism and sexism, programs can teach young people to create supportive and encouraging environments where each person can experience worth both as an individual and as a contributing member of a community. Later, those participants will envision ways to recreate such spaces in their work and their communities.

The skills of supporting and encouraging others, and the benefits of feeling supported and encouraged, can last a lifetime.

### 3. Create Together

Telling youth to support and encourage each other is one step, but having the space to practice these tenets is another. Creating a play with others is a microcosm for engaging with the greater world. The play may be the ultimate goal, but young people learn many skills along the way. The more fully they engage in the process of learning and growing as part of a community, the more they benefit from the presence of their peers.

An emphasis on standardized testing has reduced the number of opportunities young people have to work in community with others. Process-oriented CYD is thus necessary to provide opportunities to reach a goal as part of a group. Kids Creative uses performances and other events for friends and family, because groups are more unified when they have a tangible goal. Individuals' reasons for participating may vary—one may want to learn new acting techniques while another wants to practice guitar skills—but they all build collaboration skills as part of the process.

*Setting the Agenda*, a report developed by the National Summit on Creative Youth Development, explains that CYD programs support young people:

to become creators—to apply the skills and content knowledge they are acquiring to create work in the arts, humanities, and sciences, and to use the creative process and products in those disciplines as vehicles to create their own lives and identities (youth development); healthier and more vibrant communities (community development); and a more equitable and just society (social change). (Stevenson, 2014, p. 5)

In keeping with this agenda, Kids Creative gives young people the tools and the vehicle to make change individually and collectively.

### 4. Let Youth Drive

Educational systems have the potential either to be “banking education” systems (Freire, 2018, p. 83) that replicate knowledge and maintain the status quo or to learn from the past to create change in the future. Process-oriented CYD programs take the second path. Such programs are youth-driven: They engage youth in decision-making on questions ranging from what rules are essential

to what content is taught and what final products the groups will create.

Keeping youth in the driver's seat may be the most challenging aspect of running a process-oriented program. Gathering ideas and feedback takes time, and it is easy for adults to impose their ideas on children. However, putting in the work necessary to build consensus early means that individuals are invested in the creative process and the final product. Adults are creative equals with the kids. Their role is to facilitate and participate, but to not take the creative product as their own. This structure allows children to share and encourages adults to ask questions rather than reshaping ideas. Over time, this commitment to creative equality results in strong program outcomes. Through the creative process, youth learn to respect their own ideas and the ideas of others. They thereby gain skills that enable them to create change.

### Managing Process-Oriented Groups

Running a process-oriented program requires a lot of preparation beforehand and coordination throughout its implementation. Facilitators have to check in on individual and group relationships; they also need to work with each group to set key milestones so the group can create its final product.

The result of all of this preparation and the ongoing check-ins is a strong community with space for individuality and self-discovery. Disruptions may happen, but not because people don't want to follow top-down rules. What drives me to continue building Kids Creative is the amazing feeling that kids *want* to be there because they are in charge of the process. As adrienne maree brown (2017) says, “Trust the people. (If you trust the people, they become trustworthy)” (p. 42). We trust youth choices, understanding that, with the right structure and common goals, each group can successfully create a final product.

From the outside, process-oriented CYD may appear disorganized. It is actually the opposite. Creativity becomes a form of classroom management, because groups build a unique, common language from their creative ideas that can drive everything from routine tasks to conflict resolution. For example, a facilitator might suggest, “Group 1, when we walk down the hallway, pretend you are your character from the play, silently

Keeping youth in the driver's seat may be the most challenging aspect of running a process-oriented program. Gathering ideas and feedback takes time, and it is easy for adults to impose their ideas on children.

sneaking around a large castle.” Another might say, “Group 2, the conflict between our two group members on the playground seems like the conflict between two characters in our play. How can we resolve this?”

### **Process Ends in Products**

The ultimate goal of Kids Creative is to provide skills and values for peace building, which are primarily learned during the creative process. However, even in process-oriented CYD programs, groups need the galvanizing effect of creating a final product. A common phrase in performing arts is that “deadlines are an artist’s best friend.” Moving toward a specific date on which to perform a presentation whose structure has been set gives all participants a common understanding of their goal, while clearly communicating what they get to create within the structure. Remember, every work of art needs a frame (Zappa & Occhiogrosso, 1989). Process-oriented CYD programs need specific goals to provide a space in which creativity can thrive.

Setting goals for products enables programs to:

- Provide a stage where youth experience presenting or performing before an audience
- Let participants show off their newly built talents so family and friends can celebrate them
- Gather all the families at once to facilitate communication
- Enhance marketing and fundraising by inviting funders and community members to performances that highlight what participants have learned
- Get the community excited about the program

CYD programs thrive when the benefits of both process and product are realized.

### **Creativity and Peace in Practice**

Peace education requires learning and growth. It requires program leaders to challenge our preconceived notions about what makes programs most effective. The CYD National Action Blueprint (CYD National Partnership, n.d.b) calls for a focus on field building, which includes professional development for CYD program staff. The Kids Creative process-oriented CYD approach relies heavily on ongoing trainings to teach staff new skills and

to clearly communicate what the program expects of staff and participants. As part of our process of continuous improvement, program leaders and staff regularly solicit ideas from participants and families—and then engage in change based on those ideas. We might, for example, ask participants what activities they prefer that week or ask families for honest feedback through conversations and surveys.

**As part of our process of continuous improvement, program leaders and staff regularly solicit ideas from participants and families—and then engage in change based on those ideas.**

In order to communicate our work toward peace, Kids Creative has a Community Peace Plan that clearly describes how staff can engage with positive and negative behaviors in ways that do not disrupt programming, but rather benefit the group and help each person grow. The plan democratizes the interactions with families by clearly setting out what participants and families can expect of Kids Creative staff: showing respect for

each family and for each child, demonstrating professional behavior, and communicating each child’s progress and achievement. The plan also specifies what “respect” and “professional behavior” look like at Kids Creative.

In addition to directors, group leaders, and teaching artists, the program has peace and culture leaders (PCLs). These staff members, who are trained in conflict management techniques, work with all groups and individuals to help them engage in peaceful ways. They speak with participants, see who is having trouble engaging in specific activities, and help identify factors inside or outside the program that influence the child’s participation. PCLs may not be certified social workers or counselors, but they do work with children to identify their interests and to ensure that they keep themselves and others safe while having fun. When children’s concerns go beyond PCLs’ expertise, the program leaders work with schools and partners to provide the families with outside resources.

In Kids Creative’s peaceful approach to youth development, classroom management begins with positive reinforcement. Adults use positive feedback, model how to resolve conflicts peacefully, show groups how to compromise, and foster a positive and inclusive team spirit. When positive reinforcement isn’t enough to help children participate peacefully, staff have a list of steps for managing groups. They might remind youth of the group agreement, give participants time to cool down, or suggest that an individual speak with a PCL.



PCLs and other staff practice “restorative creativity,” working with participants involved in a conflict and with the group to envision different approaches and to practice more peaceful behaviors.

### **Making Change, Making Peace**

With slight changes to structures and processes, all OST programs can be peace-building change makers. They already create spaces where children are cared for and have alternatives to potentially harmful activities. However, they can more fully realize their potential when they work toward positive or proactive peace. Rather than focusing on grades and test scores, they can focus on relationships, teach positive communication and conflict resolution, and help youth build confidence.

To achieve these goals, CYD programs need funding and partnerships. Just as program participants must work together to build a final product, so CYD programs, partners, and funders must work together to raise the profile of CYD and recognize its strengths. Governments, foundations, corporations, and others should create funding opportunities specifically for CYD to help bridge the gap between arts education and youth development.

With this collective support, each program can focus on what matters most in a process-oriented space: individual and communal growth. The skills youth learn affect their lives and their communities not only during program participation but also into their adult lives. CYD program participants can build peace in the present while imagining a peaceful tomorrow and taking action to achieve that vision in the future.

### **References**

Bajaj, M. (ed.) (2008). *Encyclopedia of peace education*. Charlotte, NC: Information Age.

Boal, A. (1998). *Legislative theatre*. (A. Jackson, Trans.). New York, NY: Routledge.

Boulding, E. (2000). *Cultures of peace: The hidden side of history*. Syracuse, NY: Syracuse University Press.

brown, a. m. (2017). *Emergent strategy: Shaping change, changing worlds*. Chico, CA: AK Press.

Creative Youth Development National Partnership. (n.d. a). [Homepage.] Retrieved from <http://www.creativeyouthdevelopment.org>

Creative Youth Development National Partnership. (n.d. b). *National action blueprint*. Retrieved from <http://creativeyouthdevelopment.org/national-action-blueprint>

Freire, P. (2018). *Pedagogy of the oppressed* (50th anniversary ed.). New York, NY: Bloomsbury Academic.

King, M. L. (1963). *Letter from a Birmingham jail*. Retrieved from <https://Kinginstitute.stanford.edu/King-papers/documents/letter-birmingham-jail>

Mayrock, A. (2015). *The survival guide to bullying*. New York, NY: Scholastic.

Purdie Greenway, V. (2017, November 21). *Diversity, stereotyping, success: Why being different at work is risky business* [Interview by J. Brown]. Retrieved from <https://bigthink.com/community/valerie-purdie-vaughns>

Stevenson, L. (2014). *Setting the agenda: National Summit on Creative Youth Development*. Boston, MA: Massachusetts Cultural Council.

Zappa, F., & Occhiogrosso, P. (1989). *The real Frank Zappa*. New York, NY: Simon & Schuster.



# Beyond the Webinar

## Dynamic Online STEM Professional Development

**Alexandria Brasili and Sue Allen**

*A group of six afterschool educators come together for a monthly professional development course in which they are learning to facilitate STEM programs effectively. Today's meeting focuses on how to model science practices. To begin the meeting, the facilitator sets up an icebreaker to allow the other five educators to get to know one another*

*better. The facilitator asks, "What upcoming STEM program are you most excited about?" Sofia, an afterschool educator at a 4-H program, talks about the summer coding club that she is starting; the other participants join in.*

*As the session gets going, the educators talk about their visions for science education in their afterschool programs. Then they watch and discuss a video of youth carrying out an investigation with eggs and seeds. The group discusses why it is important for youth to investigate their own questions. Sofia shares, "My kids are so much more invested in their learning when they are investigating something they care about. When*

*they come up with the question, I know it's something that they are curious about and has relevance to their own lives."*

*The group then launches into an activity using ice balloons—balloons that have been filled with water and then frozen. The educators pair up in separate breakout rooms. The facilitator instructs the pairs of educators to discuss what they notice about the ice balloons and what questions they have, practicing how to help youth develop testable questions. Sofia and Sandra point to a bumpy indentation that has formed on*

---

**ALEXANDRIA BRASILI** is a research associate at the Maine Mathematics and Science Alliance (MMSA). She holds a master's degree in science education from Oregon State University and a bachelor's degree in biology from Bowdoin College. She works with MMSA staff to conduct research and evaluation studies and support programs dedicated to excellence in STEM education.

**SUE ALLEN**, PhD, is a senior research scientist at MMSA. She was the founding director of visitor research and evaluation at the Exploratorium in San Francisco, where she studied family learning through hands-on exhibits and programs. She has served on several expert committees in out-of-school STEM education and headed the Advancing Informal Science Learning program at the National Science Foundation.

the surface of one ice balloon. They talk about testing out the question, “Do different types of salt melt the ice?” Another pair of educators asks, “What melts the ice faster, salt or sugar?” The pairs investigate their questions with the materials on hand, such as a flashlight, salt, food coloring, toothpicks, and paper clips. Then the pairs come back together in the large-group room to discuss their questions and process.

The session concludes with the facilitator telling the educators to record a short video of themselves practicing what they have learned about modeling science practices with the youth in their programs. The group will discuss these clips next month. The educators bid each other farewell and return to their settings: Sofia to her 4-H program in rural Maine, Sandra to her library in Minnesota, and the other educators to their sites across the country.

These educators have participated in the entire professional development experience virtually.

Though this scenario uses hypothetical characters, it offers a realistic example of how contemporary online professional development can be highly engaging, hands-on, and social. Video-conferencing software and intentional facilitation make it possible for participants to join in from their homes and offices around the country, using simple household materials in hands-on exploration. Though many people associate online learning with presentation-heavy webinars, recent improvements in technology have led to the development of professional development models that can be as interactive as in-person training. This article shares promising practices in virtual professional development for afterschool educators. Though our experience is with STEM professional development, our strategies can be adapted to other disciplines as well.

### **Accessible STEM Professional Development as a Growing Need**

In compensation for the diminishing time spent on science in school, afterschool programs are taking an increasingly larger role in STEM education, with over 69 percent of programs in the U.S. offering some type of STEM programming (Afterschool Alliance, 2015). As the demand for afterschool STEM programs increases, so too does the need for trained educators and staff members. Access to high-quality, accessible, and inexpensive professional development is widely recognized as foundational to implementing high-quality programming that supports and enriches youth (e.g., Miller & Hall, 2007; Vandell, Reisner, & Pierce, 2007).

Though afterschool staff and leaders may appreciate how professional development benefits program quality, implementation brings a whole set of challenges

(Bradshaw, 2015). Many afterschool educators do not have flexibility in their jobs to attend off-site trainings, or they work multiple jobs and so do not have the time to travel. One study found that, although afterschool staff generally found professional development useful, only 26 percent had regular opportunities to participate (Huang & Dietel, 2011). Some of the leading private funders that are looking to increase STEM capacity in afterschool programs have identified the need for “building the capacity of many more afterschool staff to implement and manage high-quality youth programs effectively” (Grantmakers for Education, 2016, p. 23).

### **Making Virtual Professional Development Fully Engaging**

Virtual learning is an extremely promising way of overcoming some of the challenges of providing professional development to overburdened and underresourced afterschool staff in both rural and urban areas. The first implementation factor that can stand in the way of afterschool professional development, according to Bradshaw (2015), is time. She writes, “Effective professional development requires time—a commodity that is often in short supply in afterschool programs. . . . In addition to the actual training time, staff members need time for planning, practice, reflection, feedback, and collaboration” (Bradshaw, 2015, p. 47). In rural areas, distance and time constraints make it particularly difficult to bring afterschool educators together for interactive professional development. Lack of access to quality professional development leaves rural practitioners professionally isolated. Often they work with few or no other staff, so they have little opportunity to share ideas and practices. Urban educators face similar time constraints and are similarly overscheduled. Though they may not have to travel as far for professional development, the time spent sitting in traffic or navigating public transportation may be prohibitive. For both groups, virtual professional development can enable flexible ongoing learning and follow-up, a far more effective approach than a one-time professional development workshop (Darling-Hammond, Hylar, & Gardner, 2017).

Some providers simply post professional development materials on a website and assume that learners will acquire the target knowledge and skills by reading the materials. Though this approach is convenient for all parties, it relies on a high degree of participant self-motivation. It also assumes that people easily learn by reading or listening on their own, an idea that runs counter to the foundational assumptions of afterschool youth work.

A second, more engaging approach has been to create

webinars that bring learners into common online spaces to hear live presenters and ask questions. However, the anonymity and presentation-heavy nature of typical webinars can make it easy for learners to feel passive and to lose focus on the material (Brown, Hughes, Keppell, Hard, & Smith, 2015; Loblely & Ouellette, 2017). Our evaluation studies have led us to believe that social and experiential online professional development is more effective than asynchronous and solitary learning (Brasili, Allen, & Foster, 2017).

Fortunately, highly interactive virtual professional development is now achievable even for underresourced afterschool programs, thanks to inexpensive and widely available video-conferencing platforms such as Zoom, Google Hangouts, and GoToMeeting. Video-conferencing is like a video telephone call that allows users to connect “face-to-face” from different locations. Current video-conferencing platforms allow 25 or more participants at a time. Features such as breakout rooms, Brady Bunch–style gallery viewing, chat features, and screen sharing make online learning highly social and interactive. In addition, the increasing power and availability of digital recording devices in phones, laptops, and tablets allow educators to share videos of their work with youth in ways that simulate direct coaching. The technology is becoming more seamless, intuitive, and responsive to variable bandwidths, so that almost anyone with an internet connection can participate. For example, Zoom requires connectivity of 1.5 megabits per second for uploading and downloading. This fairly modest speed is available to over 90 percent of people with internet access, even in rural areas (National Broadband Map, 2015).

Using such tools, online professional development can go well beyond didactic webinars or text-heavy materials with short quizzes. One area of potential growth is virtual coaching, in which an experienced coach or professional development provider supports the practice of one or more afterschool educators (e.g., Denton & Hasbrouck, 2009). Other areas are virtual professional learning communities and communities of practice, where groups of educators come together to learn from one another and share their work (e.g., Bang & Luft, 2016; Blankenship & Ruona, 2007; Fulton, Doerr, & Britton, 2010). Though much of the research and practice in these areas is happening in the

world of schools, models are being adapted and developed specifically for out-of-school time providers (Hill, Matloff-Nieves, & Townsend, 2009; Vance, Salvaterra, Michelsen, & Newhouse, 2016).

A virtual professional learning community or coaching model could be implemented by providers at many different levels. Virtual communities may be an ideal option for statewide or citywide networks that already provide professional development to afterschool programs and want to reduce travel costs. Outside professional development providers can use video-conferencing to bring together diverse program staff from around the country. Challenges such as staff time, staff buy-in, and cost are ubiquitous (Bradshaw, 2015). However, virtual coaching can reduce some of these barriers and make sustained, social, and reflective professional development accessible to more providers and programs.

The introductory vignette is an example of a session in a contemporary virtual professional development program for afterschool educators called ACRES (Afterschool Coaching for Reflective Educators in STEM). ACRES was launched in 2015 as a project of the Maine Mathematics and Science Alliance (MMSA), funded by the National Science Foundation, the Noyce Foundation, and STEMNext. MMSA education specialists facilitate the program, and the MMSA research team, along with an external evaluator, studies the program development and impacts on participants. This online STEM professional development model is dynamic, interactive, engaging, social, and convenient for educators with limited time and flexibility. The promising practices for virtual STEM professional development we offer below are based on three years of repeated testing and evaluation of our model. We use the Zoom video-conferencing platform, so our examples refer to that tool, but many of the principles apply to other platforms with similar features. Our descriptions also incorporate links and pointers to previous evidence-based professional development resources and design principles.

### Strategies for Developing Relationships Virtually

Though presentation-heavy webinars serve a purpose in that they provide easily accessible content instruction, one disadvantage is that participants have little opportunity to

Current video-conferencing platforms allow 25 or more participants at a time. Features such as breakout rooms, Brady Bunch–style gallery viewing, chat features, and screen sharing make online learning highly social and interactive.



get to know one another. Virtual collaboration allows participants from diverse settings to develop relationships and share practices (DuFour & Reason, 2016).

We have adapted a basic professional learning community approach, which brings groups of educators together to reflect on and improve their practice, to be used virtually with groups of afterschool educators. Our ongoing studies are already showing that this virtual model can be highly effective at creating a committed cohort of learners (Brasili et al., 2017). For example, in exit surveys, the majority of participants in these virtual cohorts agreed with the statement that they felt a bond with the group. They disagreed with the statements that “having the course online made it difficult to learn the skills” and “using Zoom was a barrier to getting to know the other people” (Brasili et al., 2017).

To achieve this success, we have used a number of intentional practices, shared below, to create a culture of support and trust as well as to facilitate relationship building among the cohorts of educators. These begin with the way we set up and structure the online sessions and move on to encompass the ways we encourage and support courageous and self-reflective conversations.

### **Initial Video-Conferencing Setup**

Video-conferencing norms may not be intuitive to participants, so facilitators can offer clear guidelines and expectations like the ones outlined below to help participants get to know one another.

**Choose a platform that meets your needs.** Video-conferencing platforms, both paid and free, are widely available. Each has its own constraints and features. For example, the free version of Zoom, the platform we use, limits uninterrupted meetings of three or more individuals to 45 minutes. After that time, participants are automatically logged out of the meeting and need to log back in. Professional development providers on limited budgets may find a way to work this constraint into their model, if free service is the most important consideration. Others may find that having fewer limits is worth paying for. At this writing, the Pro version of Zoom costs about \$15 a month. Some providers may already have access to a video-conferencing system within their network.

**Encourage participants to enter their names on the screen.** Zoom, like many other video-conferencing platforms, allows each person to put his or her name as a label; these “name tags” help participants get to know one another quickly and respond using names.

**Suggest that participants use Gallery View.** Facilitators should encourage participants to use Gallery View

(which resembles the *Brady Bunch* title scene) as their default viewing option. In this view, each individual’s face has an equal portion of the screen, placing the focus on the entire group rather than just the person speaking.

**Suggest best practices for being visible to others.** Being able to see each other’s faces clearly can help participants build a sense of connection and enable them to pick up nonverbal cues. Sitting close to the camera can help to simulate eye contact. When multiple participants join from the same location, each individual should join from a different computer, if possible, with all but one audio signal muted to avoid feedback. If only one computer is available, participants should use a fish-eye lens or other method of fitting everyone onto one screen so all can be seen by others. Facilitators, particularly, must stay within the frame of view so they can be seen clearly.

**Encourage participants to be careful with their lighting and setting.** Participants will be easiest to see if they are not sitting in front of a window and if their screens have static rather than distracting backgrounds. The goal is not to be formal, but simply to create a comfortable and congenial space where participants can see and hear each other.

### **Virtual Icebreakers**

Virtual icebreakers, like their in-person counterparts, help participants get to know one another. Icebreakers can foster a social and enjoyable learning culture and set the tone for the learning journey on which participants are about to embark (Mind Tools, 2016). Here are two icebreakers that work well in a virtual setting and are relevant to the purpose of the work:

- **Your space in ten words.** Ask participants either to share ten words to describe the room they are in or to give a video tour of their space. This activity normalizes the fact that participants are joining from diverse settings that may include homes, offices, libraries, or coffee shops.
- **Who is most likely to interrupt you?** Participants can respond either in the chat box or orally to this question. Answers might include, for example, “my partner” or “my cat.” Again, this activity normalizes the diversity of participants’ settings and can reduce anxiety in a lighthearted way.

### **Cohort or Group Size**

We have found that a group of six to eight participants plus the facilitator is large enough for dynamic conversations but small enough to allow participants to get to know one another and participate fully. With a group of this size, all

participants remain active and can contribute at any moment. A small group size also allows facilitators to monitor the participation and nonverbal cues of the participants effectively. Just as in a live session, facilitators who notice confused facial expressions or other signals can check in with participants verbally or in a private chat note.

### Strategies for Facilitating a Dynamic Discussion

Once the basics of video-conferencing are in place, facilitators can focus on the more challenging goal of supporting authentic and productive discussion. A central component of ACRES is discussion of one's own and others' practices. In virtual learning, facilitating such potentially sensitive discussions can be especially challenging. Below we describe strategies that have allowed us to facilitate interactive virtual discussions effectively.

#### Support Discussion at Various Scales

Advances in video-conferencing have made it easier to facilitate engaging group discussion and interaction. Many software packages offer the features outlined below.

**The chat box can be used for personalized discussion with individual participants.** A person can send a message to the entire group; alternatively, a message sent privately to another individual acts as a "virtual whisper." Participants can type their questions into the chat box without interrupting the flow of the conversation. Often participants use the chat box to share resources or thoughts that come up during conversation.

**The polling feature can capture sensitive information at the individual level.** Many platforms allow facilitators to set up multiple-choice questions that participants can answer anonymously. Polling can help facilitators gauge how group members feel about a particular topic, such as their confidence or degree of experience, without putting anyone under personal scrutiny.

**Breakout rooms allow participants to talk privately in pairs or small groups.** As in in-person training, breaking participants into small groups enables everyone to talk without the pressure of speaking in front of the whole group. Facilitators can quickly and spontaneously assign participants to separate breakout rooms; participants can talk in small groups and show each other their hands-on

creations by pointing their cameras at their materials, as Sofia and Sandra do in the opening example. This structure parallels the popular think-pair-share strategy used in face-to-face trainings. Facilitators can drop into each breakout room to monitor the discussion, effectively mimicking the norms of entering and exiting a physical space, and then bring everyone back into the main room with a single click. As one ACRES coach wrote about breakout rooms in Zoom, "I think it's a great way to have small-group conversation.... It's powerful because it helps to change up that video webinar format. Just like in a face-to-face setting, you wouldn't just lecture; you'd get people into small groups."

**Whiteboards can be set up to elicit everyone's ideas at once.**

Facilitators can provide prompts or questions to which participants respond by writing, drawing, or typing into text boxes on the virtual whiteboard. The group can then reflect on what members wrote, look for patterns, and cluster the ideas that surface, much as they would in a face-to-face "sticky notes" activity.

**Screen sharing allows people to share thinking processes and behaviors.** At any time, the facilitator or participants can share a window on their screen with others.

In the ACRES program, the coach used screen sharing to pull up a database of vetted STEM activities and show participants how to navigate it. Also, as bandwidth allows, participants can screen-share videos of their work with youth so that the group can talk about facilitation practices in relation to authentic examples and not just general principles.

#### Actively Facilitate Conversation

Because virtual discussion may be relatively new to many afterschool staff, we usually facilitate discussions quite actively to ensure that all participants have equal opportunities to share. In the ACRES project, after viewing a video of an educator's practice, we ask every participant to share one strength and one opportunity related to the targeted skill. Participants may pass, but everyone has space to share, so that no one person dominates the conversation. One coach reflected:

I think about webinars that I'm on sometimes, and it's just someone talking to you all the time. So people naturally think, "I have this email to write..." et cetera. The way that we've done ACRES is that we've designed

We have found that a group of six to eight participants plus the facilitator is large enough for dynamic conversations but small enough to allow participants to get to know one another and participate fully.

it with the intent that participants are active learners. I've never caught anyone multitasking because of the way it is built.

The fact that everyone is expected to participate in discussion reduces the risk that someone will “hide behind the screen” or not engage fully.

### **Strategies for Instructing STEM Education Virtually**

When the strategies for building relationships and facilitating discussion—strategies that apply to any virtual learning—are in place, then providers can focus on developing the target skills and knowledge. In the case of ACRES, coaches help afterschool educators develop effective STEM facilitation skills.

#### **Focus on Facilitation Skills**

Afterschool educators engage program youth in a wide variety of activities across a range of STEM topics. A plethora of websites, such as [HowToSmile.org](http://HowToSmile.org) and [StarNetLibraries.org](http://StarNetLibraries.org), offer vetted STEM activities that educators can implement. We saw a need to focus ACRES courses on helping educators develop skills to engage youth in STEM learning in general, rather than showing them how to teach about discrete STEM topics, such as plant biology or physics. ACRES courses follow the “strands of science learning” framework developed by the National Research Council (2009) to outline goals for effective STEM learning in informal settings (2009). These strands include actions by youth such as participating in scientific activities and learning practices with others, testing and exploring the natural world, and building STEM-related identities. To reach these science learning goals, we engaged the afterschool educators in learning and practicing effective facilitation skills. We adapted skills drawn mostly from the professional development site [Click2SciencePD.org](http://Click2SciencePD.org), which has identified a set of research-based STEM facilitation skills that respond to the needs of afterschool educators (Morones, 2014).

Though facilitation skills can be learned in person, this skill area is particularly appropriate for virtual professional development. Because participants are likely to come from a wide range of programs in different states or regions, they

can share diverse experiences and viewpoints. They need not focus on specific content or activities, so that they also need not have specific materials or tools to practice those activities or content. They can apply the facilitation skills they learn to whatever activities they are currently teaching at their sites, whatever the ages of their youth.

Learning and reflection on skills also allow educators to participate fruitfully no matter their level of STEM competence. People don't have to be well versed in chemistry or biology, for example, in order to participate in sessions on modeling science practices or giving youth voice and choice in STEM programming. One ACRES participant stated:

This course was very valuable to me. . . . I've never even run a science program before, and I'm in the process of establishing a STEM club, and so this has been the catalyst and has given me the confidence to do that.

Focusing on facilitation skills, rather than on specific STEM topics, helps participants to approach STEM more confidently, in a spirit of inquiry and problem solving.

#### **Incorporate Hands-On Activities**

STEM professional development often includes hands-on activities that allow educators to practice how to implement a skill or topic with youth. Though doing hands-on activities in virtual professional development may seem counterintuitive, in fact the available video-conferencing tools allow participants, working in small or large groups, to use their cameras to show other participants what they are working on. As in face-to-face training, group members can collaborate by offering suggestions and comments as they create or test. In the introductory vignette, for example, Sandra and Sofia are alone in a Zoom breakout room, while other pairs of educators are in separate rooms. They are using the ice balloons they prepared in advance to discover how to develop testable questions, using common household items they also gathered in advance. Though Sandra and Sofia

are working in their own offices half a continent apart, they position their cameras so each can see what the other is doing to her ice balloon. Through their audio connection, they share their ideas and discuss their questions.

When planning for hand-on activities, facilitators should stick to simple activities that are easily adapted to

When the strategies for building relationships and facilitating discussion—strategies that apply to any virtual learning—are in place, then providers can focus on developing the target skills and knowledge.

other contexts, using common materials people are likely to have in their homes. Materials and prep lists for activities should be sent ahead of time so participants can gather materials. Complex activities that require a lot of time, money, and preparation are not appropriate for virtual professional development, nor are they necessary when the professional development focuses on facilitation skills rather than content. The hands-on activity itself is not the main focus of the training; rather, it provides the context for a discussion of STEM facilitation skills.

A final advantage is that hands-on activities offer another opportunity for participants to build relationships. The collaborations are usually lighthearted and creative, providing a welcome break from the intensity of abstract group discussions.

### **Challenges of Virtual Professional Development**

Though the strategies we shared above have been effective in building relationships, facilitating discussion, and teaching STEM facilitation skills, ACRES virtual professional development has not been without its challenges. Technology issues can always hamper the success of otherwise exemplary virtual professional development. Leaders must give extra attention to communicating instructions, testing their equipment beforehand, and preparing backup strategies or workarounds for the most common problems.

One frequent challenge, especially in rural areas, is bandwidth limitations, which can lead to participants being disconnected from the video-conference. Zoom and some other platforms automatically adjust to limited bandwidth by lowering video resolution. However, occasionally participants with spotty internet connections have difficulty staying connected. In such cases, we encourage participants to join the video-conference on their webcam but to turn off their computer volume and instead call in on their phone or, in the worst case, to call in without video. Recording a session for later viewing is another easy backup strategy that can help participants who miss all or part of a session due to internet glitches.

Another challenge is that participants often are not experienced or comfortable with the technology. To address this challenge, we have put together several step-by-step guides, with screenshots, on how to use Zoom, DropBox, and other technology. In addition, facilitators offer people the opportunity to test the technology privately before the course begins. This simple “tech check” helps participants work through any anxiety they have about using a technology for the first time. Finally, facilitators prepare in advance so they can troubleshoot issues that arise. If

someone’s microphone doesn’t work, or if there is annoying audio feedback, facilitators are prepared to lead participants through several steps to diagnose and resolve the issue.

Still, even tech-savvy facilitators cannot anticipate every glitch. Sometimes software and hardware just don’t work the way we anticipate. It helps to keep the sessions lighthearted and to be grateful for participants’ acceptance of technology’s bumps and flaws and for their commitment to learning. Interestingly, we have found that virtual participants are open to helping each other—and even the facilitator—to resolve technology issues. As long as the facilitator stays calm and encourages a spirit of “figuring things out together,” groups seem surprisingly resilient. We also encourage participants to reach out for local technology support from tech-savvy family members, colleagues, friends, or program youth.

### **Going Beyond STEM**

The virtual professional development strategies and techniques presented here can be adapted to a variety of other learning needs for afterschool educators. One colleague of ours (Jennifer Brady, personal communication, May 20, 2018) recently adapted the model for professional development in literacy with afterschool educators in a rural area. During midwinter, she inserted two Zoom sessions into a seven-part in-person workshop series as a way to continue the momentum during a time when travel is difficult. The facilitator found the breakout rooms particularly helpful for continuing a “critical friends” practice started during the in-person sessions. Another strategy the facilitator used was to screen-share a website of literacy practices and then have the group work independently in a separate browser tab to look for strategies related to their own sites. The facilitator reported that most participants appreciated the opportunity to collaborate in highly active and flexible small groups. She added her opinion that the online professional development model presented in ACRES could be adapted to any other discipline, regardless of content (Jennifer Brady, personal communication, May 20, 2018).

The best online professional development alleviates some of the greatest obstacles faced by afterschool educators in attending face-to-face trainings, while retaining components that make learning effective, such as group bonding, a safe learning environment, a variety of activity formats, hands-on components, and opportunities to engage in deep reflection on one’s own and others’ practices. We hope that other providers will use the strategies in this article to make their online professional development dynamic and useful for their virtual participants.



## References

- Afterschool Alliance. (2015). *America After 3PM topline questionnaire*. Retrieved from [http://www.afterschoolalliance.org/documents/AA3PM-2015/AA3PM\\_Topline\\_Questionnaire.06.09.15.pdf](http://www.afterschoolalliance.org/documents/AA3PM-2015/AA3PM_Topline_Questionnaire.06.09.15.pdf)
- Bang, E., & Luft, J. A. (2016). Practices and emerging identities of beginning science teachers in online and offline communities of practice. In L. Avraamidou (Ed.), *Studying science teacher identity: Theoretical, methodological, and empirical explorations* (pp. 261–193). Rotterdam, The Netherlands: Sense.
- Blankenship, S., & Ruona, W. E. A. (2007). *Professional learning communities and communities of practice: A comparison of models, literature review*. Retrieved from <http://files.eric.ed.gov/fulltext/ED504776.pdf>
- Bradshaw, L. D. (2015). Planning considerations for afterschool professional development. *Afterschool Matters*, 21, 46–54.
- Brasili, A., Allen, S., & Foster, M. (2017). *The ACRES project (Afterschool Coaching for Reflective Educators in STEM) evaluation report 1: Impacts on afterschool educators*. Retrieved from <https://mmsa.org/2018/07/the-acres-project-evaluation-report-1-impacts-on-afterschool-educators>
- Brown, M., Hughes, H., Keppell, M., Hard, N., & Smith, L. (2015). Stories from students in their first semester of distance learning. *International Review of Research in Open and Distributed Learning*, 16(4). <http://dx.doi.org/10.19173/irrodl.v16i4.1647>
- Darling-Hammond, L., Hyster, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute. Retrieved from [https://www.teacherscholars.org/wp-content/uploads/2017/09/Effective\\_Teacher\\_Professional\\_Development\\_REPORT.pdf](https://www.teacherscholars.org/wp-content/uploads/2017/09/Effective_Teacher_Professional_Development_REPORT.pdf)
- Denton, C. A., & Hasbrouck, J. (2009). Description of instructional coaching and its relationship to consultation. *Journal of Educational and Psychological Consultation*, 19(2), 150–175.
- DuFour, R., & Reason, C. S. (2016). *Professional learning communities at work and virtual collaboration: On the tipping point of transformation*. Bloomington, IN: Solution Tree.
- Fulton, K., Doerr, H., & Britton, T. (2010). *STEM teachers in professional learning communities: A knowledge synthesis*. Retrieved from [https://www.wested.org/online\\_pubs/resource1097.pdf](https://www.wested.org/online_pubs/resource1097.pdf)
- Grantmakers for Education. (2016). *Funders' guide to quality in out-of-school time*. Retrieved from [https://www.edfunders.org/sites/default/files/OST\\_Funders\\_Guide\\_2016\\_final.pdf](https://www.edfunders.org/sites/default/files/OST_Funders_Guide_2016_final.pdf)
- Hill, S. L., Matloff-Nieves, S., & Townsend, L. O. (2009). Putting our questions at the center: Afterschool Matters Practitioner Fellowships. *Afterschool Matters*, 8, 46–50.
- Huang, D., & Dietel, R. (2011). *Making afterschool programs better*. (CRESST Policy Brief). Los Angeles, CA: University of California.
- Lobley, J., & Ouellette, K. L. (2017). Using videoconferencing to create authentic online learning for volunteers. *Journal of Extension*, 55(5). Retrieved from <https://www.joe.org/joe/2017october/tt8.php>
- Miller, B., & Hall, G. (2007). What counts in afterschool? Findings from the Massachusetts Afterschool Research Study. *Journal of Youth Development*, 55(3), 98–114.
- Mind Tools. (2016). *Virtual ice breakers*. Retrieved from <https://www.mindtools.com/pages/article/virtual-ice-breakers.htm>
- Morones, A. (2014). *New professional development tool for afterschool STEM staff* [Education Week weblog]. Retrieved from [http://blogs.edweek.org/edweek/time\\_and\\_learning/2014/01/site\\_provides\\_after\\_school\\_stem\\_staff\\_with\\_resources.html](http://blogs.edweek.org/edweek/time_and_learning/2014/01/site_provides_after_school_stem_staff_with_resources.html)
- National Broadband Map. (2015). *Broadband statistics report: Broadband availability in urban vs. rural areas*. Retrieved on May 1, 2018, from <http://www.broadbandmap.gov/download/Broadband%20Availability%20in%20Rural%20vs%20Urban%20Areas.pdf>
- National Research Council. (2009). *Learning science in informal environments: People, places, and pursuits*. Washington, DC: National Academies Press. doi:10.17226/12190
- Vance, F., Salvaterra, E., Michelsen, J. A., & Newhouse, C. (2016). Getting the right fit: Designing a professional learning community for out-of-school time. *Afterschool Matters*, 24, 21–32.
- Vandell, D. L., Reisner, E. R., & Pierce, K. M. (2007). *Outcomes linked to high-quality afterschool programs: Longitudinal findings from the Study of Promising Afterschool Programs*. Retrieved from [https://www.purdue.edu/hhs/hdfs/fii/wp-content/uploads/2015/07/s\\_iafis04c04.pdf](https://www.purdue.edu/hhs/hdfs/fii/wp-content/uploads/2015/07/s_iafis04c04.pdf)



# Supporting Latinx Youth Participation Out-of-School Time Programs

A Research Synthesis

Nancy Erbstein and James O. Fabionar

Scholars in many fields have documented that the sharp population increase among Latinx people in the U.S. has been accompanied by myriad social challenges (Suárez-Orozco & Suárez-Orozco, 2009). Both established populations and new arrivals struggle to obtain quality education, adequate healthcare, and employment that pays a living wage; they also deal with various forms of discrimination. Analyses repeatedly indicate that these and other issues often shape the daily lives and developmental trajectories of Latinx youth. These social issues also undermine Latinx participation in out-of-school time (OST) programs, which hold potential to promote youth well-being (Guzman-Rocha, McLeod, & Bohnert, 2017). Increasingly, leaders of youth-serving organizations voice concern about low Latinx participation (Borden et al., 2006), often recognizing that poor participation reflects a need to develop new capacities and inclusive practices (Perkins et al., 2007).

As youth development practitioners and researchers, we are often asked to support community efforts to improve inclusion and equity. Recently we were asked to summarize the scholarship on Latinx participation in youth development programs and recommend ways to promote meaningful and sustained participation. This article presents key elements of this research synthesis. Our goal is to help OST programs develop concrete, research-based, context-responsive approaches to improving Latinx participation. First, we elaborate on the importance of Latinx youth participation in OST activities and present the framework that guided our analysis of the literature. After outlining our methodology, we then summarize the key themes in the literature and articulate strategies for developing high-quality OST programs with sustained high Latinx participation. The conclusion poses questions for OST

---

**NANCY ERBSTEIN**, PhD, is a faculty member in the Department of Human Ecology and is academic assistant to the vice provost and associate chancellor, Global Affairs, at the University of California, Davis. **JAMES O. FABIONAR**, PhD, is assistant professor in the Department of Learning and Teaching at the University of San Diego.

practitioners to facilitate critical reflection and thoughtful planning for inclusion of Latinx youth.

### Why Latinx Participation in OST Matters

Latinx youth development is an emerging area of study. Most of the earliest empirical works we uncovered were published after 2004. Since that time, scholars have pleaded for greater attention to the needs of Latinx youth (Williams, Tolan, Durkee, Francois, & Anderson, 2012). They insist on a critical need for better engagement strategies to address not only Latinx population increases but also the structural inadequacies of public institutions to address the unique needs of Latinx youth and their families. Analyses of census data portray a generation of Latinx youth whose developmental needs are largely going unmet (Suárez-Orozco & Suárez-Orozco, 2009). Of specific concern are underresourced schools, poorly developed or nonexistent youth support infrastructures, and high incarceration rates (Borden et al., 2006; Yosso, 2005).

Adding to these concerns, reports on Latinx youth repeatedly show low participation in OST programs at a time when evidence links participation to positive developmental outcomes (Little & Harris, 2003). Programs aiming to connect with Latinx youth face many obstacles. In some

communities, a large proportion of Latinx youth are growing up with a single parent, and a significant number of families are experiencing severe poverty (Krogstad & Lopez, 2014). Latinx people are settling in areas with no established Latinx communities, raising new social challenges (Fry, 2008). Low academic achievement among one of the country's largest youth populations limits the opportunity to tap the considerable linguistic and cultural capital of these youth (Suárez-Orozco & Suárez-Orozco, 2009).

### Research Questions and Methods

To speak to these issues, we brought together a multidisciplinary body of scholarship and practice-based literature from the fields of ethnic studies, sociology, anthropology, youth studies, and human development (Erbstein & Fabionar, 2014). This effort was sponsored by the University of California's Division of Agriculture and Natural Resources, which coordinates California's 4-H Youth Development Program, one of the state's largest OST providers. Two questions grounded our thinking:

- What OST program qualities lead to high and sustained participation rates for Latinx youth in the U.S.?
- What specific attributes of OST programs lead to positive outcomes for Latinx youth in the U.S.?

**Figure 1. Conceptual Framework**



Note. Adapted from National Research Council & Institute of Medicine (2002)

We anchored our analysis of the literature in an understanding of high-quality OST programs centered on the four intersecting elements shown in Figure 1: the underlying conceptual framework; core program elements; organizational and programmatic infrastructure; and the relationships between the program and the communities, families, and youth it serves.

To find relevant research, we conducted an exhaustive review of the literature generated by searches for the terms *youth development*, *program*, and *Latino* or *Hispanic*. Materials included peer-reviewed empirical studies and conceptual articles found through ProQuest Dissertation and Theses, Social Science Citation Index, and Scopus. In addition, we sought policy and research reports in practitioner-oriented research and evaluation repositories. We narrowed the list of sources to 114 by selecting only pieces that focused on positive youth development programs that successfully serve Latinx youth.

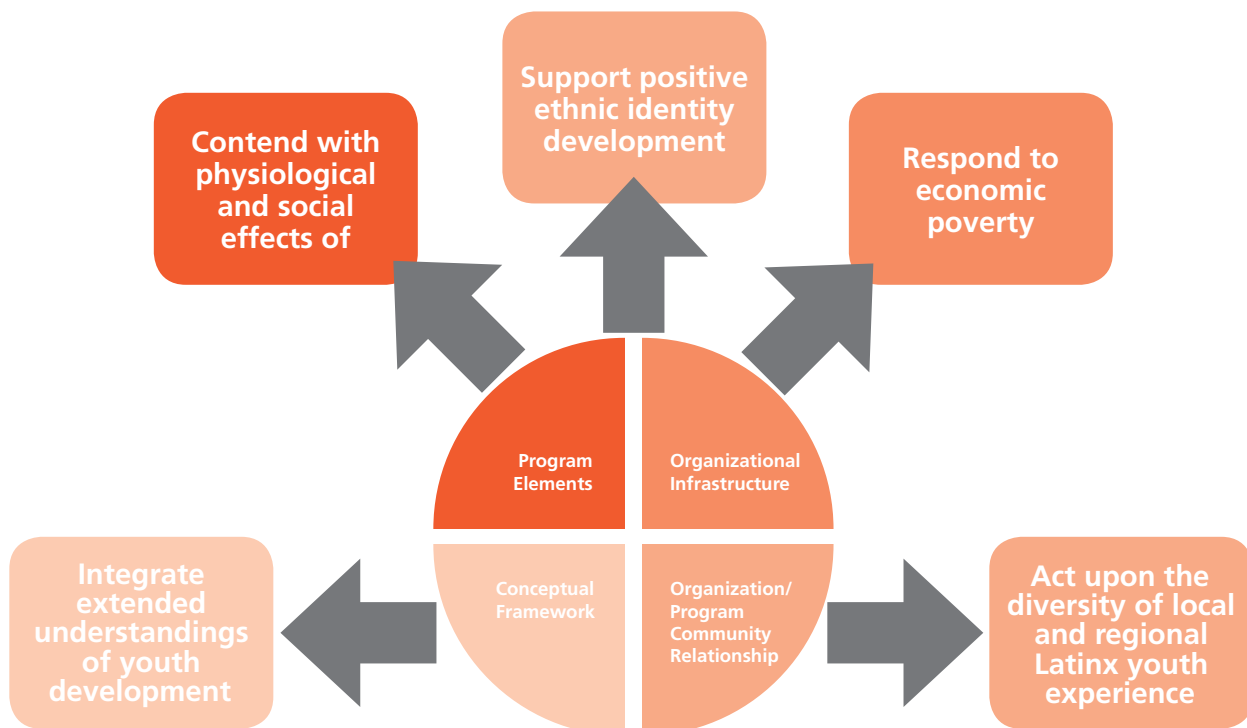
### Key Findings in the Literature

We identified five intersecting themes in the literature that are directly relevant to the four dimensions as illustrated in Figure 2.

### Extended Understandings of Youth Development

Scholars argue that the structural and cultural challenges Latinx youth often face are not adequately addressed in widely used models of youth development (Rodriguez & Morrobel, 2004). These challenges include cultural dimensions of immigration, immigration status, language, discrimination, and poverty; Latinx youth also often must navigate new social, cultural, and institutional contexts (Dorner, Orellana, & Jiménez, 2008; Easter & Refki, 2004; Valladares & Ramos, 2011). Scholars argue that positive youth development research should attend to racial and ethnic identity as a central element of adolescent development (Williams et al, 2012). Studies of Latinx adolescents focus on the effects of structural factors; underscore variation in experiences depending on whether Latinx youth were born in the U.S. or arrived recently; and highlight the ways in which relationships among family, extended family, and ethnic community often shape development in ways that differ from those of the dominant culture (Borden et al., 2006; Dorner et al., 2008; Schofield et al., 2012). Youth development policies, programs, and practices that effectively serve Latinx youth attend to the specifics of the young people’s experience; programs that assume dominant cultural norms can produce inadequate and unsupportive environments (Borden et al., 2006).

**Figure 2. Strategies for Latinx Participation**





### **Physiological and Social Effects of Discrimination**

Latinx youth, it is repeatedly argued, face individual, organizational, and societal forms of discrimination based on race, language and culture, national or indigenous group background, immigration status, and economic poverty (Edwards & Romero, 2008). Building on early work on the experiences of Black youth and more recent work with Latinx populations, researchers emphasize addressing the effects of discrimination (Fisher, Wallace, & Fenton, 2000; Lee & Ahn, 2012). Some also draw attention to experiences of intra-ethnic discrimination within Latinx communities based on race, nationality, or indigenous group (Oaxacalifornian Reporting Team, 2013).

Studies on Latinx youth and discrimination focus on such issues as young people's experiences of discrimination, the relationship between discrimination and stress, the relationship between discrimination and educational and physical and mental health outcomes, and protective factors (Córdova & Cervantes, 2010; Edwards & Romero, 2008). Scholars also draw attention to intersecting aspects of identity in relationship to discrimination. For example, LGBT youth of color are especially vulnerable to discrimination, which leads to high-risk behaviors such as substance abuse and suicide attempts (Russell, Driscoll, & Truong, 2002). Together, these studies highlight the need for youth development programming to directly support eliminating individual and structural discrimination while enabling young people to contend with its effects.

### **Positive Ethnic Identity Development**

Though scholars have long studied adolescent identity development, they have more recently turned their attention to the role of racial and ethnic identity in healthy youth development and positive youth development programs (Swanson et al., 2003; Williams, Tolan, Aiyer, & Durkee, 2013). They argue that positive racial and ethnic identity is an important protective factor (Acevedo-Polakovich, Chavez-Corell, & Umaña-Taylor, 2014; Rivas-Drake et al., 2014; Williams et al., 2012) that should be cultivated.

Scholars of Latinx youth development discuss various approaches to fostering positive ethnic identity but share a strong critique of "colorblind" orientations. Some focus

Scholars of Latinx youth development discuss various approaches to fostering positive ethnic identity but share a strong critique of "colorblind" orientations.

on having pride in one's heritage (Eater & Refki, 2004), learning racial and ethnic group histories, and participating in cultural activities. Others recognize the power of ethnic traditions and deep-rooted connections to ancestors as a foundation for healing and growth (National Latino Fatherhood and Families Institute, 2012). Another strand seeks opportunities to redress social inequality. This approach helps youth to analyze critically how Latinx people are situated in society by bringing together historical and political knowledge and local advocacy to foster individual and collective agency (Ginwright & Cammarota, 2007). All of these strategies help Latinx young people learn not only about themselves but also about others in order to facilitate development of relationships across racial and ethnic lines; evidence suggests that such relationships are another important protective factor (Graham, Munniksma, & Juvonen, 2014).

### **Economic Poverty**

Much of the research we reviewed expresses concern about the effects of economic poverty on Latinx youth development and program participation. In California, for instance, over 25 percent of Latinx youth ages 12–17 are growing up in families with annual earnings below the federal poverty line (Erbstein, Greenfield, & Geraghty, 2013). Three interrelated factors in economic poverty are immigration, labor, and community opportunity.

### **Immigration**

Some U.S. Latinx families were never immigrants, particularly those in the portion of the Southwest that was once Mexico. Furthermore, the majority of Latinx children were born in the U.S. (Krogstad & Lopez, 2014). Still, immigration patterns remain an important factor in Latinx poverty. Among Latinx youth, 33.8 percent are immigrants, 36.9 percent are U.S.-born children of immigrants, and 29.3 percent are at least third generation (Kochhar, 2009). Much of this immigration is tied to global market conditions. Suárez-Orozco and Suárez-Orozco

(2009) observe that rapid economic expansion in the 1990s brought an influx of newcomers. Some immigrants leave their home countries to escape violence with roots in the U.S. and global drug market. Many are poor and have little or no formal education (Suárez-Orozco & Suárez-Orozco, 2009).

## Labor

Many Latinx people work in low-paying, low-skilled positions in agriculture, service industries, and building trades (Duncan, Hotz, & Trejo, 2006). Such low-paying, unstable jobs can significantly affect families. Members may be separated for weeks or months at a time. Young people may be left with extended families or friends, or they may be uprooted periodically as their parents seek new work. Additionally, 51 percent of Latinx youth are growing up in single-parent households (Lopez & Velasco, 2011), where they are likely to have little supervision. Some young people work to support their families or take on household responsibilities such as cooking, cleaning, and caring for children and elders (Dorner et al., 2008).

## Community Opportunity

Latinx families are found in virtually every type of community: rural, urban, and suburban. Increasingly they live in areas that have not historically had large Latinx populations. However, many Latinx children and youth grow up in violence-prone low-income areas with limited access to public services and youth development programs. Where youth programs do exist, lack of discretionary funds, transportation difficulties, intensive and unpredictable parent work schedules, responsibilities to help out at home, and the stigma of economic poverty can all constrain participation by Latinx youth.

## Diversity of Latinx Youth Experiences

Latinx youth are a highly diverse population. In any given place, the Latinx population may include people from substantially different economic, national, and ethnic backgrounds. The sizes of Latinx populations vary, as do the extent to which Latinx people comprise the full population or are one of several ethnic groups. Latinx people may be long-term residents who are fully incorporated into the community, or they may be at the periphery of dominant social, civic, and economic networks. In other places, they are in motion: moving in to seek opportunity or moving out because of gentrification. In one locality, different Latinx subpopulations can occupy varying social, spatial, economic, and political niches.

How Latinx youth understand their identities, the challenges they face, and the resources they have must therefore be understood in relation to specific local and regional contexts. Specific knowledge of local and

regional Latinx communities is necessary to create responsive youth development programs (Erbstein, 2013; Hobbs & Sawyer, 2009).

## Strategies for Latinx Participation in High-Quality OST Programs

These five themes have important implications for OST program practices. Most of the practices cited in scholarship on Latinx youth development emerge in programs that focus on improving the social and political situation of local Latinx people. Youth organizing, youth-led participatory action research, community health advocacy, and media- and arts-based empowerment strategies aim to build on young people's assets and amplify their voices so they can improve community conditions. Youth are often positioned as leaders, researchers, and partners with adults; they are tasked with helping to develop and facilitate activities, guide organizations, and represent their communities.

## Integrating Extended Understanding of Youth Development

Mainstream youth development frameworks tend to reflect White, middle-class norms (Dorner et al., 2008; Fredricks & Simpkins, 2012). These frameworks may ignore or underplay the role of culture and ethnicity in development (Rodriguez & Morrobel, 2004). They do not differentiate, for instance, between the unique developmental experiences of low socioeconomic status Latinx youth and middle-class White youth.

Building culturally nuanced programs requires understanding the experiences of Latinx youth within their structural contexts. Immigrant and low-income youth, for example, are often situated in institutions and systems differently from middle-class young people. Immigrant youth are also more likely to focus on figuring out how to be bicultural<sup>1</sup> than on differentiating themselves from their family (Dorner et al., 2008).

This intersection of structural conditions, cultural characteristics, and youth development reveals a critical need for program leaders and staff to investigate their own views about youth development and youth and family engagement. They must explore their own assumptions about these processes, identify the personal experiences and cultural contexts that shape these views, and reflect on how these ideas influence practice in ways that might or might not serve Latinx youth and families. These steps can

---

<sup>1</sup> Scholars tend to use the terms *bicultural* and *bilingual* to signify the cultural and linguistic realities of Latinx youth, even though the social contexts of Latinx youth are often multicultural and multilingual.

broaden the prevailing models of development, humanize Latinx young people, and support practices that affirm and build on the young people's experiences.

Many OST settings center their work in the developmental experiences of Latinx youth. Often they are located in organizations that strategically integrate Latinx youth, families, and community leaders into program design, implementation, and evaluation (Borden et al., 2006). Bellanova's (2008) ethnography of RISEN, a faith-based community program, describes how community members and youth help to design and implement TeenSpace, a youth center to serve the community's predominantly Latinx population. Positioning Latinx youth and adults as leaders not only taps the resources these stakeholders bring to the table but also helps organization leaders learn how the development of local Latinx youth differs from that of middle-class White youth.

### **Contending with Physiological and Social Effects of Discrimination**

The fiscal realities of many Latinx families limit access to supports that are often assumed to be available to all youth, such as food, clothing, transportation, internet access, discretionary funds, and enrichment opportunities. Furthermore, continuous exposure to stressful demands about one's ethnicity, race, language, and physical appearance hinder the establishment of a healthy sense of self, culture, and community (Córdova & Cervantes, 2010). At minimum, effective youth development programs avoid exacerbating stress based on young people's ethnic and economic backgrounds. At best, they build the capacity of Latinx youth to navigate and alleviate these stresses.

One program that provided this kind of social support was a participatory action research project facilitated by the Center for Collaborative Research for an Equitable California (2013) at the University of California Santa Cruz. The project involved young people in the California Central Valley whose families came from Oaxaca, Mexico, to provide migrant labor. In supportive youth-adult partnerships, participants explored how young adults in this community become involved in civic life. Central to the investigation were questions about the unique cultural and linguistic situation of Oaxacan youth,

who navigate indigenous Oaxacan, Mexican, Mexican-American, and other American cultures. Many of these young people are bilingual or trilingual, speaking an indigenous language at home, Spanish with friends, and English in school (Oaxacalifornian Reporting Team, 2013). Programs like this one provide a safe space where youth can develop their identity and understand challenges—including discrimination and complex ethnic dynamics—that impede civic participation and social mobility.

### **Supporting Positive Ethnic Identity Development**

Recent scholarship argues that racial and ethnic identity is a central aspect of healthy youth development rather than a "special topic" (Williams et al., 2012). Growing evidence suggests that positive racial and ethnic identity is a protective factor (Rivas-Drake et al., 2014) associated with a wide range of healthy youth outcomes, including general physical and mental health (Ai, Aisenberg, Weiss, & Salazar, 2014), avoidance of substance use (Unger, 2014), school persistence (Davalos, Chavez, & Guardiola, 1999), resilience in the face of race-related (Greene, Way, & Pahl, 2006; Umaña-Taylor, Wong, Gonzales, & Dumka, 2012) and other (Williams et al., 2013) stresses, and other developmental assets (Acevedo-Polakovich et al., 2014; Williams, Anderson, Francois, Hussain, & Tolan, 2014).

Adolescence is an important period in which young people make meaning of their ethnic and racial group membership (Rew, Arheart, Johnson, & Spoden, 2015; Rivas-Drake et al., 2014). Latinx youth benefit from settings that understand and support their unique cultural and linguistic heritage and help them deal with the challenges and opportunities of navigating more than one language and culture (Hobbs & Sawyer, 2009). Researchers encourage youth workers to move away from approaches that emphasize assimilation and toward practices that support *acculturation*, or awareness of ongoing negotiation among cultures and languages (Dorner et al., 2008). Programs for youth from multiple ethnic and cultural backgrounds can promote cultural sharing, build relationships around common challenges, and offer advocacy for resisting anti-immigrant attitudes (Easter & Refki, 2004).

These approaches engage Latinx youth by reflecting the complex processes that shape their developmental realities.

At minimum, effective youth development programs avoid exacerbating stress based on young people's ethnic and economic backgrounds. At best, they build the capacity of Latinx youth to navigate and alleviate these stresses.

Many Latinx young people, particularly immigrants and children of immigrants, face the challenges of bridging their home culture and language with the dominant culture and language. This work is often a source of tension for children who are navigating cultural terrain that is unfamiliar to their parents (Dorner et al., 2008). Youth development staff who are bicultural and bilingual can help bridge generational gaps between youth and their parents. When bicultural staff are not available, program leaders should ensure that staff members value bilingualism and biculturalism and have experience working with youth in ways that reflect these dimensions of who they are.

Programs that cultivate positive ethnic identity generally involve one or more of four approaches: fostering cultural pride by sharing the ethnic group's histories and participating in cultural artistic expressions such as music, dance, and theater (Flores-González, Rodríguez, & Rodríguez-Muñiz, 2006); developing positive identity through civic participation and social justice activism (Ginwright & Cammarota, 2007); providing opportunities that support bicultural and bilingual identity (Hobbs & Sawyer, 2009); and engaging youth in activities to support healthy relationships within and outside their own ethnic and racial groups. Vyas, Landry, Schnider, Rojas, and Wood (2012) promote a combination of these strategies, urging programs to tap into Latinx youths' language skills and knowledge of text messaging and social media to bring important messages to community members. This approach positions Latinx youth as advocates because of their language and technology skills and their connection to, concern for, and cultural knowledge of their communities.

These scholars typically do not argue for separate or segregated youth programs. Instead, they make the case that a strong local infrastructure for healthy Latinx youth development provides a variety of options, including not only activities related to specific racial and ethnic groups but also activities that engage youth from multiple racial and ethnic backgrounds. Regardless of their topical focus, organizations that celebrate and reinforce Latinx youths' cultural and linguistic heritage are more likely to make those youth feel welcome.

For example, Watkins, Larson, and Sullivan (2007) provide a case study of a youth organizing program in which participants developed relationships with individuals who did not share such characteristics as ethnicity, socioeconomic status, religion, and sexual orientation. This experience altered attitudes and behaviors among the primarily Latinx and African American members. Participants developed an understanding of and appreciation for peers of different backgrounds in

three stages. The first stage involved building relationships with people from groups outside their own by working together on community organizing projects. The second stage was learning both from informal peer interactions that helped participants overcome media stereotypes and from structured activities facilitated by program staff about injustices experienced by other groups. In the third stage, members began to incorporate the insights of the first two stages into their behavior by showing increased sensitivity to diversity and a commitment to social justice and social action (Watkins et al., 2007).

### ***Responding to Economic Poverty***

The stigma associated with poverty and the disproportional distribution of poverty among racial and ethnic groups mean that poverty, social status, and race and ethnicity are closely intertwined. Social stratification based on race or ethnicity and class is reinforced by discrimination that may be overt or covert and individual, organizational, or institutional. Latinx youth may contend with discrimination not only from non-Latinx people but also from Latinx people who differ from them by immigration status, race, nation, or indigenous origin. Concern about potential and actual unfair treatment, as well as acculturation and immigration, cause stress (American Psychological Association, 2016; Dillon, De La Rosa, & Ibañez, 2013; Yoshikawa, Suárez-Orozco, & Gonzalez, 2017). Scholars of Latinx youth development therefore investigate how discrimination and stress affect youth development. They emphasize taking a critical perspective on the historical forces and mechanisms that produce social inequality based on wealth, status, culture, and race and ethnicity (Fisher et al., 2000; Ginwright & Cammarota, 2007).

One of many examples of OST programs that offer full access to all young people regardless of socioeconomic status is Batey Urbano, a youth-led cultural space in a predominantly low-income Puerto Rican area of Chicago. The program builds on young people's identities, concern for social equality, and interest in and knowledge of hip-hop (Flores-González et al., 2006). Hip-hop art forms engage youth in critical dialogue about their personal challenges and about the global economic and political forces that shape their struggles and those of other groups. Building on work by Ginwright and Cammarota (2007), the Batey Urbano researchers posit that healthy transformation stems in part from recognizing the role of power and privilege in societies, including the conditions that shape poverty among minority groups (Flores-González et al., 2006).



### **Acting on the Diversity of the Latinx Youth Experience**

Cultivating partnerships and networks in the Latinx community is critical to tapping the unique assets of Latinx youth (Gonzales, 2010; Hampton, 2010; Suárez-Orozco & Suárez-Orozco, 2009). Developing trusting relationships with families and community leaders is a primary strategy for building these connections. Program staff and leaders can begin to build trust by demonstrating interest in and understanding of local Latinx diversity, particularly the histories of various subgroups and the circumstances that shape their patterns of social interaction. Taking stock of the local community includes gathering facts about residents' countries of origin, educational levels, languages, immigration status, livelihoods, and formal and informal institutions and networks (Gonzalez, 2010; Hobbs & Sawyer, 2009; Raffaelli, Carlo, Carranza, & Gonzalez-Kruger, 2005; Román, 1997). This context provides insight into how ethnicity shapes youth development locally and into ways to tailor programs to address demographic differences and promote engagement among stakeholders (Rodriguez & Morrobel, 2004).

Developmental frameworks must account for ethnic diversity and experience in order to engender practices that facilitate youth resilience. Culture, with its ability to evolve and adapt, offers a powerful source of strength and knowledge. In addition, youth who grow up in challenging environments develop skills and knowledge that are often overlooked by youth workers. Tara Yosso (2005) argues that a history of resistance to oppressive conditions is an important source of energy, inspiration, and insight for racial and ethnic minority communities. Programs that validate and build on these capacities are well positioned to attract, tap, and serve Latinx youth and their communities.

Ricardo Stanton-Salazar and Stephanie Spina (2003) explored the networking patterns of Mexican-origin adolescents in San Diego, California, to distill methods for accessing opportunity in the face of poverty, racial segregation, and lack of funding for youth-serving institutions. The scholars posit that youth who "make it" often do so because of assistance from nonfamilial adult mentors who support positive racial and ethnic identity

development. Based on subsequent analysis, Stanton-Salazar (2011) concludes that such empowerment agents with strong cultural capacities must be positioned as mentors and leaders to transform youth outcomes.

**Tara Yosso (2005) argues that a history of resistance to oppressive conditions is an important source of energy, inspiration, and insight for racial and ethnic minority communities.**

### **Guiding Principles and Key Questions for Organizations**

Given the diversity of Latinx communities, there is no single formula for engaging Latinx youth. However, the analyses and strategies we found in our literature review suggest a set of guiding principles for youth-serving organizations. Each principle has relevance to each component of OST programs in our conceptual framework: program elements, organizational structure, youth development frameworks,

and community relations. To provide high-quality programming that engages Latinx youth, program leaders should:

- Cultivate intentionality toward serving Latinx youth and a foundation of care
- Learn about local and regional Latinx communities
- Ensure that their programs reflect local Latinx youth and family experiences, interests, and resources
- Support positive racial and ethnic identity development
- Address the effects of both outside and within-group discrimination
- Tailor outreach and programs to regional economic, language, and immigration patterns
- Engage Latinx community members in designing, implementing, and assessing programs

Leaders must evaluate their engagement strategies in the context of their community and region. The following questions, distilled from our research synthesis, can assist leaders to tailor their policies and practice to the unique needs of the Latinx youth in their area.

- **What is the history of the local Latinx populations?** History provides context for social and cultural dynamics that affect OST participation. How long, for instance, have Latinx people lived here? Have there been waves of newcomers and, if so, from where and why have they come?
- **What resources exist in the Latinx community?** Community assets can support strong ties to Latinx youth. What leaders, formal and informal networks, places of social and cultural significance, and sites of

political engagement can help OST program leaders tailor youth supports?

- **What is the regional economic landscape, and how are Latinx people positioned in it?** An understanding of the work Latinx people are doing helps program leaders understand when and how parents and caretakers can contribute to OST programming. These conditions also affect the extent to which families support their children's participation.
- **What is the social climate of the region and community?** The degree of racial and ethnic diversity, the national and regional origins of the Latinx population, and the tensions within and among racial and ethnic groups can all affect youth engagement. What are the patterns of distribution of power and resources? How do these realities affect where people feel safe and unsafe?
- **How are organization and program staff connected to or disconnected from the Latinx community?** Organizations need to build trusting relationships with Latinx youth, families, and community leaders. Hiring and training culturally competent staff is one step; developing local partnerships is another. To what extent does the program build on the interests, needs, and resources of local Latinx youth and families?

Asking these questions and following these guiding principles will take time, commitment, patience tempered by a sense of urgency, resources, and, above all, openness to input from diverse local Latinx community members. The payoff for this hard work is high-quality OST programming that fully engages Latinx youth.

## References

Acevedo-Polakovich, I. D., Chavez-Corell, S., & Umaña-Taylor, A. J. (2014). U.S. Latinas/os' ethnic identity: Context, methodological approaches, and considerations across the life span. *Counseling Psychologist, 42*(2), 154–169.

Ai, A., Aisenberg, E., Weiss, S. L., & Salazar, D. (2014). Racial/ethnic identity and subjective physical and mental health of Latino Americans: An asset within? *American Journal of Community Psychology, 2014*(53), 173–184.

American Psychological Association. (2016). *Fact sheet: Health disparities and stress*. Retrieved from <http://apa.org/topics/health-disparities/fact-sheet-stress.aspx>

Bellanova, T. (2008). *Case study of a faith-based youth development program serving Latino youth*. Unpublished

dissertation. Retrieved from <https://search.proquest.com/docview/304651567/abstract>

Borden, L. M., Perkins, D. F., Villarruel, F. A., Carleton-Hug, A., Stone, M. R., & Keith, J. G. (2006). Challenges and opportunities to Latino youth development: Increasing meaningful participation in youth development programs. *Hispanic Journal of Behavioral Sciences, 28*(2), 187–208.

Córdova, D., Jr., & Cervantes, R. C. (2010). Intergroup and within-group perceived discrimination among U.S.-born and foreign-born Latino youth. *Hispanic Journal of Behavioral Sciences, 32*(2), 259–274.

Davalos, D. B., Chavez, E. L., & Guardiola, R. J. (1999). The effects of extracurricular activity, ethnic identification, and perception of school on student dropout rates. *Hispanic Journal of Behavioral Sciences, 21*(1), 61–77.

Dillon, F. R., De La Rosa, M., & Ibañez, G. E. (2013). Acculturative stress and diminishing family cohesion among recent Latino immigrants. *Journal of Immigrant and Minority Health, 15*(3), 484–491.

Dorner, L. M., Orellana, M. F., & Jiménez, R. (2008). “It’s one of those things that you do to help the family”: Language brokering in the development of immigrant adolescents. *Journal of Adolescent Research, 23*(5), 515–543.

Duncan, B., Hotz, J. V., & Trejo, S. J. (2006). Hispanics in the U.S. labor market. In M. Tienda & F. Mitchell (Eds.), *Hispanics and the Future of America*. Washington, DC: National Academies Press. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK19908>

Easter, M., & Refki, D. (2004, December). *Creating successful programs for immigrant youth*. Retrieved from [http://www.actforyouth.net/resources/pm/pm\\_creatingsuccess\\_1204.pdf](http://www.actforyouth.net/resources/pm/pm_creatingsuccess_1204.pdf)

Edwards, L. M., & Romero, A. J. (2008). Coping with discrimination among Mexican descent adolescents. *Hispanic Journal of Behavioral Sciences, 30*(1), 24–39.

Erbstein, N. (2013). Engaging underrepresented youth populations in community youth development: Tapping social capital as a critical resource. *New Directions for Youth Development, 2013*(138), 109–124.

Erbstein, N., Greenfield, T. & Geraghty, E. (2013). *Putting youth on the map equity analyses*. Retrieved on August 8, 2014, from <http://mapserver2.vestra.com/demo/ucdmappingregionalchange/youth/equity-analyses.html>

- Erbstein, N., & Fabionar, J. (2014, September 24). *Latin@ participation in youth development programs*. University of California Division of Agriculture and Natural Resources. Retrieved from <http://cesantaclara.ucanr.edu/files/261436.pdf>
- Fisher, C. B., Wallace, S. A., & Fenton, R. E. (2000). Discrimination distress during adolescence. *Journal of Youth and Adolescence*, 29(6), 679–695.
- Flores-González, N., Rodríguez, M., & Rodríguez-Muñiz, M. (2006). From hip hop to humanization: Batey Urbano as a space for Latino youth culture and community action. In P. Noguera, J. Cammarota, & S. Ginwright (Eds.), *Beyond resistance! Youth activism and community change* (pp. 175–196). New York, NY: Routledge.
- Fredricks, J. A., & Simpkins, S. D. (2012). Promoting positive youth development through organized after-school activities: Taking a closer look at participation of ethnic minority youth. *Child Development Perspectives*, 6(3), 280–287.
- Fry, R. (2008). *Latino settlement in the new century*. Washington, DC: Pew Hispanic Center.
- Ginwright, S., & Cammarota, J. (2007). Youth activism in the urban community: Learning critical civic praxis within community organizations. *International Journal of Qualitative Studies in Education*, 20(6), 693–710.
- Gonzales, L. (2010). *Increasing Latino engagement in sustainability and philanthropic efforts of mainstream youth development organizations in the United States*. Retrieved from <https://via.library.depaul.edu/etd/30>
- Graham, S., Munniksmá, A., & Juvonen, J. (2014). Psychosocial benefits of cross-ethnic friendships in urban middle schools. *Child Development*, 85(2), 469–483.
- Greene, M. L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology*, 42(2), 218.
- Guzman-Rocha, M. D., McLeod, D. L., & Bohnert, A. M. (2017). Dimensions of organized activity involvement among Latino youth: Impact on well-being. *Journal of Adolescence*, 60, 130–139.
- Hampton, L. A. (2010). Covert racism and the formation of social capital among a volunteer youth corps. *Critical Sociology*, 36(2), 285–305.
- Hobbs, B. B., & Sawyer, B. (2009). *Engaging Latino youth in community-based programs: Findings from the first ten years of the Oregon 4-H Latino Outreach Project*. Corvallis, OR: Oregon State University.
- Kochhar, R. (2009, December 11). *Between two worlds: How young Latinos come of age in America*, Chapter II: Demography. Pew Research Center Hispanic Trends. Retrieved from <http://www.pewhispanic.org/2009/12/11/ii-demography>
- Krogstad, J. M., & Lopez, M. H. (2014). *Hispanic nativity shift: U.S. births drive population growth as immigration stalls*. Pew Research Center Hispanic Trends. Retrieved from <http://www.pewhispanic.org/2014/04/29/hispanic-nativity-shift>
- Lee, D. L., & Ahn, S. (2012). Discrimination against Latina/os: A meta-analysis of individual-level resources and outcomes. *Counseling Psychologist*, 40(1), 28–65.
- Little, P., & Harris, E. (2003). *A review of out-of-school time program quasi-experimental and experimental evaluation results: Out-of-school time evaluation snapshot*. Cambridge, MA: Harvard Family Research Project.
- Lopez, M. H., & Velasco, G. (2011, September 28). *Childhood poverty among Hispanics sets record, leads nation*, Chapter III; A profile of Latino children in poverty. Pew Research Center Hispanic Trends. Retrieved from <http://www.pewhispanic.org/2011/09/28/iii-a-profile-of-latino-children-in-poverty>
- National Latino Fatherhood and Families Institute. (2012). *Lifting Latinos up by their rootstraps: Moving beyond trauma to a healing-informed model to engage Latino boys and men*. San Jose, CA: National Compadres Network.
- National Research Council & Institute of Medicine. (2002). *Community programs to promote youth development*. Washington, DC: National Academies Press.
- Oaxacalifornian Reporting Team/Equipo de Cronistas Oaxacalifornianos. (2013). *Voices of indigenous Oaxacan youth in the Central Valley: Creating our sense of belonging in California*. Santa Cruz, CA: University of California Center for Collaborative Research for an Equitable California. Retrieved on May 10, 2010, from <https://ccrec.ucsc.edu/sites/default/files/ECO%20book%20english%20web%20CHANGE.pdf>
- Perkins, D. F., Borden, L. M., Villarruel, F. A., Carlton-Hug, A., Stone, M. R., & Keith, J. G. (2007). Participation in structured youth programs: Why ethnic minority urban youth choose to participate—or not to participate. *Youth & Society*, 38(4), 420–442.
- Raffaelli, M., Carlo, G., Carranza, M. A., & Gonzalez-Kruger, G. E. (2005). Understanding Latino children

- and adolescents in the mainstream: Placing culture at the center of development models. *New Directions for Child and Adolescent Development*, 2005(190), 23–32.
- Rew, L., Arheart, K. L., Johnson, K., & Spoden, M. (2015). Changes in ethnic identity and competence in middle adolescents. *Journal of Transcultural Nursing* 26(3), 227–233.
- Rivas-Drake, D., Seaton, E. K., Markstrom, C., Quintana, S., Syed, M., Lee, R. M., ... Sellers, R. M. (2014). Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. *Child Development*, 85(1), 40–57.
- Rodriguez, M. C., & Morrobel, D. (2004). A review of Latino youth development research and a call for an asset orientation. *Hispanic Journal of Behavioral Sciences*, 26(2), 107–127.
- Román, E. (1997). Common ground: Perspectives on Latino-Latina diversity. *Harvard Latino Law Review*, 2, 483–494.
- Russell, S. T., Driscoll, A. K., & Troung, N. (2002). Adolescent same-sex attractions and relationships: Implications for substance use and abuse. *American Journal of Public Health*, 92(2), 198–202.
- Schofield, T. J., Conger, R. D., Conger, K. J., Martin, M. J., Brody, G., Simons, R., & Cutrona, C. (2012). Neighborhood disorder and children's antisocial behavior: The protective effect of family support among Mexican American and African American families. *American Journal of Community Psychology*, 50(1–2), 101–113.
- Stanton-Salazar, R. (2011). A social capital framework for the study of institutional agents and their role in the empowerment of low-status students and youth. *Youth and Society*, 43(3), 1066–1109.
- Stanton-Salazar, R. D., & Spina, S. U. (2003). Informal mentors and role models in the lives of urban Mexican-origin adolescents. *Anthropology & Education Quarterly*, 34(3), 231–254.
- Suárez-Orozco, C., & Suárez-Orozco, M. M. (2009). Educating Latino immigrant students in the twenty-first century: Principles for the Obama administration. *Harvard Educational Review*, 79(2), 327–340.
- Swanson, D. P., Spencer, M. B., Harpalani, V., Dupree, D., Noll, E., Ginzburg, S., & Seaton, G. (2003). Psychosocial development in racially and ethnically diverse youth: Conceptual and methodological challenges in the 21st century. *Development and Psychopathology*, 15(3), 743–771.
- Umaña-Taylor, A. J., Wong, J. J., Gonzales, N. A., & Dumka, L. E. (2012). Ethnic identity and gender as moderators of the association between discrimination and academic adjustment among Mexican-origin adolescents. *Journal of Adolescence*, 35(4), 773–786.
- Unger, J. B. (2014). Cultural influences on substance use among Hispanic adolescents and young adults: Findings from Project RED. *Child Development Perspectives*, 8(1), 48–53.
- Valladares, S., & Ramos, M. F. (2011). *Children of Latino immigrants and out-of-school time programs*. Retrieved from [https://www.childtrends.org/wp-content/uploads/2011/12/Child\\_Trends-2011\\_12\\_01\\_RB\\_ImmigrantsOSTProg.pdf](https://www.childtrends.org/wp-content/uploads/2011/12/Child_Trends-2011_12_01_RB_ImmigrantsOSTProg.pdf)
- Vyas, A. N., Landry, M., Schnider, M., Rojas, A. M., & Wood, S. F. (2012). Public health interventions: Reaching Latino adolescents via short message service and social media. *Journal of Medical Internet Research*, 14(4), e99. doi:10.2196/jmir.2178
- Watkins, N. D., Larson, R. W., & Sullivan, P. J. (2007). Bridging intergroup difference in a community youth program. *American Behavioral Scientist*, 51(3), 380–402.
- Williams, J. L., Anderson, R. E., Francois, A. G., Hussain, S., & Tolan, P. H. (2014). Ethnic identity and positive youth development in adolescent males: A culturally integrated approach. *Applied Developmental Science*, 18(2), 110–122.
- Williams, J. L., Tolan, P. H., Aiyer, S. M., & Durkee, M. I. (2013). The protective role of ethnic identity for urban adolescent males facing multiple stressors. *Journal of Youth and Adolescence*, 43(10), 1728–1741.
- Williams, J. L., Tolan, P. H., Durkee, M. I., Francois, A. G., & Anderson, R. E. (2012). Integrating racial and ethnic identity research into developmental understanding of adolescents. *Child Development Perspectives*, 6(3), 304–311.
- Yoshikawa, H., Suárez-Orozco, C., & Gonzalez, R. G. (2017). Unauthorized status and youth development in the United States: Consensus statement of the Society for Research on Adolescence. *Journal of Research on Adolescence*, 27(1), 4–19.
- Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race, Ethnicity, and Education*, 8(1), 69–91.





# The Unique Challenges of Afterschool Research

## A Practical Guide for Evaluators and Practitioners

Lizzie Murchison, Katie Brohawn, Cheri Fancsali, Andrea D. Beesley, and Erin Stafford

Funders and policymakers are increasingly recognizing the afterschool field for its vital role in supporting the social and emotional growth and academic achievement of school-age youth. Although this recognition is welcome, it often comes with increased expectations for high-quality research demonstrating the value of programming. To satisfy these demands and make the most of funding opportunities, practitioners must develop strong partnerships with external evaluators. However, developing afterschool evaluation partnerships that work well for all parties is often far more difficult than program directors or evaluators anticipate.

When research is conducted in K–12 schools, educators often bring some experience in assessment methods, and researchers often have at least a basic knowledge of pedagogy. In contrast, in the out-of-

school time (OST) field, program directors with little formal research experience are frequently paired with evaluators who lack experience in OST programs. This research-practice gap, if not addressed, can translate

---

**LIZZIE MURCHISON**, MA, is the senior research associate for Expanded Schools, where she manages a portfolio of afterschool evaluation projects focused on elementary literacy, middle school STEM, and preservice teacher training.

**KATIE BROHAWN**, PhD, as vice president of research at Expanded Schools, helps to establish research priorities to inform policy and support data-driven continuous improvement, especially in expanded learning time.

**CHERI FANCSALI**, PhD, is the research director at the Research Alliance for New York City Schools. She has led numerous studies of school-based and afterschool programs, particularly focusing on STEM education and teacher professional development.

**ANDREA D. BEESLEY**, PhD, is a principal education researcher at SRI International. She focuses on motivation and engagement in learning, evaluating STEM programs in and out of school, and working with rural populations.

**ERIN STAFFORD**, MA, is a senior research associate at Education Development Center with expertise in out-of-school time. She works with government agencies and nonprofit organizations to research and evaluate questions of policy and practice.

into frustrating evaluation experiences for practitioners and evaluators alike. Program directors may finish an evaluation feeling that they did not learn anything new or that the study was entirely for the benefit of the funder. Evaluators may find themselves stymied by data collection issues and communication challenges they are unprepared to solve.

The literature offers little practical guidance about developing and conducting research in OST settings, beyond instruments for possible use in evaluation. This article addresses this gap by providing candid advice for evaluators seeking to transition from K–12 to afterschool research. This advice may also help program directors and other stakeholders who want to make the research process work more effectively for them. We aim to help evaluators understand what is and is not possible (or advisable) in afterschool evaluations and to help practitioners serve as more effective partners by anticipating evaluator assumptions and other challenges that can derail a study.

As authors, we bring a variety of experience in researching and evaluating OST programs. We have conducted mixed-method evaluation studies for general programmatic improvement as well as rigorous randomized control trials for federal agencies, including the National Science Foundation and the U.S. Department of Education. Some of us have studied community-based afterschool programs generally, while others have concentrated on specific initiatives in STEM, literacy, and social and emotional learning. Many of the afterschool programs we have researched have taken place in schools, though a few have been located in spaces such as community centers, museums, libraries, and maker labs. This article addresses a broad spectrum of research designs, from formative assessments to confirmatory analyses, in varied OST settings.

In our experience, regardless of the intended audience for the report or the level of rigor in the study design, evaluators transitioning to afterschool are challenged by a common set of issues related to data collection and communication. This article addresses those challenges. First, we describe how afterschool is unique—and particularly how it is different from

K–12 education. Next, we recommend ways to take those unique features into account when designing and implementing an afterschool study. The final section addresses best practices for forming and maintaining strong partnerships between evaluators and practitioners to produce results that meet the needs not only of funders but also of the program and its staff, students, and families.

### **The Unique Context of Afterschool Programs**

Evaluators with experience implementing K–12 evaluations often approach afterschool programs with expectations and recommendations framed by that experience. However, there are a number of contextual factors unique to afterschool that should alter this calculus. Assumptions from K–12 experience about staff capacity, data collection procedures, and funding stability may not apply to afterschool programs. Imposing those expectations can result in significant implementation challenges and can ultimately limit the conclusions that can be drawn about the efficacy or impact of the program. To avoid these challenges, evaluators must adjust their expectations to fit the unique context of afterschool.

Evaluators with experience implementing K–12 evaluations often approach afterschool programs with expectations and recommendations framed by that experience. However, there are a number of contextual factors unique to afterschool that should alter this calculus.

### **Expectations About Staff Participation**

Afterschool programs typically run for one to four hours each afternoon. Positions at these programs are often adopted as second jobs or part-time jobs coupled with educational pursuits. Most staff are hourly employees; they are paid for direct service to students and may not have paid time for evaluation activities such as completing surveys or participating in interviews. Without a firm directive from the program director on how and when staff are to complete data tasks, limited staff capacity can become a real barrier to evaluation planning and implementation.

Another challenge is that few programs assign organization email addresses to line staff. Younger workers, who make up the bulk of frontline staff, often prefer to communicate with their supervisors via text message. In these circumstances, evaluators may have a hard time locating valid email addresses to which staff will respond outside of program time.

### **Expectations About Data Collection**

In a school, an evaluator can enter a homeroom class to administer a survey and expect that the large majority of students will be present to complete it. By contrast, finding appropriate times to collect data in afterschool programs can be a challenge. Afterschool programs are usually voluntary, and attendance rates are lower than in school. Furthermore, students may be present for part of the afterschool session but arrive late due to school obligations or be picked up early due to conflicting family schedules. This uneven attendance can make it difficult for evaluators to achieve high response rates or match pre- and post-participation respondents.

Collection of existing administrative data can be equally challenging. In K–12 research, accountability mandates in most districts mean that data on metrics like school attendance and enrollment are typically quite clean and comprehensive. However, the data may not be available to afterschool researchers; securing data sharing agreements can take time, resources, and consents that researchers may not be able to gather in the period allotted. Meanwhile, although many afterschool programs have enrollment and attendance records, they are often not as systematic as school or district data. For example, attendance data might be collected in paper records that must be entered into a database. Issues of data availability and quality, such as missing records or inconsistent data collection, can limit evaluators' ability to use afterschool program records. Even when the data are clean, they are not guaranteed to be readily accessible. For example, in New York City, state test scores are housed centrally, but there is a four- to six-month lag between when individual schools and families receive results and when researchers can gain access to the scores.

### **Expectations About Stability**

In both school and afterschool, the time between applying for funding and receiving it can be long. However, in K–12 education, evaluators can be confident that, even after such a time lag, the school will still be running, and most of the staff will still be there. Funding for afterschool is far less stable. Loss of a single critical funder can force programs to suspend operations on short notice,

Too often evaluators assume they can cajole afterschool programs into operating with the same level of planning and structure as schools, only to be disappointed by the results. A more successful strategy is to accept and plan for complications like funding instability, student and staff attrition, and incomplete data.

making retention of partner sites difficult. Funding instability also means that staffing is not always solidified at the beginning of the school year. Group leaders are often hired shortly before each semester, once enrollment numbers are known. Programs thus may not be able to commit staff to participate in a study months or even weeks in advance.

Even among well-funded afterschool programs, the turnover rates of both staff and students are substantially higher than in schools. Afterschool programs traditionally employ many staff who view their afterschool job as a stepping-stone in their career, as opposed to a career in and of itself. Afterschool employees who are concurrently working toward a college degree often change their availability from semester to semester. Student attrition rates are also often high—and they increase substantially as students move from elementary to middle to high school (Lauver, Little, & Weiss, 2004), when students gain independence and have more options for their afterschool hours. High levels of student attrition pose limitations to multi-year study designs, as evaluators cannot assume that most of their sample population will remain enrolled over time.

### **The Nuts and Bolts of Designing and Implementing a Great Study**

The unique challenges of the afterschool space require investigators to take a flexible and hands-on approach to evaluation. Too often evaluators assume they can cajole afterschool programs into operating with the same level of planning and structure as schools, only to be disappointed by the results. A more successful strategy is to accept and plan for complications like funding instability, student and staff attrition, and incomplete data. By anticipating these obstacles, evaluators are much more likely to successfully mitigate challenges and protect the validity of their findings.

### **Determining Study Duration and Sample Size**

A good first step when developing a practical study design is to determine whether multi-year data collection is necessary. Although most afterschool providers do target long-term developmental outcomes, most afterschool evaluations

are not set up to track student progress over multiple years. This discrepancy is due, in part, to the challenges of managing high year-to-year attrition and inconsistent attendance. For example, afterschool providers may theorize that the impact of their program is strongest when students have been enrolled for at least three years, but that theory could prove impossible to test if a large and steady cohort of returning students cannot be identified.

To determine the best duration and sample size for an afterschool evaluation, researchers should look to existing data and make careful estimates of expected attendance and attrition patterns. The fact that student attrition increases substantially as students get older must be taken into account when considering expected year-to-year participant retention rates and acceptable thresholds for sample sizes. For example, a study design that assumes 20 percent year-to-year attrition may be suitable for an elementary program but unrealistic for a middle school program. Similarly, evaluators have to anticipate some attrition at the site level, as noted above. Given the uncertainty caused by student attrition and funding instability, program impacts often are best captured by study designs that span a single academic term or year, rather than multiple years.

Beyond attrition, afterschool attendance can also vary considerably. Some programs have high enrollment numbers but extremely inconsistent dosage among participants—a fact that some providers may not know to flag in the early planning stages. If a site is meeting dosage requirements for the student population as a whole but individual student attendance is spotty, a longitudinal approach with three or more data points over the course of a year may be useful. For all types of evaluation, this design provides a fairly comprehensive picture of what's happening on the ground. In particular, evaluators undertaking a rigorous evaluation can use this approach to employ growth curve modeling, which is flexible enough to capture students who miss one or more data points.

### **Selecting Evaluation Tools That Minimize the Burden on Programs**

Just as evaluators must familiarize themselves with afterschool attendance patterns to determine sample size and study duration, so too must they consider individual program capacity when selecting assessment tools. Many afterschool practitioners will naturally expect an evaluation to use a pre-post survey or quiz of some sort. Researchers should be prepared to discuss a variety of methods and data collection options with staff, including

retrospective surveys, activity observations, focus groups, interviews, fidelity rubrics, collection of secondary data such as school grades or state test scores, and assessments that do not rely on student self-report. Many of these approaches can be implemented without interrupting or taking time from programming, a common concern among program directors.

If the evaluation does require students to complete a survey or other written assessment, evaluators should consider the length of the instruments and the frequency of administration. With limited time in each afterschool day to accomplish their goals, practitioners may (rightly) balk at any written assessments that take more than 20 minutes. Tools that require more time should be selected only if administration can be broken up into multiple days, and then only if attendance in the program is fairly regular.

Once the methodology has been agreed upon, evaluators must consider whether an existing tool can be utilized or a new one must be created. Because afterschool programs are often designed around unique or “outside-the-box” solutions to youth development challenges, practitioners may assume that no existing tool could adequately capture the innovative work they are doing. However, evaluators should surface and evaluate existing tools, as they may expand the opportunities to find high-quality comparison data. With regard to format, it may be necessary to offer programs the option of completing assessments with paper and pencil, as many providers have limited access to computers and reliable internet connections.

### **Developing an Effective Data Collection Plan**

Another critical component is an effective data collection plan. A solid plan is particularly important when the design includes student or staff surveys, which tend to require considerable logistical coordination on the part of evaluators, site managers, staff, and students. Afterschool programs often manage gaps in staffing, facilities, and resources with little notice. Activity schedules can shift at the last minute in response to changes in classroom availability, access to computers or other school equipment, or the need for available staff members to cover different classrooms to meet staffing ratio requirements. If the evaluation permits, having external evaluators on site to oversee survey administration can help ensure that the correct students are being assessed and that the directions and environment are consistent.

When evaluators can't administer surveys themselves, designating a point person for data collection at each site



can be useful. To ensure consistency of administration and collection methods across sites, evaluators can train the designated point people in a webinar that covers each component of the data collection process. Evaluators can review consent forms and answer questions, provide clear instructions on survey administration, demonstrate how to enter data into electronic forms or spreadsheets, and review the administration timeline. They should be explicit about expectations for exactly who is expected to complete the survey and the minimum number of surveys necessary for a representative sample. When reviewing administration protocols, evaluators should emphasize that participation in assessments or surveys is voluntary, provided this is true. They should coach program staff on how to respond to students who do not wish to participate so that staff do not inadvertently coerce participation. Providing a script for staff to read before survey administration can help mitigate common issues. Evaluators can also offer tips for selecting the best time and place for administration—at a time when students can focus (and therefore not just before snack or pick-up time) and in a space where they can read and write comfortably.

When evaluators need to be physically present for qualitative data collection, such as program observations or interviews, one prudent step is to send reminder emails. Having a Plan B ready when schedules change at the last minute is also helpful. For example, evaluators might identify early on several potential visit dates or arrange for staff members to videoconference into interviews. Staying mindful of the time program directors need to coordinate multiple evaluation tasks, evaluators should minimize the number of separate requests they make.

### **Defining (Realistic) Timelines**

After assessment tools have been identified but before the evaluation plan has been finalized, evaluators should find out whether the afterschool program falls under the jurisdiction of any school district or other institutional review board (IRB). Though many afterschool programs

are not subject to such regulations, some are. Evaluators may also have their own organization's IRB process to contend with. A single evaluation thus may need to comply with two or more overlapping IRB processes, which will govern what types of parent permissions or consent

are required. The need for IRB approval can significantly affect a study's timeline. Evaluators should, if possible, begin the application process several months before school partners begin compiling their afterschool enrollment packets, typically in August, so that consent forms or other required paperwork for parents and guardians can be included.

Another factor that affects the schedule is the time it takes to request and receive access to existing student records. Some school principals are extremely reticent to share student records, even with parental consent and even when the data are being used entirely for internal programmatic improvement. Factoring such negotiations into the evaluation timeline is key to successful data collection.

Because afterschool programs are often designed around unique or "outside-the-box" solutions to youth development challenges, practitioners may assume that no existing tool could adequately capture the innovative work they are doing. However, evaluators should surface and evaluate existing tools, as they may expand the opportunities to find high-quality comparison data.

### **Communicating With Parents and Participants**

After evaluators have secured buy-in from program leaders and school or district officials, they will need a solid plan for communication with parents and students to ensure a strong launch. Keep in mind that, when today's parents were in elementary school, afterschool providers typically had much more limited activities and responsibilities; they opened the gym, provided enriching activities, and kept a fresh supply of Band-Aids handy, but no one was holding them accountable for students' academic gains. Few parents are aware that funders require afterschool programs to demonstrate quantitative impact, and many are protective of their children's personal data. They may be wary when afterschool providers ask for consent to gather data or to use existing records. Evaluators should take pains to explain to both parents and students exactly what the programming involves, how its impact will be assessed, and how the results will be used. All written communications for parents should be translated into languages and reading levels that are

accessible to all. When this is not possible, competent staff should be trained to communicate the information orally. Creating explicit connections between the evaluation and the quality of the program is a first step toward building trust for a successful evaluation.

### **Research-Practice Partnerships**

Clear communication not only with parents but also with program leaders and staff is key to the success of afterschool evaluations. In any research or evaluation, the researchers and the programs they study must be in sync, in terms of both goals and logistics. However, strong alignment can be difficult to achieve in afterschool research when the requirements of a rigorous, tightly controlled study design are at odds with a program implementer's priorities. For example, a randomized control trial design requires that students be randomly assigned to the program or a control condition. This structure can be challenging for program implementers who are accustomed to serving as many students as their space and budget allow. Many site directors are used to having the flexibility to adjust programs to respond to individual student needs. However, that degree of responsiveness is not always possible in a rigorous study, where specific inputs are defined in the logic model. In addition to these challenges, afterschool leaders may worry that negative evaluation findings will affect funding or that data collection will steal precious time and resources from direct service.

Close partnerships between evaluators and afterschool stakeholders can mitigate these issues and increase the quality and usefulness of the research. The partners should address early on any disconnects between their goals. A recent flurry of activity in social policy research on research-practice partnerships (Tseng, Easton, & Supplee, 2017) reflects our own experience as evaluators. Both the theory and our practice show that the input of practitioners keeps the research grounded in reality, increases its relevance and usefulness, and ultimately enhances its ability to improve outcomes (Coburn, Penuel, & Geil, 2013). Below we outline several strategies that are helpful in developing strong partnerships between afterschool practitioners and evaluators.

Few parents are aware that funders require afterschool programs to demonstrate quantitative impact, and many are protective of their children's personal data. They may be wary when afterschool providers ask for consent to gather data or to use existing records.

### **Leveraging Existing Afterschool Networks**

As evaluators begin to establish relationships in the field, they should scan the local area for afterschool networks. Though afterschool programs do not have the built-in infrastructure and support of local and state education agencies, many states and cities do have afterschool networks that support and connect programs. These networks can serve as community liaisons for researchers by helping them, for example, to make initial contact with potential research sites and then gain buy-in from stakeholders. They may assist evaluators in collecting administrative data from state and local education agencies or provide technical assistance to help programs implement a particular intervention. Furthermore, networks can help evaluators understand the local context so they can reflect that context when communicating with program staff and participants.

Once the relationship between an evaluator and a community organization has been established, the role of a network in an evaluation partnership can vary. Representatives of the network may serve on a voluntary advisory board, or the network can be a full-fledged partner with responsibilities such as data collection, financial support, program delivery, or communication with sites.

### **Including Practitioners From the Beginning**

After establishing initial relationships, partner organizations turn to collaboratively articulating the program's activities and goals and designing the evaluation. Given the constraints on their time and resources, many afterschool leaders need help to understand why they must build in time at the front end to help researchers plan the evaluation. They need to know that this early investment in the work is crucial to executing an evaluation whose results they can use to assess success and guide decision-making.

Evaluators and program leaders should work together to document the program's theory of change—what the program is trying to change and how—and its theory of action—the steps the provider takes to implement the theory of change. Having a well-articulated theory of change and theory of action helps

stakeholders to achieve a common understanding of the program's goals, to surface assumptions about the program and its participants, and to highlight any contextual concerns that need to be addressed for the program to be successful. It also helps with the next step, which is to identify and agree on appropriate and realistic outcomes and indicators of program success.

Many larger afterschool organization are inclined to limit strategic discussions about research and evaluation to the director level. We recommend also including afterschool site coordinators. They can speak both to the mechanisms that drive a program and to the realities of practice. They see firsthand how programming operates on the ground and can describe the reactions of—and outcomes for—participants. In addition, practitioners know what kinds of study results would be most beneficial. This information can guide the development of research questions, design, and methodology. Working with practitioners in the early stages of a project to define the goals and methods of the research generates staff buy-in, improves the quality of the study, and helps ensure that the results are relevant and useful.

### **Engaging Funders and Staff in Dialogue on Program Measures**

Once a program's theory of change and expected outcomes have been clearly articulated, the discussion naturally turns to the practicalities of assessment. Providers often find it challenging to translate theorized outcomes into measures that adequately capture the richness of what an afterschool program offers. Many programs target broad skill or mindset changes, such as workforce readiness or innovation and creativity, that may seem abstract or undefined and therefore difficult to measure through an evaluation. To ensure that both program staff and funders are comfortable with and support the measures selected, both groups must be included in identification of targets and measures from the beginning.

Evaluators must be prepared to deal with the perceived imbalance of power between practitioners and funders to ensure that program plans and evaluation designs meet the needs of both parties. Sometimes

funders require outcomes that are beyond the influence of the afterschool program, for example, expecting afterschool academic or social and emotional supports to change school-day academic outcomes, often in a single year and without controlling for outside factors. On the other side, sometimes programs overstate their intended impact in a proposal to increase their chances of being funded. In either case, the program and its evaluation are not set up for success from the start.

Evaluators are well positioned to broker honest conversations between program staff and funders during program planning and evaluation design. They can proactively tackle crucial questions: What are *realistic* program outcomes given the duration of the intervention? What outside factors might influence these outcomes? What evaluation design best suits the needs of the program? Coming to a shared understanding early in the planning process of realistic outcomes and how to measure them can address the concerns among program staff that they

might be held to unrealistic expectations or unfairly judged in ways that will affect their funding.

### **Defining Roles and Communicating Regularly**

Another step evaluators can take to help prevent conflicts is developing a memorandum of understanding (MOU) that outlines each partners' roles and responsibilities. In this document, researchers and practitioners make explicit their underlying assumptions and expectations before the work begins. MOUs should address such issues as who is responsible for collecting data, access to administrative records, procedures for obtaining consent for study participation, timelines for data collection and reporting, and access to staff and students to conduct surveys or program observations.

In addition, evaluators and program leaders should build in opportunities to discuss the project and emerging findings. Brief regular check-ins can confirm that the evaluation focus and instruments stay aligned with the program's theory of change. They can also build trust between partners and enable practitioners to give and receive timely feedback on the data.

Having a well-articulated theory of change and theory of action helps stakeholders to achieve a common understanding of the program's goals, to surface assumptions about the program and its participants, and to highlight any contextual concerns that need to be addressed for the program to be successful.

### **Focusing on Capacity Building**

Foremost in all of these strategies is the idea that research-practice partnerships are mutually beneficial relationships. This assumption helps both parties make sure that the research is not something that is “done to” programs. For many afterschool programs, the opportunity to develop internal evaluation capacity can be a strong motivator. Collaborating with evaluators builds staff capacity to conduct research and use data to inform practice. For example, evaluators can help program staff develop templates and data collection instruments, set up data management systems, and create processes for analyzing and reflecting on the policy and practice implications of findings. Evaluators may also build in opportunities to review program data systems alongside program staff to see what data are being collected from which sources and whether any processes can be tweaked to gather the same or similar information more efficiently while maintaining data accuracy and integrity. These strategies, which are useful for research in any context, can be particularly helpful in the afterschool arena, where practitioners may have little experience with research and few resources to commit to data collection and analysis.

### **Bridging the Gap**

Evaluators who study school-day initiatives can look to a robust body of literature to determine best practices for study designs, sample sizes, limitations, and so on. When conducting studies of afterschool programs, evaluators may expect to use the same metrics and strategies they would use for K–12 programs. However, the differences between school and afterschool settings require evaluators to shift their assumptions. Designing afterschool studies using school-day approaches can prove—and has proven—disastrous, despite good intentions. Although school and afterschool programs often have the same goal—to improve outcomes for the youth they serve—the mechanisms by which they achieve this goal and the contexts in which they operate are quite different. Therefore the evaluation approaches must also differ.

To continue to be seen as worthy of investment, the afterschool field needs to develop strong data-driven evidence documenting improved youth outcomes and illuminating the specific strategies that are most

Foremost in all of these strategies is the idea that research-practice partnerships are mutually beneficial relationships. This assumption helps both parties make sure that the research is not something that is “done to” programs.

effective. Strong research-practice partnerships are necessary for evaluators to understand what makes this educational space unique. Only by approaching afterschool evaluations with an explicit focus on collaboration and context can evaluators hope to bridge the gap between research and practice.

### **References**

- Coburn, C. E., Penuel, W. R., & Geil, K. E. (2013, January). *Research-practice partnerships: A strategy for leveraging research for educational improvement in school districts*. New York, NY: William T. Grant Foundation.
- Lauver, S., Little, P. M. D., & Weiss, H. (2004). Moving beyond the barriers: Attracting and sustaining youth participation in out-of-school time programs. *Issues and Opportunities in Out-of-School Time Evaluation*, 6, 1–16.
- Tseng, V., Easton, J. Q., & Supplee, L. H. (2017). Research-practice partnerships: Building two-way streets of engagement. *Social Policy Reports*, 30(4), 1–17.





# Being and Becoming Scientists

## Design-Based STEM Programming for Girls

Jasmine M. Nation, Danielle Harlow, Diana J. Arya, and Maya Longtin

*"I am a scientist. I'm not like a scientist."* We were excited to hear this response from one of the girls who participated in our afterschool program focused on science, technology, engineering, and mathematics (STEM). The STEMinist Program was a research-practice collaboration between university researchers and an afterschool program for female students in grades 4 to 6. This article describes how the program's ongoing design transformations increased girls' understanding of and interest in STEM. Design-based framing (Barab & Squire, 2009) enabled ongoing adjustments to the program while also identifying best practices for afterschool STEM learning. To understand the program's progression and outcomes, we examined the features of the learning environment and the relationships among design components by analyzing qualitative

data collected before, during, and after program implementation. Participants' perceptions of science and scientists helped us understand the impact of the program and ways to improve it.

---

**JASMINE M. NATION** is a doctoral candidate in education at the University of California, Santa Barbara (UCSB). She focuses on afterschool programs that broaden the definition of science and is passionate about getting more girls to participate in and contribute to STEM fields.

**DANIELLE HARLOW**, PhD, is an associate professor in the Department of Education at UCSB. She focuses on children's STEM learning in schools, museums, and afterschool programs and on how formal and informal educators learn to guide children's learning.

**DIANA J. ARYA**, PhD, is an assistant professor in the Department of Education at UCSB and faculty director of the McEnroe Reading and Language Arts Clinic. Her research focuses on literacy practices and processes in K–12 science classrooms and professional scientific communities.

**MAYA LONGTIN** was an intern in the STEMinist Program as an undergraduate student. She is now a doctoral student at the University of California, Berkeley studying school psychology. She is interested in the moral and cognitive development of children.

## Afterschool STEM Learning

The past decade has brought increased focus on STEM learning (Bell, Lewenstein, Shouse, & Feder, 2009; NGSS Lead States, 2013; U.S. Department of Education, 2015). The growth of STEM-related industries and the power associated with STEM fields make access to STEM careers an equity issue (Buechley, 2016). Despite gains in educational achievement, women and individuals from nondominant cultures remain underrepresented in STEM majors and careers (National Science Foundation, 2017). Afterschool programs offer a promising context for engaging diverse students: African American and Latinx children attend afterschool programs at rates twice that of White students (Afterschool Alliance, 2015). STEM programs at youth-centered sites capitalize on the resources of spaces children find welcoming and accessible. The natural curricular flexibility of afterschool programs enables immersive exploration and experimentation in STEM as well as authentic opportunities for building skills and developing relationships helpful to STEM careers (Afterschool Alliance, 2015; Krishnamurthi, Ballard, & Noam, 2014). Afterschool science programs naturally blur disciplinary boundaries and incorporate diverse ways of knowing (Calabrese Barton, Birmingham, Sato, Tan, & Calabrese Barton, 2013). These factors can be leveraged to broaden young people's definition of *science* and to foster "productive hybrid STEM identity work for underrepresented youth" (Calabrese Barton, Tan, & Greenberg, 2017, p. 21). Science education in youth-centered sites can value the cultures of underrepresented students while encouraging them to explore new science-related interests and identities (Calabrese Barton & Tan, 2010). Despite widespread acceptance of the benefits of afterschool STEM, more research is needed on how program factors affect student engagement and learning (Laursen, Thiry, Archie, & Crane, 2013). Coburn and Penuel (2016) call for more studies on program processes, collaboration strategies, and productive responses to challenges. Our research-practice partnership addresses the call for responsive program development to extend and improve STEM programming for diverse learners.

## Design-Based Implementation Research

Design-based implementation research is a relatively new methodology positioned at the intersection of

educational practice and theory. This model of learning and innovation both informs local practice and provides insight into complex issues with broad applications (Anderson & Shattuck, 2012; Barab & Squire, 2009; Design-Based Research Collective, 2003). In design-based implementation research, exploration and analysis are conducted in "messy situations that characterize real-life learning" (Collins, Joseph, & Bielaczyc, 2004, p. 20). Program design is flexible and ongoing; it engages both researchers and practitioners (Collins et al., 2004; Fishman, Penuel, Allen, Cheng, & Sabelli, 2013). Development and research are usually conducted in tandem over a long time frame with iterative cycles of design, application, analysis, and redesign (Design-Based Research Collective, 2003; Wang & Hannafin, 2005). A key feature is collaboration among researchers, practitioners, and participants; findings should be applicable and accessible to practitioners (Anderson & Shattuck, 2012; Wang & Hannafin, 2005). Participants are not passive subjects but active contributors who inform ongoing design, implementation, and analysis (Barab & Squire, 2009). The unique advantage of design-

In design-based implementation research, exploration and analysis are conducted in "messy situations that characterize real-life learning."

based implementation research is that "practitioners and researchers work together to produce meaningful change in contexts of practice" (Design-Based Research Collective, 2003, p. 6).

According to Fishman and colleagues (2013), the underlying purpose of design-based implementation research is to connect research and practice in a way that is "mutually transformative"

(p. 138). Though this framework is relatively new in educational research, it integrates several modes of research and theoretical foundations. For example, various aspects align with principles for evaluation research and efficacy studies and with community-based research (Fishman et al., 2013). Design-based implementation researchers have also drawn from developmental psychology and cognitive science to examine how students solve problems, make decisions, appropriate tools, and develop conceptual understanding (Bell, 2004). In the field of cultural psychology, researchers have used design-based implementation research to examine sustainability and encourage generative learning environments and outcomes (Bell, 2004).

## The STEMinist Program and Its Inclusive Curriculum

Professors and graduate students from a university in southern California collaborated with local Girls Inc. leaders to develop and implement the STEMinist Program. All participants were girls ages 9 to 11; 56 percent self-identified as Latina. The program included activities both at the afterschool site and at the university.

The STEMinist Program built on lessons learned from an earlier collaboration with a different afterschool organization. In this pilot program, students read about young scientists and participated in hands-on science and engineering activities. Following the pilot program, the university researchers partnered with Girls Inc., whose leaders wanted students to think of themselves as members of a STEM community. We therefore added interviews with female scientists at the university to this new STEMinist Program. All girls visited six labs, and each small group of four girls was responsible for interviewing and writing about two scientists for a book the girls created together. Participants also read about famous women scientists, created art for their books, and presented their work at a final showcase (Arya & McBeath, 2017). The format was similar for Year 2, but the focus shifted from STEM to STEAM (adding arts). Participants interviewed women in diverse disciplines including media arts and theater as well as engineering, technology, and computer science.

Our design-based implementation research covered two years of the STEMinist Program. During the first year, 25 girls in grades 4 through 6 met once a week for two academic quarters, January through June. Most weeks, the girls were bussed to the university. For the second year, we lengthened the program to cover a full academic year, changed our focus to innovators, and made other changes described below under Lessons Learned.

In designing the program, we drew on feminist research on incorporating diverse ways of knowing, making science relevant to real-life issues, avoiding deficit language, and valuing diverse and intersecting identities (Brickhouse, 2001; Brotman & Moore, 2008). We shaped the learning environment, the ways participants interacted, and the types of tasks assigned in alignment with culturally inclusive values. These “embodied elements of the design” (Sandoval, 2014, p. 22) included making the work hands-

We shaped the learning environment, the ways participants interacted, and the types of tasks assigned in alignment with culturally inclusive values.

on, multidisciplinary, and community-oriented, as well as relying on multiple forms of mentorship (Brotman & Moore, 2008; Munley & Rossiter, 2013; Rahm & Gonsalves, 2012; Riedinger & Taylor, 2016). For example, the STEMinist curriculum was *hands-on* and *multidisciplinary* because participants engaged in investigations in university labs and

interviewed scientists in geography, neuroscience, marine biology, bioengineering, computer science, and math. They also participated in hands-on, multidisciplinary non-STEM activities, writing biographical profiles and creating art displays as part of their book about the women scientists. The program design was *collaborative* and structured around a *community* of peers, undergraduate mentors,

and scientists. Activities were conducted in groups of four peers with two undergraduate mentors; each group contributed to the shared goal of publishing a book. Female undergraduate facilitators and professors also acted as *mentors* and role models, sharing about their lives and offering guidance.

## Data Collection and Analysis

Following guidelines for design-based implementation research (Design-Based Research Collective, 2003), we collected multiple types of data: pre- and post-participation qualitative reading inventories, surveys, focus group interviews, video and audio recordings of instruction and student interactions, session observations, field notes from the undergraduate facilitators, student work, and weekly lesson plans. We also interviewed individual participants, both before and after the program, about their perceptions of STEM practices and of themselves in relation to those practices, basing the interview protocol on the Views of Nature of Science assessment for elementary students (Council of State Science Supervisors, 2017).

This paper includes analysis based on data from one focus group of nine students at the beginning of the pilot year, one focus group of seven students after the pilot year, three focus groups totaling eight participants after Year 1, and 22 pre-post individual interviews from Year 1. The research group—four undergraduate students, a coordinating graduate student, and two professors—met weekly to discuss our experiences and observations, which informed changes to the program design and data collection. Including perspectives from multiple data sources helped us tackle the challenge of implementing

a successful program in an ever-changing, multifaceted environment while maintaining “empirical control” (Sandoval & Bell, 2004).

We began qualitative data analysis by constructing representations of the timeline and weekly activities for each year of the program, as recommended by Green, Skukauskaite, and Baker (2012). In keeping with the design-based implementation research framework (Sandoval & Bell, 2004), we examined program processes and products to understand the effect of design decisions and program components. Finally, we examined the designed learning environment through conjecture mapping, an analytic technique that articulates design features, how they relate to each other, and how they influence program outcomes (Sandoval, 2014).

Next we transcribed the pre- and post-participation individual interviews and the focus group interviews conducted after the pilot year and after the first year of the STEMinist Program. In the group interviews, participants discussed their perceptions of science generally and of the book project in particular; we also asked about key activities such as interacting with scientists, reading, and public speaking. We then coded both sets of interviews. Structural codes (Saldaña, 2009) about perceptions of science, such as *science vs. other subjects*, *imagination in science*, and *children as scientists*, were determined in advance based on the Views of Nature of Science questions (Council of State Science Supervisors, 2017). Other thematic codes, such as *future goals*, *productive failure in science*, *scientist self*, *familiarity with scientists*, and *science*

as a process, emerged as we examined the data. Observed patterns were refined into themes in discussions among research team members.

In reporting below on the girls’ responses in interviews and focus groups, we use pseudonyms the girls selected themselves.

### Lessons Learned

The changes we made between the pilot year and the second year of the STEMinist Program enabled us to see whether these changes made a difference in promoting literacy skills and increased interest in STEM. These changes guided our ideas about best practices for afterschool programs that combine science with reading, writing, and art. Feedback from partnering practitioners and participants highlighted the four key design principles outlined in Table 1. Following Sandoval’s (2014) process for conjecture mapping, the table shows the relationships between design principles and their associated practices and outcomes.

### Integrating Disciplines of Practice

From the beginning, the STEMinist Program presented hands-on, multidisciplinary opportunities for learning science and language arts. Although we targeted interest and confidence in STEM, we also wanted students to grow as readers, writers, and critical thinkers. Multidisciplinary projects were ideal for engaging diverse learners. However, creating a cohesive curriculum demanded extensive planning and development.

**Table 1. STEMinist Program Design Principles and Outcomes**

Design Principle	Associated Practices	Outcomes
Integrating disciplines of practice	Activities that focus on communicating new knowledge (e.g., creating an interview protocol)	Improved reading and writing; improved science content retention
Presenting science as pushing through difficulty	Discussions about everyday science; engaging in productive failure (e.g., multiple trials in science labs)	Richer understanding of science in practice and as a discipline
Positioning participants as being and becoming scientists	Discussions about who participates in science; constructing narratives of scientists (e.g., interview questions emphasizing early interests)	Identification with scientists; recognition by self and others that one is a scientist or is capable in STEM
Engaging in shared experiences	Shared discussions about scientists; group collaboration (e.g., co-writing essays about scientists)	Ability to communicate confidently in multiple contexts



During the pilot study, science educators and writing instructors worked separately to complement each other's lessons; however, their instructional visions and timelines were not always aligned. To address this lack of cohesion, we decided to integrate science and literacy more fully. For the first year of the STEMinist Program, we changed the format to culminate in publication of a book about women who worked in STEM at the university, thus authentically integrating science with art and writing in a shared goal. Although program sessions were roughly divided into reading, science, and writing sessions, they were all connected to this final goal. For example, students discussed their readings about famous scientists before visiting scientists on campus. The readings thus served as "mentor texts" (Gallagher, 2011), providing examples to help the girls interview the scientists and then write up their findings for the book. Later activities continued to integrate writing with science. For example, groups used mental maps to represent the core research theme and supporting ideas for each scientist. They used these maps to select silhouette images for their artwork and key ideas for their biographical profiles.

The girls recognized the mutually reinforcing roles of the science, literacy, and art components. In a focus group, participants Poppy and Brianna suggested that writing or art was as important as the scientist visits. Panda responded, "Interviewing scientists was all the information, and this book is an informational text." The interviews and science activities provided the content, while writing and art were the modes of communication. Diana believed that these forms of communication were complementary, explaining in a focus group that the illustrations helped explain and clarify the scientists' work. In addition to valuing these components, students developed more sophisticated understandings of both science and writing. In exit interviews, they reported that the program was hard work, but that they were now more proficient writers and better understood science. Poppy said, "I wrote most of [my group's profile] because the person who was in charge made us do a lot of work. It really helped though.... It helped me to write better." Glory agreed that the project was challenging but rewarding: "It was hard work, but it was really fun, and we got to learn a lot about science in the process." She called the project "inspiring ... interesting and very cool."

We did not anticipate how important the discussions about dealing with failure and setbacks would be for STEMinist participants. For example, visiting a lab where the MRI machine was not functioning made an impression on the group.

### **Presenting Science as Pushing Through Difficulty**

As we designed and redesigned the program, we determined that the girls found science more approachable when they perceived it as something everyday people do, when they could see it as messy and failure-prone but rewarding if they put in enough time and effort. The pilot program centered on multidisciplinary STEM activities, but we did not typically discuss scientific processes or make explicit references to iterative development or productive failure. In designing the first year of the STEMinists Program, we focused on deepening understanding of science as a dynamic process of exploration and knowledge building. We hypothesized that the girls would learn about authentic science practices through their discussions with scientists in addition to participation in hands-on science activities.

We did not anticipate how important the discussions about dealing with failure and setbacks would be for STEMinist participants. For example, visiting a lab where the MRI machine was not functioning made an impression on the group. In her exit interview, Melanie commented, "Sometimes science doesn't always work, or machines shut down, and you don't know why. I learned that part of being a scientist requires you to keep trying even when things don't work." Brianna echoed this sentiment in her exit interview:

You like to try new things, and you don't give up if something goes wrong, because science doesn't always go the right way. And I'm guessing the scientists who are here, if they mess up, they retry it. They don't just throw it away and say, "I give up."

Similarly, Odalis said in a focus group that hearing about scientists' doubts and struggles in addition to their accomplishments "made me more interested in their stories."

In their biographies, the girls described their scientists' successes despite challenges or discrimination as "very inspiring" and "truly one of a kind." Members of one group wrote that, when confronted by self-doubt or others' reservations, their scientist "stays headstrong and convinces people she can do things." Another group wrote that the scientist "just kept working hard, and she accomplished every goal she dreamed of." A third wrote that the scientist "overcame all her doubts, poof, gone!"

The stories about the scientists overcoming barriers inspired the girls to speak about resisting gender stereotypes at the final showcase event. Pink commented, “Some people think girls can’t do what boys can do, and I think that they are wrong. We need to stop that kind of thinking. Girls can do anything they put their mind to.” Similarly, Lexi reported, “Being in the [project] gave me the chance to see a lot of women in science who don’t always get a lot of attention for what they do.... Seeing women in science makes me feel stronger.”

During the second year of the STEMinist Program, we further emphasized this idea of science as a long-term process of daily exploration and of pushing through difficulty. Instead of reading about famous scientists, participants focused on young innovators in science and engineering and on their processes for developing ideas and creating knowledge. For example, they learned about Becky Schroeder, who at 10 years old invented a glow-in-the-dark clipboard, and Alina Morse, a seven-year-old who created healthy candy designed to clean teeth.

This change was also motivated by the fact that many of the girls were unfamiliar with engineering. Before the first year of the program, only 25 percent of girls said they had heard of engineers. After the program, 52 percent said they had heard of engineers, even though two of the women the girls wrote about were engineers. In addition to bringing more attention to engineering in the second year of the program, we recruited innovators in diverse disciplines including media arts, theater and dance, technology, and computer science.

### **Positioning Participants as Being and Becoming Scientists**

A major program component across all iterations was reading and writing about STEM in action. We used the stories of featured scientists and innovators to connect participants with the daily work of these professionals and the ways in which their work resembled participants’ own thinking and learning. This narrative exploration included reading biographies of famous scientists or of lesser-known young innovators, writing stories about scientists’ or designers’ innovations, interviewing women in STEAM fields, and discussing what it means to be a scientist or researcher.

At the beginning of the pilot year, eight of the nine

participants in a focus group agreed that only adults could innovate and that everything had already been invented (Arya et al., 2017). To counteract this notion, we had participants read stories about young inventors, connect these stories to their own family histories and personal experiences, and create their own inventions. By the end of the year, the students demonstrated confidence in and ownership of their designs; however, they did not refer to themselves as innovators or scientists. Program staff and instructors tended to call participants “leaders” or “makers” rather than using such science-related designations as “engineers,” “scientists,” or “researchers.”

Applying these findings during the first year of STEMinists, we shifted to describe participants as future scientists. The girls read about famous female scientists, including Patricia Bath and Rachel Carson. Then they

met and interviewed scientists on the university campus. Most of the girls were interested in the stories of the famous scientists but did not particularly relate to them. In contrast, the girls cherished the scientist visits. They asked questions about the scientists’ previous experiences and personal lives in addition to their current research. Poppy, like many others, felt the most important thing

she learned was “what the scientists do in their lives,” according to her exit interview response.

Participants reacted in different ways to the scientists’ stories: Some felt inspired or supported, some were curious about previously unfamiliar fields, and others were relieved that they did not yet have to decide about becoming scientists. Many girls felt the program provided information on STEM careers and offered options. In a focus group, C. J. said, “If we want to do something in the future, we actually know a little bit about it.” Diana added that she felt more like a scientist after meeting the university scientists: “What they’re showing us, you might become one.” Students also learned that becoming a scientist is a process and not necessarily a decision a person makes as a child. Cassie said in her exit interview, “A lot of people think all scientists grow up wanting to become a scientist. That is not true.” She gave the specific example that one of the scientists “wanted to be an actress when she was little, but now she’s a mathematician. There’s a big difference between the two.” She concluded, “I learned that anybody could be a scientist, even me.” Learning about the scientists’ lives helped the girls see

Most of the girls were interested in the stories of the famous scientists but did not particularly relate to them. In contrast, the girls cherished the scientist visits.

a STEM career as a possible trajectory and feel more confident in their ability to become scientists.

However, in focusing on adult scientists and their trajectories, we missed the chance to help participants consider how they were currently engaging with the world as scientists. Our field notes refer to a day when the girls were reviewing their interview notes. The lead professor referred to them as “researchers.” One girl exclaimed, “Wait, we’re researchers? Cool!” From that point on, we were more deliberate about how we described what the girls were doing. We called them “researchers,” engaged them in our own research by asking them to choose their pseudonyms for our reports, and discussed what it means to be researchers reporting on findings. In the end-of-project interviews, over 75 percent of the girls stated that they were like scientists. When asked in focus groups how they were like scientists, participants listed such similarities as “thinking a lot,” or being “strong, smart, and bold.” Several girls even questioned the comparison, saying that they *were* scientists rather than *like* scientists. The following excerpt from a focus group interview shows how the girls argued that they were scientists because they engaged in the practices of scientists.

**Facilitator:** In what ways do you think you are like a scientist?

**Poppy:** We studied.

**Panda:** I *am* a scientist, I’m not *like* a scientist.

**Facilitator:** Okay, in what ways *are* you a scientist? Studying? What else?

**Panda:** I make discoveries and teach myself things.

**Poppy:** I look like them!

**Facilitator:** Discoveries, teaching—Did you say you look like them? What do you mean by that? I think that’s interesting.

**Poppy:** Yeah, I look like them.

**Panda:** Anybody looks like a scientist because everybody is a scientist!

...

**Facilitator:** So based on everything you guys know, what do you think it means to be a scientist?

**Poppy:** It means to become smarter than you already are.

**Facilitator:** So learning new things?

**Poppy:** More! As much as you can.

**Panda:** Making discoveries for the world. Everything is science technically. I mean like, how did those beams get held up? How is that paint white? And how would these bulbs work—How do these lights turn on? How is that clock working? How is that something doing that?

**Poppy:** How are we alive?

**Facilitator:** That’s true, scientists ask and answer all those questions.

In this discussion, participants argued that science is relevant to everyday life and that anybody can be a scientist. Such discussions helped us realize the importance of positioning children as both current and

future scientists. The ways we referred to the girls and how they referred to each other, as well as how they viewed and discussed the scientists, influenced the ways the girls viewed themselves and how others viewed them. Therefore, in the second year we more deliberately framed their activities as the work of scientists, engineers, and makers, while continuing to present the diverse trajectories of adult scientists. Additionally, we returned to the pilot year readings

about everyday innovators and young inventors, rather than famous scientists, as a way of focusing on the agency of young people.

The ways we referred to the girls and how they referred to each other, as well as how they viewed and discussed the scientists, influenced the ways the girls viewed themselves and how others viewed them.

### **Engaging Participants in Shared Experiences**

Across the pilot program and the two years of STEMInist, we changed the ways in which activities were structured. In the pilot year, participants typically engaged in activities as a whole group, splitting off occasionally as individuals or pairs for specific tasks. This pilot group accumulated many shared experiences and thus grew very close; however, at times it was difficult to keep the whole group on task or accountable to weekly goals. In the first year of the STEMInist Program, we organized the girls into groups of four, each with two undergraduate facilitators. Although the girls appeared to enjoy the format and succeeded in creating a meaningful product, they did not form as cohesive a group as did the girls in the pilot program. Afterschool program staff asked for more team bonding in the next iteration.

Though we wanted to enable the cohesion of the large group, we also wanted to keep the advantages of

small groups. Participant comments suggested that the small groups helped the girls feel comfortable voicing their opinions. During a focus group interview after Year 1, Diana said, “With our own little group, not a huge group, you don’t dis-include [exclude] people.... You explain yourself more.” Odalis agreed, “It’s easier in small groups.” Our next iteration in Year 2 thus included reading and writing activities in small groups along with introductory whole-group activities: Participants toured the campus, interviewed each other about their interests and experiences, and worked together on engineering design challenges. Additionally, we decreased the number of adults interviewed so that the whole group could interview all six innovators in six weeks rather than splitting up to interview six of 12 scientists as in Year 1. The Year 2 format allowed participants and undergraduate facilitators to develop a shared foundation they could use in creating their stories about the innovators and in reflecting on their experiences.

### Becoming STEMInists

The STEMInist Program was designed to help girls understand science and engineering both as sets of practices and as knowledge-building disciplines. We also wanted to enable girls to identify with STEM professionals and to share their experiences publicly in creative ways. With each iteration, we maintained similar aims but altered the design and context to address challenges. The multidisciplinary project of creating a book about STEM interviewees was effective in engaging our diverse learners, but it demanded significant planning and development. The success of the program depended on four design principles: integrating disciplines of practice, presenting science as pushing through difficulty, positioning participants as being and becoming scientists, and engaging participants in shared experiences. These design principles affected both processes and outcomes related to the girls’ interest and competence in STEM.

However, our findings involve a relatively small number of participants. We analyzed pre- and post-participation data only for the pilot year and Year 1, with preliminary analysis of Year 2 results. Future comparative analyses incorporating pre-post interviews for Year 2 will strengthen conclusions about the program’s outcomes and identity implications. Additionally, this paper is merely one contribution to the discussion about design transformations in science-focused research-practice partnerships. Future studies focused on longitudinal and large-scale design efforts with cross-site comparisons can add to the field’s knowledge.

Despite the limitations, our study can help other university educators and researchers see how to address design challenges in partner afterschool STEM programs. Coburn and Penuel (2016) emphasize the importance of this type of work, stating that “at present, there is little basis for recommending some partnership designs or particular strategies to address challenges over others” (p. 51). Our university-afterschool partnership is ongoing; it therefore will provide an opportunity to build on previous work to create a theory of action for afterschool programs that seek to combine science with reading, writing, and art. Multidisciplinary programs have shown promise in recruiting and retaining participants from groups underrepresented in STEM because they incorporate diverse ways of knowing and broaden the definition of science (Calabrese Barton et al., 2017). Furthermore, our research reveals the promise of practices that present the stories of scientists to show that science is accessible and relevant. We hope our findings will help practitioners and researchers to design and implement effective multidisciplinary science content and reach diverse learners.

### References

- Afterschool Alliance. (2015). *Full STEM ahead: Afterschool programs step up as key partners in STEM education*. Retrieved from <http://www.afterschoolalliance.org/AA3PM/STEM.pdf>
- Anderson, T., & Shattuck, J. (2012). Design-based research: A decade of progress in education research? *Educational Researcher*, 41(1), 16–25.
- Arya, D., Harlow, D., Hansen, A., Harmon, L., McBeath, J., & Pulgar, J. (2017). Innovative Youth: An engineering and literacy integrated approach. *Science Scope*, 40(9), 82–89.
- Arya, D., & McBeath, J. (Eds.). (2017). *STEMInists: The lifework of 12 women scientists and engineers*. San Francisco, CA: Xochitl Justice Press.
- Barab, S., & Squire, K. (2009). Design-based research: Putting a stake in the ground. *Journal of the Learning Sciences*, 13(1), 1–14.
- Bell, P. (2004). On the theoretical breadth of design-based research in education. *Educational Psychologist*, 39(4), 243–253.
- Bell, P., Lewenstein, B., Shouse, A., & Feder, M. (2009). *Learning science in informal environments: People, places, and pursuits*. Washington, DC: National Academies Press.
- Brickhouse, N. W. (2001). Embodying science: A feminist perspective on learning. *Journal of Research in Science Teaching*, 38(3), 282–295.



- Brotman, J. S., & Moore, F. M. (2008). Girls and science: A review of four themes in the science education literature. *Journal of Research in Science Teaching*, 45(9), 971–1002.
- Buechley, L. (2016, October). *Inclusive maker ed: STEM is everywhere*. Keynote speech presented at FabLearn 2016, Stanford, CA. Retrieved from <https://edstream.stanford.edu/Video/Play/a33992cc9fb2496488c1afa9b6204a571d>
- Calabrese Barton, A., Birmingham, D., Sato, T., Tan, E., & Calabrese Barton, S. (2013). Youth as community science experts in Green Energy Technology. *Afterschool Matters*, 18, 25–32.
- Calabrese Barton, A., & Tan, E. (2010). “It changed our lives”: Activism, science, and greening the community. *Canadian Journal of Science, Mathematics and Technology Education*, 10(3), 207–222.
- Calabrese Barton, A., Tan, E., & Greenberg, D. (2017). The makerspace movement: Sites of possibilities for equitable opportunities to engage underrepresented youth in STEM. *Teachers College Record*, 119(6), 1–44.
- Coburn, C., & Penuel, W. (2016). Research-practice partnerships in education: Outcomes, dynamics, and open questions. *Educational Researcher*, 45(1), 48–54.
- Collins, A., Joseph, D., & Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. *Journal of the Learning Sciences*, 13, 15–42.
- Council of State Science Supervisors. (2017). *Views of nature of science elementary school version (VNOS-E)* [Measurement instrument]. Retrieved from [http://www.csss-science.org/downloads/VNOS\\_E.pdf](http://www.csss-science.org/downloads/VNOS_E.pdf)
- Design-Based Research Collective. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1), 5–8.
- Fishman, B. J., Penuel, W. R., Allen, A.-R., Cheng, B. H., & Sabelli, N. (2013). Design-based implementation research: An emerging model for transforming the relationship of research and practice. In B. J. Fishman & W. R. Penuel (Eds.), *National Society for the Study of Education: Vol. 112. Design-based implementation research* (pp. 136–156). Retrieved from [https://www.sri.com/sites/default/files/publications/fishman\\_penuel\\_allen\\_cheng\\_sabelli\\_2013.pdf](https://www.sri.com/sites/default/files/publications/fishman_penuel_allen_cheng_sabelli_2013.pdf)
- Gallagher, K. (2011). *Write like this: Teaching real-world writing through modeling and mentor texts*. Portland, ME: Stenhouse.
- Green, J. L., Skukauskaite, A., & Baker, D. (2012). Ethnography as epistemology. In J. Arthur, M. Waring, R. Coe, & L. V. Hedges (Eds.), *Research methods and methodologies in education* (pp. 309–321). Thousand Oaks, CA: Sage.
- Krishnamurthi, A., Ballard, M., & Noam, G. G. (2014). *Examining the impact of afterschool STEM programs*. Retrieved from <http://www.afterschoolalliance.org/ExaminingtheImpactofAfterschoolSTEMPrograms.pdf>
- Laursen, S., Thiry, H., Archie, T., & Crane, R. (2013). Variations on a theme: Characteristics of out-of-school time science programs offered by distinct organization types. *Afterschool Matters*, 17, 37–49.
- Munley, M. E., & Rossiter, C. (2013). *Girls, equity and STEM in informal learning settings: A review of literature*. Retrieved from [http://girlsrisenet.org/sites/default/files/SAVI\\_Lit\\_Review\\_Sept\\_2013.pdf](http://girlsrisenet.org/sites/default/files/SAVI_Lit_Review_Sept_2013.pdf)
- NGSS Lead States. (2013). *Next Generation Science Standards: For states, by states*. Washington, DC: National Academies Press.
- National Science Foundation, National Center for Science and Engineering Statistics. (2017). *Women, minorities, and persons with disabilities in science and engineering: 2017*. Retrieved from <https://www.nsf.gov/statistics/2017/nsf17310/digest/about-this-report/>
- Rahm, J., & Gonsalves, A. (2012). “To understand the news you need science!” Girls’ positioning and subjectivity in and beyond a newsletter activity in an afterschool science program. In M. Varelas (Ed.), *Identity construction and science education research: Learning, teaching, and being in multiple contexts* (pp. 61–78). Rotterdam, NL: Sense.
- Riedinger, K., & Taylor, A. (2016). “I could see myself as a scientist”: The potential of out-of-school time programs to influence girls’ identities in science. *Afterschool Matters*, 23, 1–7.
- Saldaña, J. (2009). *The coding manual for qualitative researchers*. London, UK: Sage.
- Sandoval, W. (2014). Conjecture mapping: An approach to systematic educational design research. *Journal of the Learning Sciences*, 23(1), 18–36.
- Sandoval, W., & Bell, P. (2004). Design-based research methods for studying learning in context: Introduction. *Educational Psychologist*, 39(4), 199–201.
- U.S. Department of Education. (2015). *Science, technology, engineering and math: Education for global leadership* [Webpage]. Retrieved from <https://www.ed.gov/stem>
- Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced learning environments. *Educational Technology Research and Development*, 53(4), 5–23. <http://doi.org/10.1007/BF02504682>



# Relationships

## The Key to Student Success in Afterschool Programs

Ginger Shea

Student success and achievement in afterschool programs depend on caring adults who go above and beyond to make children feel that they are special and can achieve anything (Akhavan, Emery, Shea, & Taha-Resnick, 2017).

In the Oxnard (California) School District, where I am the afterschool grant manager, many of the 200 staff in the Oxnard Scholars afterschool program are working in their first job. This is the first time they have been in charge of young people and the first time they have been called “teacher.” These firsts can be drawbacks, but they also can create powerful opportunities to build staff members’ capacity to engage students and enrich their lives.

To shape the Scholars program into a caring afterschool environment, program leaders and I have worked with the staff to help them understand the importance of their relationships with students. Frameworks focusing on developmental assets and developmental relationships have helped us show our young staff how to build positive adult relationships with program participants. Other programs may be able to use some of these

ideas to enable their own staff to foster the relationships that lead to student success.

### Context

Approximately 2,500 children in grades 1 through 8 attend the Oxnard Scholars program at the district’s 20 schools. The program is voluntary; parents register their children knowing that students are expected to attend five days a week. At some schools, 100 or more families are on a waiting list for the program, which offers art, recreation, literacy, math, engineering design, and sports programming. The district partners with the city of Oxnard to offer the program with support from a state funding stream for afterschool education.

### Challenges

Oxnard School District is characterized by high poverty, large populations of minority students and stu-

---

**GINGER SHEA** is a doctoral candidate specializing in educational leadership in a joint program of California State University Channel Islands and Fresno State University. She is the manager of Special Programs and Services in Oxnard School District, California.

dents with limited English proficiency, and low student achievement. The community offers limited childcare resources and has one of the highest removal rates in the state for child protective services. Though the city is surrounded by farms, housing is dense, with multiple families living in one household.

In a study of students graduating from Oxnard schools, Akhavan and colleagues (2017) found that students' self-reported success was connected to relationships with caring adults who taught them perseverance and challenged them to meet high expectations. Though some students are receiving these supports, there is room for improvement. The 2016–2017 California Healthy Kids Survey (Oxnard School District, 2017), which measures school climate and reports on factors important to resiliency and youth development in grades 4 through 12, showed that, among Oxnard fifth-grade students:

- 45% said that they do not have an adult who cares about them at school
- 20% reported that they were told they were doing a good job
- 50% reported rarely or never being asked about their ideas in school
- 50% reported they did not get to help decide things (Oxnard School District, 2017)

These findings show why the Oxnard Scholars program needs to focus on caring adult relationships to support student success.

I assumed that afterschool program staff came to the job knowing how to connect with students. The fact is that some did and some did not. If staff learned to facilitate great activities but couldn't relate to students, the activities would fall flat.

### The Need for Professional Development

More, perhaps, than teachers, afterschool program staff are poised to provide caring relationships, teach perseverance, and challenge students. These are the factors I target in afterschool professional development. For the first time, I feel I have made sustainable progress in helping Oxnard Scholars staff connect to students—simply because I have spent more time training them to build relationships. In the past, training focused on content, activities, and lesson delivery; most of my energy went

into teaching pedagogy. I assumed that afterschool program staff came to the job knowing how to connect with students. The fact is that some did and some did not. If staff learned to facilitate great activities but couldn't relate to students, the activities would fall flat. Students' desire to participate dwindles when the students can't relate to the staff.

Having identified this shortcoming, I took a closer look at our staff trainings. What was missing was how to connect with students. When adults build positive relationships with students, students want to participate. They bond

with adults who they know care about them. To address this gap, I looked for resources to show staff how to build relationships so the students could connect to the program and its activities. I found the necessary resources from the Search Institute, a research-to-practice organization based in Minneapolis. The Search Institute's Developmental Assets framework (2006) and its Devel-

**Figure 1. External Development Assets**

Support	Empowerment	Boundaries and Expectations	Constructive Use of Time
Family support Positive family communication Other adult relationships Caring neighbor Caring school climate Parent involvement in schooling	Community values youth Children as resources Service to others Safety	Family boundaries School boundaries Neighborhood boundaries Adult role models Positive peer influence High expectations	Creative activities Child programs Religious community Time at home

*Note.* The list of 40 Developmental Assets® is reprinted with permission from Search Institute®, Minneapolis, MN 55413; 800-888-7828; [www.search-institute.org](http://www.search-institute.org).

opmental Relationships framework (2018) gave me the tools to teach staff how to relate to students.

### Developmental Assets

I used the Search Institute’s 40 Developmental Assets for Middle Childhood (Ages 8–12, 2006) to guide professional development for our afterschool staff. The developmental assets are factors in students’ lives that help them succeed in school and beyond. The more assets students have, the more likely they are to succeed. The Search Institute breaks down these developmental assets into two broad sets of categories: internal and external. Each category has 20 assets. The 20 internal assets are grouped into four categories: commitment to learning, positive values, social competency, and positive identity. The 20 external assets are similarly grouped into four categories, as outlined in Figure 1: support, empowerment, boundaries and expectations, and constructive use of time (Search Institute, 2006). The external assets are the ones afterschool staff are most likely to be able to provide for program participants.

The 40 Developmental Assets introduced staff to the effect they can have on students’ lives. The list of external assets helped staff see what assets they can provide for their students. They saw how small changes in their interactions with students could have large effects on students’ lives. When I introduced the assets, I asked staff to reflect on their own lives to identify people who had helped them when they were in school. Parents are not the only people who guide and shape young lives. Any of the adults who connect with students during the day can provide external assets, from teachers to secretaries, lunchroom workers, custodians, and, of course, afterschool staff. Another way the staff connected to the assets was to reflect on that one student they were worried about, the one who kept them up at night. Then they identified how many of the 20 external assets they could give that student within the program structure.

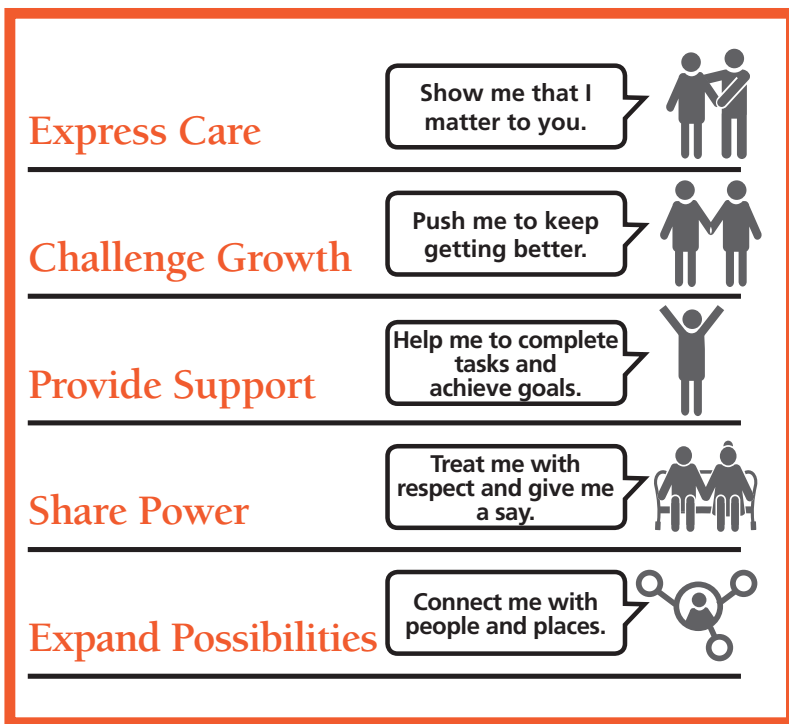
As staff realized the potential to connect more fully with their students, they wanted to take this training to the next level to learn better strategies for connection. The Search Institute’s Developmental Relationship framework provided the tool we needed.

### Developmental Relationships

The Developmental Relationships framework (Search Institute, 2018) is the actionable complement to the 40 Developmental Assets. It outlines specific strategies staff can use to establish, build, and maintain positive relationships with students. Each of its five elements, shown in Figure 2, includes three to five concrete actions adults can implement (Search Institute, 2018).

I incorporate the Developmental Relationships framework in staff development to help staff members with behavior management. Better relationships equal better behavior. In the beginning, I work the framework into a conversation about rules, rewards, and consequences. At the next training, after staff have applied the rules in the classroom, we revisit behavior management. This time, we address special circumstances, such as dealing with defiance, autism, or any issue that comes up in the first couple of months of the school year. These conversations highlight how having a respectful relationship with students can assist in de-escalating situations. In training, staff members dissect actual incidents (with names changed); as a group, we suggest helpful and respectful ways to work with the situation. I use actual scenarios when possible because they are typical of what the

**Figure 2. The Developmental Relationships Framework**



*Note.* Reprinted with permission from the Search Institute, Minneapolis, MN 55413; 800-888-7828; [www.search-institute.org](http://www.search-institute.org)



staff see in their programs every day. Showing students that they matter, providing support, and sharing power go a long way to prevent and address problem behaviors. Using the framework in staff development in this way allows us to discuss each of the five components: express care, challenge growth, provide support, share power, and expand possibilities.

### **Express Care**

People often decide to work in afterschool programs because they care about children. Expressing care includes five actions: “be dependable, listen, believe in [the child], be warm, encourage” (Search Institute, 2018). At first glance, this element seems straightforward, but open discussion with program staff revealed that expressing care can take many forms. For example, one site coordinator shared that she makes appointments with individual students. She explained that the children all want her attention at the beginning of the program day. Unless the need is urgent, she sets appointments for later, thus helping the students feel acknowledged while freeing her time to get the program started. When appointment time comes around, the coordinator can give each student her undivided attention. The students saw the coordinator expressing care in three ways from the framework: being dependable, listening to them, and being warm.

After learning in training about expressing care, another site coordinator instituted Every Monday Matters to show children how they can contribute to their world. Every Monday Matters centers around three principles: *I matter, you matter, and we matter*. Using these principles intentionally, the site coordinator sets up opportunities for students to have a positive effect on their community. Students have decorated bags with caring messages for local food banks and have made yogurt parfaits to show school teachers and staff their appreciation. The coordinator recognizes the students for every positive action she observes. She thanks them for coming to the program and then asks how she can help them. She is expressing care through believing in the students, being warm, and encouraging students by praising them for their efforts.

Students learn to persevere when they are encouraged and motivated to keep at a task until they succeed. I talk a lot with staff about expecting the best from students by, for example, pushing students to polish their work to the point that it is ready for publication or presentation at an art gala or science fair.

### **Challenge Growth**

The Search Institute framework includes four actions under “challenge growth”: expecting children’s best, pushing them to go further, structuring accountability, and helping students learn from their failures (Search Institute, 2018). Challenging growth is similar to teaching students to persevere. Students learn to persevere when they are encouraged and motivated to keep at a task until they succeed. I talk a lot with staff about expecting the best from students by, for example, pushing students to polish their work to the point that it is ready for publication or presentation at an art gala or science fair.

The Oxnard Scholars program supports students who want to compete in an annual districtwide speech competition. As the staff have become more proficient in helping the students write speeches, they have also learned how to help the students exceed the expectations

of the competition’s judges. One of our literacy staff members worked with a school-day teacher to organize opportunities for students to deliver their speeches to an audience beforehand so they would be less anxious on competition day. This staff member has helped students live up to their potential by teaching them to reflect on how their speeches went and to make improvements. She has challenged the growth of every speech competitor in her classroom. Last year one of her students finished in the top three districtwide.

Beyond the many individual examples of staff challenging students’ growth, the goal is to embed challenge so that it is a value across the program. Conversations with staff are key to achieving this goal. No one could reach every one of 200-plus staff members individually, so we connect in site-based cohort groups at monthly trainings. In small groups, we discuss examples of valuable practices that frontline staff members, site coordinators, and program administrators have observed. People can better internalize their learning when they process concepts through everyday examples. These conversations are governed by guiding questions that encourage personal reflection: How can you take this practice further? How can you polish it? How can we change together? How could we adapt this practice to achieve our goals? This process encourages staff to personalize

the practice and, over time, builds their confidence to act on what they think. We want staff to know that they are empowered to go beyond the activities they have been given if they want, for example, to implement a suggestion from a student. At its core, the training focuses on challenging the growth of staff so they are more comfortable challenging the growth of students.

### **Provide Support**

Over the past few years, several of our program coordinators and staff have completed degrees in counseling and taken jobs as counselors for local school districts. I attribute this interest in counseling to the afterschool environment, with its emphasis on providing support for students. Providing support, according to the Search Institute (2018), involves assistance with navigating difficult situations, empowerment, advocacy for student needs, and clear boundaries. Afterschool staff often see students in different ways than school-day staff do. They may have more opportunities to talk with students and help them with academic or social and emotional skills. Our staff are the ones who directly observe homework completion, so they see how the amount or difficulty of the homework affects each student. The support they provide may take the form of coaching the student to talk with a parent or teacher or of the staff member directly advocating for the student.

When training staff to provide support, I make sure they know the systems at the school as well as outside systems that offer other resources. For example, Oxnard School District has a Wellness Collaborative with multiple agencies to provide students and families with support ranging from tutoring to dental care to food resources. At a districtwide training, afterschool staff members learn about the Wellness Collaborative and what it does. Site coordinators get more detailed information, learning how to access Wellness Collaborative resources through their school outreach counselor, school principal, or program administrator.

### **Share Power**

Sharing power connects to youth voice. The four related actions in the Developmental Relationships framework are respect, inclusion, collaboration, and opportunities for students to lead (Search Institute, 2018). Program staff who share power set clear expectations and teach students how and when to use their voice. Staff need to feel comfortable enough with daily operations to allow students choices within the programming. Sharing power requires mutual respect between students and staff.

Teaching staff to share power takes coaching and patience. I ask questions like these: How do you think that worked? What, if anything, would you do differently next time? Coaching this element means praising power-sharing actions, asking a lot of reflective questions no matter how those actions turn out, and reassuring staff when things go sideways. I saw this process in action in a recent incident in which an activity leader in her first year—first weeks, really—got into a power struggle with a student. Our junior high drama lead, who was filling in for the site coordinator that day, debriefed with me afterward. I was amazed at his ability to clearly articulate his observations about the rookie's mistake. He noted that some first-year staff feel they have to “take charge” in order to maintain control, so that they are not likely to share power or to back down when conflict arises. To share power, staff have to feel comfortable easing up on their control by building trust through clear expectations and consistency. It takes time. Similarly, developing this skill takes lots of team conversations, modeling, and site visits focused on mentoring staff.

An example of sharing power is our Friday Night Live clubs, which provide drug- and alcohol-free activities while encouraging students to be leaders and advocates for a safe community. At one site, for example, students went on community walks to examine their environment. They quantified access points for alcohol and tobacco in their school neighborhood and advocated with the school board, city council, and store managers to reduce or eliminate sales of these harmful substances. The students came up with the idea; staff simply helped them implement it.

Teaching staff to share power takes coaching and patience. I ask questions like these: How do you think that worked? What, if anything, would you do differently next time? Coaching this element means praising power-sharing actions, asking a lot of reflective questions no matter how those actions turn out, and reassuring staff when things go sideways.

### **Expand Possibilities**

The three actions of expanding possibilities are “inspire, broaden horizons, connect” (Search Institute, 2018). Afterschool is all about expanding possibilities. Students engage in activities that they do not experience during the school day and can explore new ideas. For example, when a staff member was charged with leading an engineering project with a group of middle school students, the students asked if they could revitalize the school garden—and that became their project. Other sites have taken advantage of “I’m Going to College” activities offered by local universities. These field trips have expanded students’ possibilities.

At first glance, training staff to expand possibilities could appear hard if staff members do not know about resources to which they can connect students. But those connections do exist. I focus training on resources at the school sites and within the district. Students often show their passion in what they draw, what they bring to school, and what they talk about. Training staff to expand possibilities focuses on being attentive to students’ interests and connecting those interests to real-world concerns. Every employee on a school campus has a network of people and interests. When an employee finds out a student is interested in, say, the ukulele, the staffer can ask around to see if anyone on campus plays the ukulele; if not, there are always online videos. If a student is interested in motorcycles, the staff member can introduce the student to a school employee who rides a motorcycle to work each day.

### **Training for Relationships**

Relationships are the key to helping students succeed. The experience of the Oxnard Scholars program shows how training the staff to build strong relationships with youth enabled them to share great practices and connect students to resources to meet their needs. The Search Institute’s Developmental Assets (2006) and Developmental Relationships (2018) frameworks have been vital tools in training staff to see the impact they can have in students’ lives. These frameworks helped us begin ongoing conversations on how to build and facilitate relationships that help our youth persevere and connect to learning. Caring positive relationships help children and youth develop the skills they need to achieve success in school and in life.

### **References**

- Akhavan, N., Emery, R., Shea, G., & Taha-Resnick, A. (2017). The success of urban schools in Oxnard, California: An in-depth look at developmental and relational assets. *Educational Forum*, 81(4), 432–445.
- Oxnard School District. (2017). *California Healthy Kids Survey: Oxnard Elementary 2016–2017 main report*. San Francisco, CA: WestEd Health & Human Development Program for the California Department of Education.
- Search Institute. (2006). *40 developmental assets for middle childhood (ages 8–12)*. Retrieved from <http://v.fastcdn.co/w/73824624/35782706-0-8-12-English25580171.pdf>
- Search Institute. (2018). *The developmental relationships framework*. Retrieved from <https://www.search-institute.org/developmental-relationships/developmental-relationships-framework/>

# Afterschool Matters

## Call for Papers

*Afterschool Matters* is a peer-reviewed journal dedicated to promoting professionalism, scholarship, and consciousness in afterschool education. Published by the National Institute on Out-of-School Time with legacy support from the Robert Bowne Foundation, *Afterschool Matters* serves practitioners who work with youth in out-of-school time (OST) programs, as well as researchers and policymakers in youth development.

We are seeking articles for future issues of the journal, beginning with Spring 2020. Scholarly or practice-based work on all aspects of OST programming for children and youth, from a variety of disciplines and academic perspectives, will be considered. We welcome submissions that explore practical ideas for working with young people in OST programs. Personal or inspirational narratives and essays are appropriate for our section “Voices from the Field.”

All articles, whether scholarly or practice-based, should connect theory to practice and should be broadly applicable across the field. Articles must be relevant and accessible to both practitioners and academic researchers.

We invite you to discuss possible topics in advance with us. A broad variety of topics will be considered, including the following:

- Innovative program approaches in creative youth development, STEM, civic engagement, social and emotional development, or academic improvement
- Research or best-practice syntheses
- Key aspects of program leadership and administration
- OST system-building, such as cross-city and statewide initiatives
- Expanded or extended learning time and the OST hours
- School-community partnerships that support OST programming
- Physical activity and healthy eating
- Special needs youth, immigrant and refugee youth, or other vulnerable populations in OST
- Youth-centered participatory action research projects
- Gender-focused research and policy initiatives related to OST

### Submission Guidelines

- For consideration for the Spring 2020 issue, submit your article no later than May 25, 2019, to [ASMsubmission@wellesley.edu](mailto:ASMsubmission@wellesley.edu).
- Submissions should not exceed 5,000 words.
- Submit your article electronically in Microsoft Word or rich text format. Use 12-point Times New Roman font, double-spaced, with one-inch margins on all sides. Leave the right-hand margin ragged (unjustified), and number pages starting with the first page of text (not the title page, which should be a separate document).
- Include a separate cover sheet with the manuscript title, authors' names and affiliations, and the lead author's phone number and e-mail address.
- The names of the authors should not appear in the text, as submissions are reviewed anonymously by peers.
- Follow the *Publication Manual of the American Psychological Association, 6th Edition (2009)*, for reference style guidelines. Present important information in the text and do not use extensive footnotes.

We welcome inquiries about possible article topics. To discuss your ideas, please contact:

Georgia Hall, PhD

Senior Research Scientist, Managing Editor

National Institute on Out-of-School Time

E-mail: [ghall@wellesley.edu](mailto:ghall@wellesley.edu) / Phone: 781-283-2530

Submit manuscripts electronically to [ASMsubmission@wellesley.edu](mailto:ASMsubmission@wellesley.edu)



**NIOST** Wellesley  
National Institute on Centers for  
Out-of-School Time Women

Wellesley College  
106 Central Street  
Wellesley, MA 02481