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National Institute on Out-of-School Time

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Afterschool Matters

Number 24 • Fall 2016

VOICES FROM THE FIELD

The Plague of the Broken
Crayons and the Heads That
Haunted Us

Sara Cole

NEW FROM NIOST

Measuring Program Quality:
*Evidence of the Scientific
Validity of the Assessment of
Program Practices Tool*

Allison Tracy, Linda Charmaraman,
Ineke Ceder, Amanda Richer &
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Equitable STEM

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Creating Holistic Partnerships
Between School and
Afterschool

Kenneth Anthony & Joseph Morra



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WELCOME

During the overpowering winter of 2015 in New England, I left my home one evening during the tail end of a snowstorm. My son had suddenly developed an ear infection, so I was on my way to the local drugstore, which had, remarkably, remained open. The streets had closed much earlier in the day.

Trudging through the soft snow piled onto what had once been a sidewalk, I passed no other walkers, no vehicles, not even a snowplow. When I left the store with my son's prescription, I headed back the way I had come. Nothing had changed—except that I saw my own footprints in the still, silent snow, letting me know that I had been there before.

Recently I participated in the launch of the second year of the newly structured Afterschool Matters Fellowship, an intensive professional development opportunity for out-of-school time (OST) professionals. Begun by the Robert Bowne Foundation as a set of local projects, the fellowship went national under the auspices of the National Institute on Out-of-School Time (NIOST) in 2015. Our partner continues to be the National Writing Project, and the Robert Bowne Foundation continues to fund the fellowship through a generous legacy grant.

The fellowship engages OST practitioners in facilitated inquiry into their own practices and programs. The goals are to improve the quality of the fellows' programs and to develop resources that can have an impact on the broader field.

At the writing retreat that launched this year's fellowship, I was excited to imagine the products and resources our fellows will bring to the OST field. Their areas of concentration include personalized OST learning experiences, statewide professional development programs, youth participatory research, participant engagement in OST programs, youth worker engagement, social and emotional learning, and professional development strategies.

As I needed my footprints to let me know that I had walked through a mile of snow, so OST professionals need to think every day about what we leave behind. How do we know that we have been at that program, interacted with those youth, spent time training or coaching those staff? What evidence shows that our work has helped to guide youth toward healthy and productive lives? How can we make a lasting impact that goes beyond our own practice and programs? Participants in the Afterschool Matters Fellowship are answering those questions, in part, by producing artifacts: journal articles, slide decks, blogs, webinars.

The authors in this issue of *Afterschool Matters* are leaving footprints. They share strategies for making a lasting impact on the field: by validating instruments that measure program quality, by creating infrastructure to support learning in specialized areas such as STEM, by training OST staff in professional learning communities, and by developing school-afterschool partnerships that can foster shared vision. To kick it all off, the opening essay by an Afterschool Matters Fellow points out that even crayons can remind us of our sustained focus on quality OST experiences for all children and youth.

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Afterschool Matters is a national, peer-reviewed journal dedicated to promoting professionalism, scholarship, and consciousness in the field of afterschool education.

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VOICES FROM THE FIELD

The Plague of the Broken Crayons and the Heads That Haunted Us

Sara Cole

I have always placed a lot of stock in artifacts. When I walk into an afterschool program, one of the clearest and quickest things I use to assess the situation is how the room looks. What activities and supplies are available? What is on the walls? What is on the desk in the corner?

When I climb on my soapbox about quality programming—a box that is never far from where I stand—I often refer to the box of sad, broken crayons. Anyone who works in the field laughs. We have all seen that collection of crayons, typically accompanied by its partners in crime, the coloring pages or, even worse, the *photocopied* coloring pages. Those stubby old crayons have become my symbol of the constant struggle to provide appropriate resources for afterschool programs. If the crayons don't work for you as an image, feel free to substitute the board games in the torn boxes with the missing pieces, the naked dolls, or the books with pages that are missing or barely attached.

How can programs be exciting, innovative, and engaging when providers and youth do not have what they

need? How can youth feel valued and respected when they are surrounded by worn-out and broken materials?

Why are we *still* fighting this battle?

About a year after I came to the Rochester YMCA to take a senior-level position overseeing youth development, I also became the interim director of one of our struggling child development centers. The center's director and the branch's executive director had both left to take other positions; it felt as though the only certainty was that nothing was working as it should be.

That year, I woke up at 4:00 in the morning, Monday through Friday, so I could be in the center when it opened at 6:00. I often stayed until 8:00 or 9:00 in the

SARA COLE, MA, is the senior vice president of program development and innovation at the YMCA of Greater Rochester (New York), where she works with a team of innovative change agents to create a spectrum of high-quality programs that serve youth from cradle to career. Additionally, Sara works with YMCAs across the nation to increase food quality and access and to ensure that all youth have access to STEM education.

evening to fix, clean, train, fire, strategize, reorganize, plan, and budget. Some Saturdays, I would wake up in the middle of the night and then feel relieved that the center was closed. I never could truly relax during the 12 hours the center operated each weekday.

During my time as interim center director, I reorganized all 13 classrooms. In one of them, I found three heads of the kind hairdressers practice on; their faces were grimy and their hair was matted. Children had been playing with them. I was horrified. Carrying all three heads upstairs with me, I proceeded to give impassioned speeches to anyone who could not get away fast enough about how important it was for quality programs to have high-quality toys. At some point in the speech, I would grab the head and wave it close to the frightened listener to make my point.

I put the heads in my office so I could not help but see them each day and remember how hard we needed to continue to work. They became an effective (if ridiculous) metaphor for what I wanted our programs to be—and of what I definitely did not want them to be. Soon after, our chief financial officer asked for one of the heads to place in her office so she, too, could be constantly reminded of what we were working toward (and against).

In one of them, I found three heads of the kind hairdressers practice on; their faces were grimy and their hair was matted. Children had been playing with them. I was horrified. Carrying all three heads upstairs with me, I proceeded to give impassioned speeches to anyone who could not get away fast enough about how important it was for quality programs to have high-quality toys.

That winter seemed to last all year. I replaced most of the staff. I learned the names of the parents and their children. I sometimes cried, out of frustration and exhaustion, in my car on the way home. I remembered what it was like to work with youth and with parents and with staff every day.

Eventually we hired a really great director and a wonderful assistant director. Eventually there were days that I did not have to walk through that center and weekends that I forgot to wake up in the middle of the night and feel relieved. Eventually the remaining two heads found their way out of my office. When I went to find them to take a photo, they had disappeared.

Those heads may be missing, but the sad crayons (and their ilk) probably still crop up now and again. I don't want to forget that the struggle for quality is continuous. I don't want to forget that the greatest joy lies in the hardest work. I don't want to forget what it is to touch the programs every

day—to be so moved, so tired, so in love with an idea of what something could be that I lie awake in the middle of the night just trying to figure it all out.

Author's Note

This essay is dedicated to Sue Reschke, fierce advocate and partner in the struggle.

NEW FROM NIOST



Measuring Program Quality:

Evidence of the Scientific Validity of the Assessment of Program Practices Tool

Allison Tracy, Linda Charmaraman, Ineke Ceder, Amanda Richer, and Wendy Surr

Out-of-school time (OST) youth programs are inherently difficult to assess. They are often very dynamic: Many youth interact with one another and with staff members in various physical environments. Despite the challenge, measuring quality is critical to help program directors and policy makers identify where to improve and how to support those improvements.

This article describes recent research on the Assessment of Program Practices Tool (APT), establishing its strength as an evaluation and tracking tool for OST programs. Funded by the William T. Grant Foundation and Virginia B. Toulmin Foundation, the validation was conducted in two phases. The first phase was designed to evaluate the scientific rigor of the tool. Based on the findings from the first phase, the second aimed to inform improvements in the tool and its training. Our testing so far shows that online video-based training needs to be more specialized in order to improve rating reliability for high-stakes users, such as third-party evaluators.

ALLISON TRACY has over 15 years of experience providing methodological and statistical consultation for researchers in a wide variety of disciplines, topics, and institutions. She has worked on the psychometric analysis of A Program Assessment System (APAS) and its components, including the Assessment of Program Practices Tool (APT).

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WENDY SURR, Senior Researcher at the American Institutes for Research, has more than 30 years of experience leading research and evaluation studies and other educational initiatives. While at NIOST, she co-created APAS, including developing the APT and a set of teacher, staff, and youth survey instruments for measuring student nonacademic outcomes. She served as co-principal investigator and project director for Phase 1 of the APT Validation Study.

The Assessment of Program Practices Tool

The APT is an observational instrument created in 2005 by Beth Miller and Wendy Surr of the National Institute on Out-of-School Time (NIOST) to measure OST *process quality*: observable aspects of a program in action. Research suggests that process quality contributes to the 21st century skills, attitudes, and behaviors youth need to be successful in school and the workplace (Miller, 2005).

The APT is one component of A Program Assessment System (APAS), an integrated quality and outcome assessment system developed by NIOST in partnership with the Massachusetts Department of Elementary and Secondary Education 21st Century Community Learning Centers (21st CCLC) initiative. Currently, the APT is used in 33 states and in Canada by over 1,500 individuals and 600 OST programs. The APT is designed to support program self-assessment and improvement efforts. Increasingly, it is also being used by external stakeholders, such as funders and sponsors of afterschool programs, to ensure that programs are implementing quality features. External observers are using the APT to assign quality levels, often as part of a quality rating and improvement system, in order to identify programs or program aspects in need of improvement.

The APT measures aspects of process quality in three key domains: supportive social environment, opportunities for engagement in learning, and program organization and structure. As shown in Table 1, these three domains have 12 subdomains called *quality areas*. The items measuring a given quality area might be drawn from different sections of the APT, which is laid out to follow specific program times: arrival, transition, homework, activity, informal, and pick-up.

Table 1. Three APT Quality Domains and Their Associated Quality Areas

Domain	Quality Areas
Supportive social environment	Welcoming and inclusive environment Supportive staff-youth relationships Positive peer relationships Relationships with families
Program organization & structure	Space conducive to learning Varied and flexible program offerings Positive behavior guidance High program activity organization
Opportunities for engagement in learning & skill building	Youth autonomy and leadership Youth engagement and participation Quality of homework support Staff practices that promote engagement & thinking

Each item is rated on a 4-point scale, where 4 represents the desired practice. Detailed item-specific “anchors” define each rating point and provide observable indicators to guide scoring. Figure 1 illustrates the anchors for a *conditional* item: one that can be rated only if the condition, in this case youth misbehavior, is observed.

APT Validation Study Phase 1: Scientific Rigor

In 2010, Phase I of the APT Validation Study was conducted to assess the technical properties of the tool and confirm its scientific rigor. We conducted four tests:

- **Internal consistency:** whether all items assigned to the same scale receive a high score when a program shows high quality in a given quality area; whether the items as a set can distinguish higher- and lower-quality programs
- **Test-retest stability:** whether scores are not overly sensitive to day-to-day fluctuations in quality
- **Interrater reliability:** whether two raters observing the same program on the same day give the same ratings
- **Predictive validity:** whether programs with high APT scores have better youth outcomes than programs with lower APT scores

Methods

Participating Programs

We recruited 25 afterschool programs in greater Boston: 12 school-based programs, four community-based nonprofits, and nine sites affiliated with national organizations such as the YMCA and Boys & Girls Clubs of America. Almost half received 21st CCLC funding. Programs served varying age groups: elementary only, middle school only, and K–8. A diverse sample of 824 youth in grades 4–8, equally male and female, completed an online survey; slightly more than half (65 percent) were in grades 4–5.

Figure 1. Sample APT Rating Anchors

When youth behavior is inappropriate, staff use simple reminders to redirect behavior.			
1	2	3	4
Staff do not use simple reminders to redirect behavior OR always over-react to youth behavior.	Staff sometimes use simple reminders to redirect behavior but over-react to youth behavior.	Staff usually use simple reminders to redirect behavior but over-react slightly to youth behavior.	Staff always use simple reminders and are always calm when handling youth behavior.
<i>Example: Staff reactions to youth behavior are not instructive or constructive. Staff are often visibly frustrated, sarcastic, and short-fused with youth; e.g., saying loudly “How many times do I have to tell you to keep your hands to yourself?”</i>	<i>Example: Staff are easily frustrated by youth and turn small incidents into a bigger deal than necessary, such as spending 10 minutes explaining why youth should keep their hands to themselves.</i>	<i>Example: Staff respond to too many mild youth behaviors such as reminding youth to keep their hands to themselves multiple times while they are waiting in line.</i>	<i>Example: Staff let youth know what is inappropriate and remind them of established rules and behavioral expectations.</i>

Participating Raters

Two types of APT observers were recruited. First, an *internal* observer was selected from each participating program. These 23 internal observers (one observer oversaw three of the study programs) were direct care practitioners, site coordinators, program directors, and others with varying backgrounds and levels of experience. Next, we recruited six *external* observers who all had backgrounds in education or afterschool but were not familiar with the afterschool programs they observed and had not been trained to use the APT.

All 29 observers participated in an intensive two-day training to learn to use the APT and to follow research protocols. Training included exercises to minimize observer bias, games and exercises to increase facility with the tool, extensive practice rating DVD clips of actual programs, and a 90-minute live practice field visit.

Data Collection

One external and one internal observer were sent to each of the 25 programs for two visits two weeks apart. Internal observers studied their own site for both visits, each time paired with a different external observer. External observers studied a different site each time. During site visits, observer pairs remained together but assigned ratings separately, following a strict observation protocol. At each site, all youth in grades 4–8 were invited to complete the Survey of Afterschool Youth Outcomes-Youth (SAYO-Y) within three weeks of the first visit. The SAYO-Y, a part of APAS, is a self-report instrument that measures three key areas: youths’ pro-

gram experiences, their sense of competence, and their future planning and expectations. Initially developed in 2008, SAYO-Y has undergone extensive testing to confirm its consistency and validity.

Analysis and Results

Analysis of the observation ratings and the corresponding SAYO-Y scores led to five findings about the consistency, stability, reliability, and validity of the APT.

Finding 1: APT items can be combined to create reliable scale scores.

The findings show that the APT items designed to measure the same quality area work together as a set to distinguish among programs with varying levels of quality and that items designed to measure one quality area are distinct from items designed to measure another quality area. Furthermore, the study found that APT items could be combined to produce an overall rating of quality.

We also established that the items in each APT section representing a specific time of day could be reliably combined into a scale score to assess the quality of, for example, homework time or activity time. This finding is particularly important for programs that opt to focus their self-assessment on particular times of the program day, rather than using the entire APT.

Finding 2: The APT can be used to compare programs or activities within a program.

A rigorous tool must be able to capture different levels of quality, from very low to very high. A tool is not useful if

it captures small distinctions among very high-quality programs but cannot distinguish between moderate- and low-quality programs. Therefore, we tested whether, among all the programs studied, scale scores ranged along the full continuum from very low to very high.

We used statistical models to examine variability in quality across sites and among activities within sites. Results show statistically significant differences in the quality of programs, confirming that the APT can be used to distinguish between one program and another either in overall quality or in specific quality areas. Scales created for specific time-of-day sections were less able to capture differences between or within programs—except for the activity time scale, whose scores captured statistically significant quality differences among activities within a site. Programs thus can use activity time scale scores for self-assessment.

Finding 3: APT scale scores are not overly influenced by program fluctuations.

A quality assessment instrument must produce stable quality ratings that are not overly sensitive to day-to-day fluctuations in practices. When a program is assessed during a short time window, real change in quality is not expected to occur, so the APT scores should be similar.

When we assessed test-retest stability for individual items, quality areas, and time-of-day scales, we found that internal observers produced ratings that were stable over the short term. Observers should therefore be able to use the APT to capture aspects of quality that are stable across multiple observation days.

Finding 4: Perfect interrater agreement is hard to achieve.

A quality assessment tool must be able to produce accurate quality ratings that are free from variations due to subjective opinions and perceptions. No matter who conducts the observation, a program's quality ratings should be the same.

When we tested interrater reliability for individual APT items, findings were mixed. The average rate at which both observers assigned the exact same rating was 59 percent; the range for all raters was 21 percent to 100 percent. Few items passed statistical tests of interrater agreement. Other researchers have reported similar challenges in reaching interrater agreement for similar observational instruments (Bell et al., 2012; Hill et al., 2012).

We used a set of exploratory statistical tests to explore the extent to which differences in ratings might be due to characteristics of raters, such as their age, gender, experience, and education, or to observation conditions,

such as the length or type of activity and the numbers of staff and youth present. We found that agreement was harder to attain in observations of sports and active games. This finding is not surprising: These activities can be fast moving and cover large spaces, so that observers could have trouble hearing and seeing interactions.

Though internal and external raters often disagreed, internal raters were consistent in their ratings of their own programs over time. Use of the APT as a self-assessment for program improvement therefore appears warranted. However, comparison of one program with another by external raters, especially when stakes are high, may require more training to produce better rating agreement.

Finding 5: The APT measures program aspects that are directly related to youth outcomes.

Those interested in assessing program quality want to be confident that the quality areas being measured are important to youth experiences and outcomes. To examine the concurrent and predictive validity of the APT, we analyzed the relationships between the quality areas and youth responses to the SAYO-Y. Results show many associations between APT ratings and youths' program experiences, as summarized in Table 2. For instance, youth perceptions of having a supportive adult show numerous connections with APT ratings. Associations between APT ratings and youths' attitudes and beliefs are even more prevalent and strong; the strongest correlation is between youths' sense of competence as learners and several APT quality areas.

Revisions

Based on the item-level results, some APT items were dropped or revised, and newly revised items and their anchors were piloted. These improvements were incorporated into the instrument for Phase 2 of the APT Validation Study.

APT Validation Study Phase 2: Training

Phase 1 findings suggest that, although individual raters are consistent over time, they do not always agree with other raters. Researchers have had the same result with similar observational instruments (Hoyt & Kerns, 1999; Lumley & McNamara, 1993).

Growing interest in use of the APT for high-stakes purposes, such as quality rating and improvement systems, led to interest in enhancing interrater reliability. Training and practice have been found to increase rater scoring accuracy (Hoyt & Kerns, 1999; Knoch, Read, &

Table 2. Relationships Between APT Quality Area Scores and SAYO-Y Scale Scores

APT Quality Areas	SAYO-Y PROGRAM EXPERIENCES				SAYO-Y ATTITUDES AND BELIEFS				
	Supportive Social Environment	Enjoyment & Engagement	Choice & Autonomy	Challenging Environment	Supportive Adult	Sense of Competence as a Learner	Sense of Competence Socially	Future Planning	Future Expectations
Welcoming environment									
Supportive staff-youth relations									
Positive peer relations									
Space conducive to learning									
Varied & flexible program									
Behavior guidance									
High program activity organization									
Youth autonomy & leadership									
Youth engagement									
Quality of homework support									
Promotion of thinking & engagement									

Note: Dark shading signifies a *very strong* relationship (correlation of .50 or greater) and lighter shading signifies a *strong* relationship (correlations between .30 and .50).

von Randow, 2007; Schlientz, Riley-Tillman, Briesch, Walcott, & Chafouleas, 2009). We therefore developed an enhanced APT training with three components:

1. The comprehensive APT Anchors Guide, which offers scoring criteria for each item (see Figure 1)
2. Master-scored online practice video clips with detailed rationales for the assigned scores
3. Advanced in-person training
4. Targeted feedback with recommendations for additional practice

Strict use of the APT Anchors Guide was intended to focus observers solely on the observable behavior of staff and youth. Enhanced training, including the video clips, was designed to minimize subjective interpretation and discrepancies among raters. Our primary research question was, “Do trainees who undergo APT training and practice improve in the accuracy of their APT ratings?”

Methods

Participating Trainees

We identified a sample of APT trainees to reflect the expected profile of likely APT raters with respect to geography, prior experience, age, and familiarity with APT. Our sample of 39 trainees was drawn from the New England area and from the South. The sample was 69 percent female and 59 percent White, 26 percent Black, and 15 percent non-Black minority. Twenty-six percent of trainees were under 30 years old, 36 percent between 30 and 40, 23 percent between 41 and 50, and 15 percent older than 50. The majority had experience with programs for elementary and middle school youth. Only 38 percent of trainees reported that they had ever used the APT Anchors Guide.

In order to evaluate the reliability training, we asked the trainees to complete four video-rating exams: one at baseline and one after each major component of the

training, as shown in Figure 2. Using ratings by master raters (“master scores”) as a reference, we examined the results to see whether trainees improved in the accuracy of their ratings and, if so, at what points in the training and for which APT sections or scales.

We chose to use video clips rather than live practice opportunities for training in order to ensure that the focus of the observation was consistent across raters. In live observations, the 360-degree view of the environment means that two observers may pay attention to different activities and therefore rate different sets of staff and youth. For training purposes, we needed to narrow the field of focus in order to draw trainees’ attention to specific instances that they could map onto the anchors for each item. Furthermore, using video clips enabled us to define accuracy as the match between trainee ratings and master scores, as opposed to the less precise method we used in Phase 1, where agreement between two raters served as a proxy for accuracy.

Training Components

The enhanced training, as outlined above, had three major components.

APT Anchors Guide. A key aspect of training was providing the comprehensive Anchors Guide in order to build raters’ familiarity with and use of the anchors.

Master-Scored Videos. To create video clips for use in the study we selected eight New England afterschool programs, based on considerations such as size, type, location, ages served, and race/ethnicity of youth served. To capture a variety of program practices, these programs were videotaped over four days. Each recording was subdivided into a number of shorter clips, organized by the time-of-day sections of the APT. The 350 resulting video clips ranged in length from one minute to 20 minutes. Each clip was reviewed by up to four master raters who

had extensive experience in afterschool and were familiar with the APT. Clips were considered for inclusion in APT exams and practice modules if the audio and video quality was good and if agreement among master scorers was high. Furthermore, the clips represented various anchors and conditional items (for example, “if there is youth misbehavior”).

Each APT practice module and exam included one clip from each APT time-of-day section. All were approximately one hour long; included only one clip from any one of the eight recorded programs; and offered a good representation of low-, medium-, and high-scoring clips. Following each time-of-day video clip, the online program displayed the relevant APT items, with their lowest and highest scores, and trainees rated the video clip on each of the items in that APT section. Immediately afterward, the master score and the reasoning behind that rating were displayed. In practice modules, trainees could go back to review the video clips after seeing the master scores. The exams did not offer this option.

In-Person Training. After rating the videos, trainees participated in a six-hour in-person APT training event. Two highly experienced APT lead trainers focused the in-person training on the 15 APT items on which trainees had the lowest rates of agreement with master scores in the exams. The trainers used video clips from the exams to demonstrate common sources of ambiguity, such as interactions that fell between a rating of 2 and 3. Small- and whole-group discussions enabled the trainers to open a dialogue so trainees could come to a collective conclusion about the evidence supporting the master score. Agreeing about the evidence is a key step in improving accuracy.

Targeted Feedback and Additional Practice. After the in-person training and its exam, trainees were offered feedback recommending that they complete additional practice modules in the area in which they scored lowest.

Data Collection

The primary data collection instruments were video exams, one at baseline and one each after receipt of the APT Anchors Guide, after the in-person training, and after the targeted feedback. The final exam took place within three weeks of the in-person training. It included a qualitative process evaluation asking trainees about their experience with the training materials and their level of confidence in assigning APT ratings.

Analysis and Results

Between the baseline exam and exam 2, we asked trainees to rate at least one of the two practice clips for each APT time-of-day section, aiming for six practice clips. They rated an average of 4.6 clips. Between exams 3 and 4, participants rated an average of 2.15 clips out of the recommended four. Trainees reported varying levels of use of the APT Anchors Guide: 64 percent said they used it always, 31 percent some of the time, and 5 percent rarely. Participants who were White, female, older, or from the South completed more practice modules and referred more often to the guide.

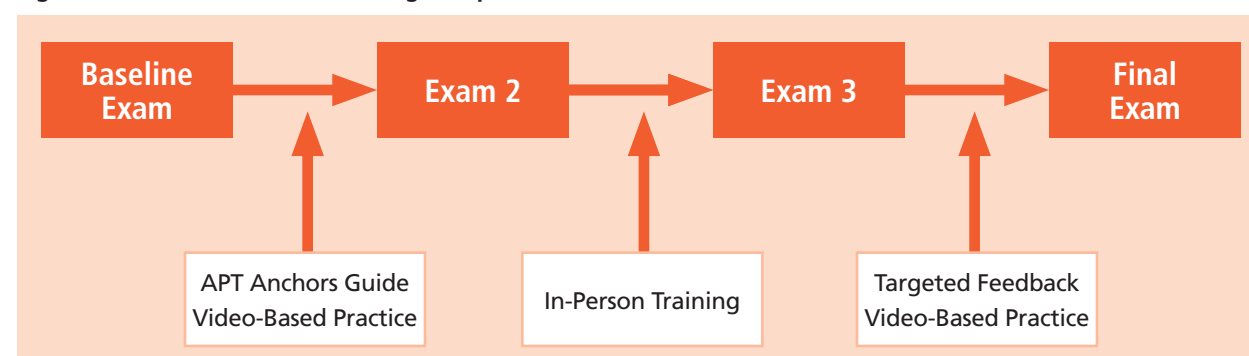
Across all four exams, 53 percent of the trainees’ ratings matched the master scores exactly. Trainees were more likely to match the master scores when scores were at the high or low end of the rating scale and when the youth in the clip were in middle school rather than elementary school. White and non-Black minority trainees were more likely to match the master score than were Black trainees. In several time-of-day sections, trainees had more matches when the clips were shorter; only in the homework section did longer clips yield more matches. In the open-ended evaluations, a high percentage of trainees recommended using shorter video clips. The reasons they gave were attention span limits for videos, issues with narrow camera angles and audio quality, and a preference for focusing on a limited program snapshot.

In order to test the hypothesis that training would improve in the match between trainee ratings and master scores, we examined the results of exams 2–4. To do so, we made statistical adjustments to compensate for differences among the exams in such characteristics as the total quality score of all the clips, clip duration, and participant age group. We also adjusted for lack of compliance with the exam protocol, as when trainees cut the clip short rather than viewing to the end. This analysis resulted in four significant findings.

Finding 6: Video practice shows promise as effective training mode.

The process of rating practice videos using the APT Anchors Guide and receiving immediate feedback on the rationale for the master scores led to significant improvement in trainees’ rate of agreement with master scores, from an average of 49 percent on the baseline exam to an average of 52 percent on the second exam. One trainee noted in the qualitative process evaluation, “I have become more discrete in my ratings, and am much more comfortable using the anchors as a guide when providing evidence for why I rated a certain way.”

Figure 2. Trainee Exams and Training Components



Finding 7: The in-person training did not improve average rating accuracy.

Exam 3, administered after the in-person training, showed a significant overall decline in trainees' rate of agreement with master scores, by an average of 6 percentage points. However, 16 of the 39 participants did not decline, and eight improved by 6 or more percentage points. Two participants experienced strong gains of 15 and 19 percentage points.

We sought but did not find characteristics that distinguished trainees who improved from those whose scores declined. However, participants' comments may shed some light. Many participants said that they found the in-person training helpful because they could ask questions and share insights with others. However, some participants did not find that the training improved their accuracy.

Finding 8: Targeted feedback and additional video practice did not further improve scores.

The final exam, administered after recommendations for targeted practice after exam 3, did not yield significant improvement in trainees' agreement with master scores. Analysis of changes in scores for time-of-day sections of the APT yielded similar results, with the greatest improvement emerging between the baseline and exam 2, after the video training. Trainees may have experienced a plateau effect, even though the highest rate of agreement with master scores on exam 3 was only 66 percent. Another explanation could be burn-out due to the heavy demands the study made on participants.

Finding 9: High-priority APT quality areas showed the most improvement.

Four of the APT program quality areas showed improvement in ratings: supportive staff-youth relations, positive peer relations, behavioral guidance, and high program activity organization. In all four areas, average trainee scores showed considerable improvement from baseline to exam 2, ranging from 8 percentage points for behavioral guidance to 20 percentage points for positive peer relations. Three of the four quality areas showed improvement in accuracy across the full training experience, from baseline to exam 4. The fourth area, supportive staff-youth relations, showed an average decline

in accuracy of 3 percent, with a particularly pronounced decline of 19 percentage points between exams 3 and 4. However, between those two exams, the individuals whose scores improved had relatively low average scores of 45 percent at exam 3 while those whose scores declined had higher average scores of 55 percent. Targeted feedback seems to have improved the scores of trainees who struggled to rate the staff-youth relations items accurately.

Average scores in the quality area of behavioral guidance were particularly volatile. After improving by 8 percentage points at exam 2, they fell by 23 percentage points at exam 3 and then rebounded to improve by 21 percentage points at exam 4. In the post-study survey, trainees frequently said that they disagreed with the master scores for behavioral guidance items. One trainee noted:

I think also I may disagree with some of the [master] scores in general. Although I understand we need to use the [master scores] as our guide, ... [w]hat the raters sometimes scored as inappropriate or disruptive behavior I felt was kids being kids.

Cultural differences in the interpretation of such factors as child behavior may have been responsible for some of the discrepancy in agreement scores among trainees from different racial and ethnic backgrounds.

Limitations, Implications, and Next Steps

We found a promising pattern of improved scores after trainees were exposed to the APT Anchors Guide and engaged in video-based practice. These findings suggest that future reliability trainings should focus on increasing familiarity with and expert knowledge of the guide. Ample opportunities for video practice should focus on improving accuracy by emphasizing links among ratings, particular events in the clips, and corresponding anchors.

This study has revealed that some APT items are more open to cultural-specific interpretations than others and that some videos are more ambiguous than others. Point of view is a key aspect of observational research, so there must be room for people from different cultural backgrounds to pose alternative interpretations of behaviors and to have different views of what constitutes low-quality and high-quality social interaction. We are

seeking additional funding to address any potential cultural bias in some APT items or training materials.

The study also exposed both the potential and the limitations of using video for training. Video technology is widely available and convenient, but problems such as connectivity issues can limit its usefulness. Furthermore, even with professional videographers using high-quality sound and video equipment, capturing the essence of youth-adult interactions is a tall order. Camera angles can provide limited views, and audio quality will vary depending on the size of the group and room. Early video practice did help participants modestly improve in their accuracy. Still, editing all videos to focus more carefully on the same visual and audio nuances may improve the ability of future video training to improve participant accuracy, particularly since people have limited attention spans for video viewing. The average viewing time for internet videos is only 2.7 minutes (Statistic Brain, 2016).

This article outlines the preliminary steps we have taken to test APT reliability training so that it can be further refined for wide adoption. Next steps include achieving an acceptable and consistent level of rater accuracy through video-based reliability training. An acceptable accuracy rating is usually set at 80 percent for similar tools in the field, such as the Center for Youth Program Quality's Youth Program Quality Assessment and TeachStone's Class (Bell et al., 2012). This prototype of a reliability training system with four exams must be further fine-tuned before going into the field for reliability certification. For instance, we would improve the system by taking into account the valuable trainee feedback, ranging from clarifying key terms in the APT Anchor Guide to carefully selecting video clips that are unambiguous.

The compelling reason to train observers to rate program quality accurately is that programs' use of such ratings is strongly associated with improving important quality areas such as supportive youth-staff relations and positive peer relations (Miller, 2005). As shown in the youth survey results in Table 2, these areas are significantly related to positive youth outcomes, such as sense of competence as a learner, sense of social competence, and future planning and expectations. Ultimately, we are refining the APT training so that it and the APT itself can be implemented more widely, where they can have an impact on youth program practice and policy and on the use of research evidence to support that critical work.

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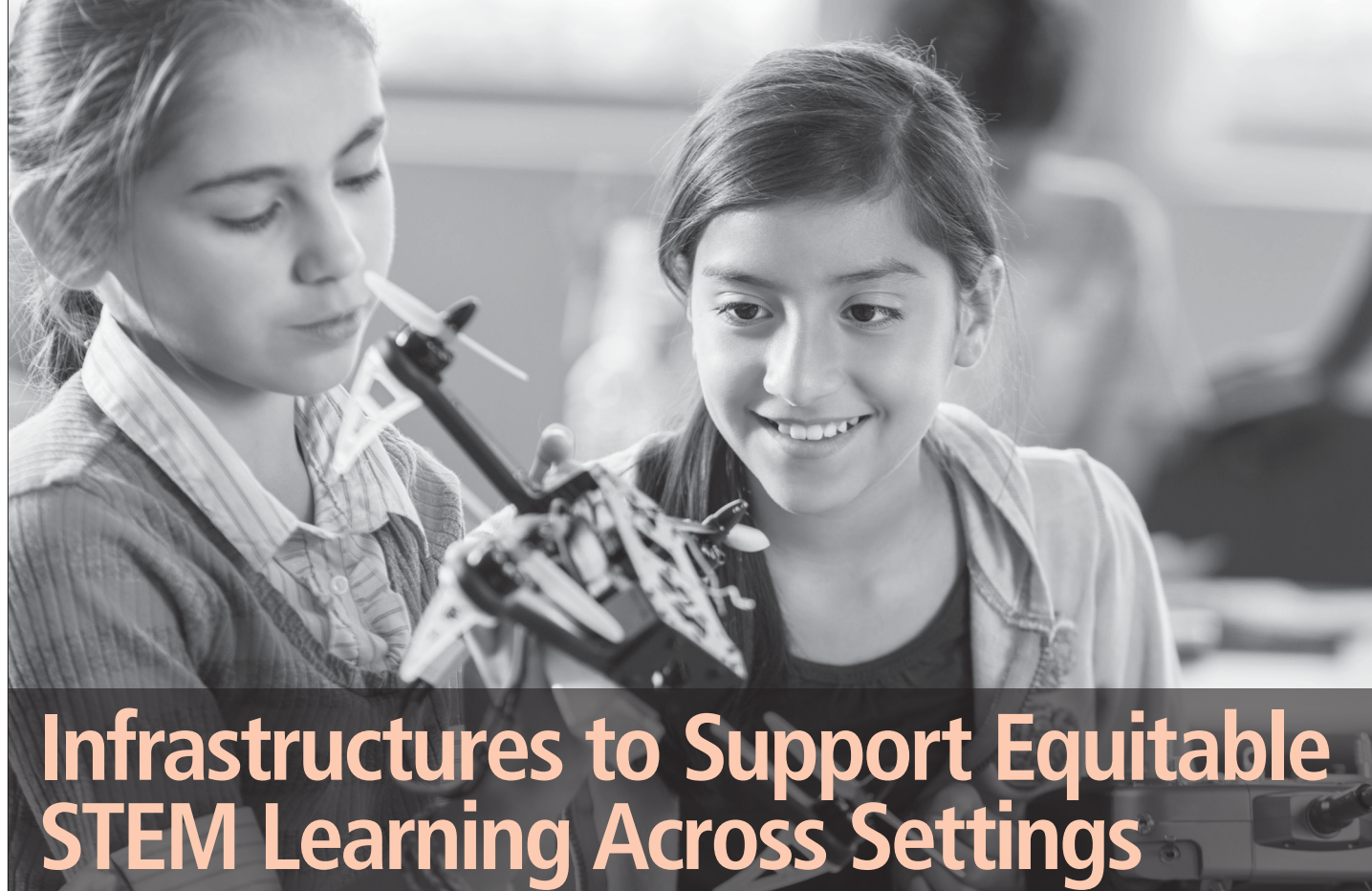
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Infrastructures to Support Equitable STEM Learning Across Settings

William R. Penuel, Tiffany L. Clark, and Bronwyn Bevan

STEM learning is a process that unfolds through dynamic interactions over time and across settings. Formal education in schools is not the only—or necessarily the most significant—context for STEM learning.

Important opportunities also occur in out-of-school time (OST), including during designed programs before and after school, through the support of mentors, and via online communities (Adams, Gupta, & Cotumaccio, 2014; Bell, Tzou, Bricker, & Baines, 2012; Ito et al., 2013). Collectively, these opportunities make up a “STEM learning ecosystem,” which comprises the interactions among learners, the settings in which learning occurs, and the learners’ communities and cultures (National Research Council, 2015, p. ES-2).

Advancing equity in STEM requires providing young people of all backgrounds with a rich array of resources for learning across the multiple settings of their lives—in school, in community organizations, in neighborhoods, in families, and in online communities. A recent National Research Council (2015) report called out the need to map learning opportunities in communities and explore

how youth navigate those opportunities. The field could promote equity, the report suggested, both by addressing gaps in the STEM learning ecosystem and by connecting youth from underrepresented groups—girls, for exam-

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ple, and African-American, Latino/a, and Native youth—to existing opportunities. The report also called for building a lasting “STEM learning infrastructure” (p. ES-2) to address inequities that limit the access of youth from underresourced communities to STEM careers and academic pursuits (National Research Council, 2015).

This paper outlines principles for building a diverse and connected ecosystem and the features of a STEM learning infrastructure to promote equity. Our recommendations are derived from a review of literature on general strategies for leveraging diversity in STEM learning and on specific programmatic efforts to promote young people’s learning across settings. The research on equity shares a premise that diverse everyday experiences are a resource for—rather than a barrier to—young people’s learning (Gutiérrez & Rogoff, 2003; Nasir, Rosebery, Warren, & Lee, 2014). The goal of STEM education, then, should be not to eliminate perceived deficits in students, their families, or their communities, but to find connections between each of these and disciplinary knowledge and practices (Warren, Ogonowski, & Pothier, 2003).

Because the literature on programs that make explicit attempts to promote learning across settings is relatively new and sparse, we sought to identify programs that were grounded in this premise and that had some evidence of positive youth outcomes. Our review included designs that show at least some promise of expanding youth access to STEM learning in and across settings. The result is a set of principles for designing equitable STEM learning ecosystems and a corresponding set of infrastructures necessary to support such systems.

Design Principles to Support Equitable Learning Across Settings

Our literature review revealed five design principles for translating ideas about equitable STEM learning ecosystems into program structures. To promote equitable cross-setting learning, afterschool programs must:

1. Draw on values and practices from multiple settings to articulate shared learning goals and to identify resources that can help to meet those goals
2. Structure partnerships so that multiple stakeholder groups can co-design initiatives to promote learning across settings

3. Engage young people in building stories, imaginative worlds, and artifacts that make connections and have meaning across learning settings
4. Help youth identify with the learning enterprise by supporting and naming them as contributors to authentic endeavors
5. Intentionally broker youth learning across settings, including preparing educators and family members to be brokers

These design principles have been applied to the development of learning opportunities, but they have not been widely tested as a set. Rather, they are useful guides that can be verified through empirical study and then refined or even dropped (Bell, Hoadley, & Linn, 2004). These five design principles are intended to serve as provisional guides to be tested and refined over time through research and development.

Draw on Values and Practices to Articulate Shared Learning Goals

The first design principle for equitable STEM learning is to draw on values and practices from multiple settings to articulate shared learning goals and to identify resources that can help to meet those goals.

Educational design research typically focuses on a single learning environment. Designing for inclusive learning across settings requires diverse perspectives on learning goals, challenges, and resources to be leveraged; for

example, practices for supporting learning are organized differently in families than in schools (Rogoff et al., 2007). Afterschool programs need to understand young people’s cultural norms in order to use those norms as learning resources. To do so, they must build relationships with communities and families (Brown & Nicholas, 2012).

An example of an effort to draw on local communities’ values and practices to support STEM learning is the Ethno E-textile project (Kafai, Searle, Martinez, & Brayboy, 2014). The project used electronic textiles and local Native American crafting and sewing practices to help students learn about engineering and computing. The project involved close collaboration among researchers, a teacher, and members of the local cultural resources

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department to identify links among computing practices, craft practices, and local knowledge.

The researcher-facilitators explicitly drew out the computational principles already present in local crafting cultures. They challenged youth to reflect on how computation could be useful in their community and reflect their own interests and identities. Creating designs that reflected their hybrid experiences in both Western and indigenous communities, students easily connected the e-textile project and their Native Arts class. This project underscores how community value systems can provide a context for learning about computing while linking home and school spaces (Searle & Kafai, 2015).

Involve Stakeholders in Co-Design

The second design principle is to structure partnerships so that multiple stakeholder groups can co-design initiatives to promote learning across settings. Co-design in education is a highly facilitated process that engages people who have diverse expertise in designing, developing, and testing educational innovations (Penuel, Roschelle, & Shechtman, 2007). In structuring partnerships to support equity, leaders must consider not only which stakeholder groups need to be involved, but also the history of these groups' relationships. Inequities can be perpetuated when designers presume that everyone can and will participate equally despite a history of disenfranchisement of people from nondominant communities.

A collaborative effort led by Megan Bang and colleagues (Bang, Medin, Washinawatok, & Chapman, 2010) with the Menominee people in rural Wisconsin and with Native people living in Chicago illustrates this intentional approach to co-design that accounts for historical inequities. This partnership aimed to increase the science achievement of Native American students and their representation in science-related professions while deepening students' "community-based ways of knowing," which reflect indigenous scientific epistemologies (Bang & Medin, 2010, p. 1009).

Countering the long history of research conducted in indigenous communities without consideration for cultural values and without involving the communities in the research, Bang and colleagues designed a form of

participatory action research (Hermes, 1999) that fully engaged the indigenous communities. The approach included input from local elders, support from tribal institutions, use of traditional language, respect for cultural values, and broad community participation in the research activities. The inclusion of stakeholder groups throughout the research and development process was vital to the design of learning across settings and the successful youth outcomes the researchers documented (Bang & Medin, 2010). Promoting equitable cross-setting learning should not be the job of just one person or organization. Partners working across settings need to make sure many voices are involved.

Make Connections Across Settings

The third design principle for equitable STEM learning suggests that afterschool programs engage young people in building stories, imaginative worlds, and artifacts that make connections and have meaning across learning settings.

Our literature review uncovered several afterschool programs that have engaged participants in co-constructing narratives that have significance in multiple settings. *Transmedia storytelling* (Jenkins, 2010) is a design approach for creating a single story that audiences or learners can experience across different media. It typically involves building an imagined world in which plots unfold across various media as participants not only identify with characters but also add to the narrative itself. Participants can shape the story by adapting it in their own creative writing, as is common in fan fiction (Chandler-Olcott & Mahar, 2003).

Transmedia storytelling is increasingly common in the entertainment sector. In recent years, educational broadcasters have begun to use transmedia storytelling to design cross-setting innovations for children. An example is a set of interventions to promote low-income children's mathematics and science learning (Pasnik & Llorente, 2013; Penuel et al., 2010). The preschool-based interventions used public television programs targeting four- and five-year-olds, offering guided viewing of programs, game play, and hands-on activities to promote specific learning goals in mathematics and science. Because the programs appeared on broadcast television and the interventions included

resources for parents, families could extend their children's learning at home. More parents in the intervention group reported that their children talked with them about ideas in the science curriculum than did parents of children who were not part of the intervention group (Penuel et al., 2010).

Name Youth as Contributors

The fourth design principle for cross-setting STEM learning is to help youth identify with the learning enterprise by supporting and naming them as contributors to authentic endeavors. Learning always involves becoming a certain kind of person, that is, developing an identity. Identity development involves appropriating, or "making one's own," the tools and practices of a discipline (Hand & Gresalfi, 2015; Nasir, 2010). Young people who identify as science learners are more likely to access science learning and to persist and succeed in it. However, historical patterns of STEM participation exclude women and members of particular racial groups, including Latinos, African Americans, and Native Americans. Intentionally developing positive science learning identities is critical for expanding equity in science education.

Designing for identity development requires giving young people opportunities to contribute to authentic endeavors and to have their contributions recognized. In authentic endeavors, young people have a say in the purposes of the learning activities in one setting, an experience that prepares them for action in another setting (Ito et al., 2013; Zeldin, 2004; Zeldin, Camino, & Mook, 2005). Authenticity is evident when young people participate in planning, take on different roles according to what is needed in the activity, and think strategically (Heath, 2001, 2005); authenticity also emerges when the boundaries between school and community are blurred (Gutiérrez & Vossoughi, 2010; Polman & Hope, 2014). Having a say in and contributing to the organization of an activity in one setting prepares youth for future activities in which they are expected to show initiative, define problems to be solved, and take action to solve them.

A good example of designing for identity development is Green Energy Technologies in the City (GET City) at the Boys & Girls Club in a Midwestern city (Calabrese Barton & Tan, 2010). The program serves primarily middle-school-aged youth from nondominant communities. As in many other science programs in or outside schools, youth learn how to engage in key science practices, such as planning and conducting investigations, analyzing and interpreting data, and communicating scientific information. Unlike many other science programs, however, GET City gives youth a considerable say in the activities: Adult staff regularly enlist them to co-plan activities and then adjust course when youth propose changes. At the insistence of the youth themselves, their investigations brought them into the community, where they conducted street interviews about residents' experience of urban heat islands. The youth also presented the results of their investigations to city officials. As Calabrese Barton and Tan (2010) document, a number of GET City participants have appropriated identities as "community science experts" (p. 21), that is, as persons who are capable in science and can generate evidence related to culturally relevant environmental concerns in their communities.

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Intentionally Broker Learning Across Settings

The fifth design principle is to intentionally broker youth learning across settings, preparing both educators and family members to be brokers. *Brokering* refers to helping people

move from one setting into another that might otherwise be inaccessible (Ching, Santo, Hoadley, & Pepler, 2015). Brokering can be as simple as telling an acquaintance about a job opportunity, or it can involve extended, deep interaction to help someone master a complex new work practice. Youth from low-income, immigrant, and marginalized communities may have less access to the social networks commonly leveraged by middle-class families to broker students' learning across multiple opportunities—internships, summer camps, and advanced coursework, for example (Duncan & Murnane, 2011). Because people who act as brokers often occupy positions between different networks of people and prac-

tices, brokering is sometimes called “boundary spanning” (Tushman, 1977). Effective brokering expands not “know how” but “know who”—knowing which people or groups can provide personal or social support or have knowledge, skills, or resources to share (Wellman & Frank, 2001).

Having a broker can be important to getting a job in a STEM field. Brokers help young people navigate educational requirements, bureaucratic procedures, and implicit expectations regarding successful career pathways (Stevens, O’Connor, Garrison, Jocuns, & Amos, 2008). In addition to “know who,” brokering requires “know where”—knowing networks of people and places where learners can pursue deeper learning, whether in formal educational settings, work, play, or civic institutions.

Programs like the Lang Science Program at the American Museum of Natural History, which helps to broker access to STEM fields for underrepresented groups, are purposeful about building personal and institutional links among middle and high schools, community colleges, and four-year schools (Adams et al., 2014). Lang participants commit to seven years of work at the museum, where they have opportunities to engage in ongoing research in fields such as zoology, genetics, paleontology, and astrophysics. The program is an intentional effort to support youths’ long-term engagement by developing initial interests in STEM, fostering STEM-linked identities, brokering access to high school and college opportunities, and ultimately supporting pursuit of STEM careers. The Lang program team engaged in a retrospective analysis (Adams et al., 2014) to understand how long-term participation in such OST programs shapes young women’s interest, motivation, and ability to pursue and persist in STEM majors. Preliminary findings from a retrospective study of six alumnae show that the program played a significant role in the young women’s STEM identities and career trajectories. The program brokered access to the museum itself, to science subjects that likely would otherwise have been inaccessible, and to science professionals who broadened the young women’s awareness of the variety of science-related professions.

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Combining Design Principles

Ideally, program designers integrate all five principles to design for equitable learning across settings. For example, a program might integrate principle 1 with principle 5 by encouraging facilitators to elicit youths’ values and interests and then link them to activities in the community. The same program could recognize youths’ accomplishments in those activities through a digital badge system that is shared across multiple partner institutions, integrating principle 2 and 4. The badge system could integrate principle 3 by using a story or “pathway” metaphor to encourage youth to pursue more and more challenging activities.

Supporting Infrastructures for Learning Across Settings

To implement the five cross-setting equity-oriented design principles outlined above, programs need to build supporting infrastructures that can connect organizations and communities (National Research Council, 2015). *Supporting infrastructures* are “behind-the-scenes”

material resources and processes that are critical to the functioning of any learning ecosystem; they must be built and maintained over time.

Focusing on infrastructures is critical to diagnosing inequity and promoting equity (Hall & Jurow, 2015). By making visible the infrastructures that enable many economically advantaged youth to pursue coherent STEM learning opportunities, we can see what must be put into place to provide such opportunities to youth from underresourced communities. Most infrastructures are largely invisible; it takes deep investigation to expose the work infrastructures do, let alone to redesign them. Yet this redesign is a core task of systems change. The design principles outlined above require new infrastructures to support equitable learning across settings.

Adequate Material Resources

One reason advantaged youth can pursue varied STEM learning opportunities is that their families can afford to pay for extracurricular programs, while lower-income families cannot (Duncan & Murnane, 2011). Most of the initiatives described above were funded by grants and therefore were accessible to low-income participants because participation was free.

Resources are needed to support both programs and families. Very little grant funding supports scaling and sustaining programs. Unstable funding for informal organizations may limit their ability to plan, staff, and sustain innovations. Further, research suggests that one reason young people from lower-income families suspend pursuit of STEM interests is that they lose access to material resources, such as transportation or computers, that support their participation (Van Horne, Van Steenis, Penuel, & DiGiacomo, in press). Promoting equity means providing funding to sustain programs and to lower or eliminate the costs of participation for low-income youth. One solution is for cities and states to provide base funding for equity-focused STEM initiatives.

Support for Parents

Middle- and upper-income parents often play a wide variety of roles in supporting their children’s learning, including brokering access to OST opportunities. Beyond brokering, parents can play many different roles in supporting their children’s STEM-related learning, from collaborator to teacher to co-learner (Barron, Martin, Takeuchi, & Fithian, 2009). Lower-income parents may need support to learn to take on these roles. Designing opportunities for parents to participate with their children in STEM learning activities holds promise as a means of expanding parents’ repertoires for supporting their children’s learning (Roque, Lin, & Luizzi, in press). Additionally, intentional efforts to raise parent awareness of learning opportunities that can allow their children to persist in STEM activities may be a crucial part of a robust learning ecology.

Strong Ties Among Organizations

Strong social relationships and links among organizations in neighborhoods are important for educational attainment in schools (Johnson, 2012). They are also important resources for brokering access to opportunities in STEM. In order to broker young people’s access to new STEM learning opportunities, adults need to know about the opportunities (Ching et al., 2015). Adult leaders’ own community ties to other adults with relevant expertise are important sources of such information.

Systems for Linking Youth to Opportunity

One of the greatest challenges to STEM equity is lack of access to OST opportunities that would allow youth to discover or deepen their STEM interests. One reason is that neighborhoods vary in the abundance and diversity of youth programs they offer (Kehoe, Russell, & Crowley, 2016).

The Chicago City of Learning is a citywide partnership in which more than 170 organizations engage young people in roughly 4,000 OST activities, many of which involve STEAM (STEM and arts) learning. The program’s website enables youth and their families to identify activities based on their interests. The website is also used to recognizing youths’ accomplishments in OST programs, recording digital badges such as Science Research, Robot Instructions, and Peer Mentor. Researchers have used the site’s data to map the locations of STEAM programs and to identify neighborhoods where more opportunities are needed (Pinkard et al., 2016). This research builds on smaller-scale studies that underscore the transportation challenges low-income youth face in accessing OST learning opportunities (Chin & Phillips, 2004). The partnership is using the researchers’ maps to explore where to expand opportunities for youth.

One of the greatest challenges to STEM equity is lack of access to OST opportunities that would allow youth to discover or deepen their STEM interests. One reason is that neighborhoods vary in the abundance and diversity of youth programs they offer.

Partnerships and Coalitions

Long-term partnerships among organizations in a community and coalitions that advocate for access to educational opportunities can be an important part of a supporting infrastructure for equitable learning opportunities across settings. The Hive Learning Networks, active in several cities including New York and Pittsburgh, are an example of partnerships among youth organizations that focus on enhancing interest-related learning opportunities (Larson et al., 2014). At Hive meetings, organizations share strategies and engage in joint design work to build new pathways for youth. Community-wide partnerships can facilitate young people’s access to learning opportunities across settings; when organizations collaborate, they can design pathways for developing deeper and deeper expertise in an area (Falk et al., 2016). Coalitions and advocacy organizations can also build a broad base of support for expanding opportunities for youth (Renée, Welner, & Oakes, 2009).

Designing Learning Opportunities and Building Supporting Infrastructures

The examples in this paper illustrate the possibilities for designing equitable STEM learning opportunities across settings. They elaborate on a vision presented in the 2015 National Research Council report, which calls for building resilient STEM learning ecosystems where youth can access many learning opportunities that are coherent and build on one another. The components of a supporting infrastructure constitute the conditions for building such ecosystems at the scale of a neighborhood or city. That such supports exist in some areas already provides hope that an ecosystem approach can expand opportunity for youth from under-resourced communities.

Our framework articulates broad design principles. Developers of cross-setting initiatives will need to elaborate on these principles to address the specific needs in their communities. Taking into account home and community values and practices when identifying learning goals, structuring partnerships to co-design learning opportunities with nondominant communities, and engaging youth in storytelling to facilitate meaning-making all serve as ways to engage youth from underrepresented groups in STEM learning across settings. Similarly, programs must purposefully identify youth as contributors to the scientific enterprise and must intentionally broker youths' access to opportunities.

In addition, the supporting infrastructures described above must be considered when designing for cross-setting learning. Funders must address the lack of resources to scale and sustain programs in order to reduce barriers to youths' access to STEM learning. Lower-income families need support to better foster their children's learning. Adults need help to identify and connect youth with expertise in the community; similarly, youth need better access to information about OST learning opportunities. Partnerships that bring together community organizations to develop equity-focused educational initiatives can increase cross-setting STEM opportunities for youth.

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Applying these design principles to promote equity and building supporting infrastructures to link youth to new opportunities will help to expand STEM learning opportunities for all youth.

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Getting the Right Fit:

Designing a Professional Learning Community for Out-of-School Time

Femi Vance, Emily Salvaterra, Jocelyn Atkins Michelsen, and Corey Newhouse

A skilled workforce is critical in high-quality out-of-school time (OST) programs (Smith, Devaney, Akiva & Sugar, 2009). However, the workshops commonly used to train OST staff are not adequately preparing practitioners to deliver quality programs that can benefit youth (Durlak & Weissberg, 2007; Smith et al, 2009).

This issue is evident from ongoing discussions about how to train OST staff to respond to youths' developmental needs while creating a learning environment distinct from school (Bouffard & Little, 2004; Bowie & Bronte-Tinkew, 2006). Professional learning communities (PLCs) are a practice-focused alternative that has a track record of improving the way staff work with youth (Thompson, Gregg, & Niska, 2004; Vescio, Ross, & Adams, 2008).

PLCs, though relatively new in OST, are growing in popularity. For instance, the Weikart Center for Youth Program Quality encourages programs to create PLCs for continuous quality improvement (Smith et al.,

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Table 1. Professional Learning Community Sample Agenda

Learning Targets	
<ul style="list-style-type: none"> I will reflect on my program’s strengths and challenges and then develop at least one strategy to address a challenge. I will practice at least one new facilitation strategy that I can use in my program. 	
Activity	Description
Check in and debrief on progress since last session	Check-in questions: What’s one thing you’ve been thinking about since we last met? What’s one thing you’ve done to make progress on the goal you set last session?
Introduction of new content	Facilitator introduces and shows examples of new activity.
Time to practice new content	Working in small groups, participants taking turns role-playing different parts of activity. Facilitator circulates.
Debrief practice	Discussion or write-up in small groups and then in the large group: What felt easy? What didn’t feel so easy? What might feel different when you take this back to your program?
Homework, feedback, reflection, closing	Homework: schedule observation of another participant’s program Feedback: session evaluation form Reflection questions: I learned... I will... I would like to know more about....

2012). In California, district and state partners created several PLCs in an effort to improve OST staff knowledge and practice in specific content areas such as science and character education (Public Profit, 2015).

Typically, a PLC engages a cohort of 10 to 15 professionals in multiple workshops to address a shared goal (McLaughlin & Talbert, 2010), such as problem solving, improving practice, or learning new skills. The goal, along with the length and frequency of PLC workshops, depends on the group’s needs. For example, we evaluated a school district PLC for front-line staff aimed at improving math activities; this PLC opted for monthly three-hour workshops over a six-month period. McKenzie (2014) identifies six phases in the life cycle of a thriving PLC: building group understanding, acquiring expertise, practicing skills, solving problems, contributing new knowledge, and creating original products. At the end of this cycle, the PLC either renews itself or disbands. Table 1 is a sample PLC agenda from a session during the “practicing skills” phase.

To maximize a PLC’s benefits, facilitators must employ training techniques different from those used in tra-

ditional workshops. We interviewed experienced PLC facilitators to get guidance on how to structure PLCs to meet the needs of OST staff and programs. This article may be most beneficial for organizations that have some PLC experience. A set of practice guides on PLCs by Public Profit (see box on page 23) may be more informative for organizations just beginning to explore PLCs.

Methods

Interviews with six PLC facilitators revealed best practices for designing a PLC for OST staff. Interviewees work with OST providers, have many years of experience facilitating or coordinating PLCs, and have been recognized by OST leaders as prominent facilitators. We interviewed:

- A trainer and consultant with over 15 years of experience facilitating local, statewide, and national PLCs. Her expertise covers public-private partnerships, exemplary afterschool practices, and healthy behaviors.
- The founder of a research and training organization who facilitates PLCs with senior managers in the education sector, notably for summer and expanded

PUBLIC PROFIT PRACTICE GUIDES

Public Profit practice guides on PLCs are available at <http://www.publicprofit.net/Professional-Learning-Communities-In-The-Expanded-Learning-Field>.

learning. She has nearly five years of experience facilitating PLCs and nearly 15 years of experience working with youth-serving organizations.

- The founder of an organization development consulting firm who has over five years of experience partnering with foundations and school districts to organize PLCs on youth development, socio-emotional learning, math, and organizational capacity building.
- A district partner who, as part of the district OST team, supports roughly 75 OST programs. In the last five years, she has collaborated with an external facilitator to lead PLCs on science, math, healthy behaviors, socio-emotional learning, and support for English learners.
- A program manager at a youth-serving organization who facilitated PLCs for OST staff for three years. She worked closely with school districts and community programs to offer PLCs covering OST science, technology, engineering, and math (STEM) topics.
- A researcher and school district consultant who has been facilitating PLCs on such topics as STEM, program quality, and evaluation since 2008. Currently, she facilitates PLCs at the county, regional, and state levels.

In individual one-hour interviews, these facilitators responded to questions about PLC structures, PLCs’ benefits to participants and their organizations, and the valuable supports PLCs offer to OST staff. (See box Sample Interview Questions.) After we recorded and transcribed each interview, we developed descriptive codes related to the interview topics (Saldaña, 2009). For example, under “PLC benefits” we used the codes “learning results” to mark what participants learned and “organizational results” to capture benefits to organizations. In the next round of coding, we used focused codes to define the sub-categories in each topic area (Saldaña, 2009). Using this analytic method, we found key design features of PLCs and ways to modify these features for the OST field.

The interview evidence is drawn from the perspectives of facilitators who collectively possess over 50 years of PLC experience. However, the findings cannot represent the perspectives of all PLC facilitators; each facilitator’s experience—and each PLC—is unique. Our findings represent the best practices that emerged from interviewees’ responses to the specific questions we asked.

SAMPLE INTERVIEW QUESTIONS

PLC Structure

- What is the typical structure of the PLC that you facilitate?
- How do you see PLCs differing from other professional development models that you are familiar with?

Benefits of PLCs

- What components of a PLC do you find particularly successful?
- How have you seen programs benefit from having staff in PLCs?

Supports for Successful PLC Experience

- What organizational supports do you think staff need to implement what they learn in their programs?
- What recommendations would you offer to a program that is interested in leveraging its staff’s PLC participation to make program-wide changes?

Design Features of OST Professional Learning Communities

The experts we interviewed identified three essential PLC components and five additional features that can be modified according to participants' needs and the PLC's goals.

Essential Components of a PLC

The first step in designing an effective PLC is to understand the model. In interviews, expert PLC facilitators defined three essential elements of any PLC experience: practice, reflection, and collaboration (Figure 1). Prior research indicates that these three components are deeply connected to the iterative learning cycle of a PLC: critical interrogation of youth work practices, applying new lessons, and reflection on how practices are developing (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006).

Practice

McKenzie (2014) includes practice and risk-taking opportunities in a collegial climate as a defining feature of PLCs. One interviewee noted that practicing during PLC sessions helps participants "build their confidence and their knowledge." Because many adults learn by doing, practicing may help knowledge take hold. According to our experts, participants also learn from modeling that occurs during PLC sessions. For example, after watching the facilitator model an activity, participants may take turns facilitating the activity for their peers. They thus learn both content, such as science knowledge, and skills, such as facilitation techniques.

Reflection

Fusco (2012) asserts that reflection is one instructional strategy that is consistent among multiple education modes, such as on-the-job training and peer networks

for youth workers. PLC facilitators demonstrate new content with the expectation that participants will use it in their programs and reflect on their implementation during subsequent sessions. Interviewees said that this process helps participants assess their progress and increases accountability for using new content.

To lead reflection, facilitators may ask participants to share how the implementation of a previously practiced activity went, focusing on what went well, what didn't go well, and what to change next time. Said one interviewee, "Any time where we can build in time for people to reflect ... that builds the expectation that you are supposed to leave here with something, because we are going to come back and talk about it." Opportunities for reflection are often successfully built into on-site coaching, as discussed below.

Collaboration

When asked to evaluate the strengths of PLCs as compared to other professional development modes, interviewees stressed that sharing challenges and best practices is one of the biggest benefits. In well-facilitated PLCs, participants have the opportunity to "collaborate and network with others, build consensus, problem solve ... [and gain] access to resources broadly defined and vis-à-vis the relationships they have developed." Collaboration may take place in a structured conversation such as a "think, pair, share" activity, or it can be a more informal opportunity to connect with peers, such as sharing challenges and best practices during a PLC discussion. Interviewees said that PLCs can also build participants' confidence and self-efficacy. Through collaboration, participants can learn from their peers and build the collegial relationships required by a successful PLC (Lieberman & Miller, 2011).

Figure 1. Essential PLC Components



Figure 2. Modifiable PLC Components



Modifiable Components of a PLC

In addition to the three critical components, interviewees identified five PLC features that can be modified to match the needs of an organization: participant type, curriculum, co-leadership, coaching, and organizational support. Figure 2 outlines these five modifiable features. Table 2 is a PLC decision guide. Starting from the goals of the PLC, it outlines recommendations for incorporating the modifiable components. The discussion of each component below begins with the experts' broad observations and concludes with practical advice.

Participant Type

One consideration in planning a PLC is who will participate. Facilitators recommended choosing participants based on the PLC's desired goals. They noted that the organizational roles of PLC participants will affect how sessions are structured and what the group can accomplish, as shown in Table 2.

A recent white paper on OST PLCs indicates that, when PLCs are focused on improving access to and the quality of content-specific enrichment activities (such as STEM or gardening), participants are most likely to be OST staff with youth-facing roles (Public Profit, 2015). The goals are accomplished by having front-line staff learn to implement a curriculum, by providing training on facilitation methods, and by offering site-level sup-

ports such as coaching. Interviewees noted that, in this type of PLC, site supervisors may support participating front-line staff through, for example, activity observations and coaching, but that the PLC's focus on instruction does not generally make it a good fit for program leaders. One respondent observed that, even when program leaders don't participate in the PLC, "there's a need for someone at the leadership level to provide ongoing coaching ... that reinforces what's happening at the learning community." To provide this kind of support, site supervisors should be aware of the content covered in the PLC.

Interviewees noted that PLCs for higher-level staff have different goals and therefore different structures. PLCs for site supervisors and other administrators center on innovative approaches to organizational and systemic improvements. Typically, administrators from various organizations attend a series of discussion-based meetings and exchange ideas through resource sharing, newsletters, topic briefs, and similar means (Public Profit, 2015).

However, interviewees did describe benefits to blending participant types. As one seasoned facilitator put it, "In my view, in expanded learning, it's really important to have both program-level and site-level administrators or leaders in the room because they offer very different perspectives." Bringing together voices that represent different facets of the same goal can be a powerful

Table 2. Decision Guide for Modifiable PLC Features

GOAL	To improve access to and quality of content-specific activities for youth	To develop site-level support for knowledge transfer, coaching, and reinforcement with front-line staff	To build frameworks for advocacy, networking, or growing the legitimacy of the OST field	To build multi-level buy-in, collaborative problem solving, resource sharing, or leadership development pathways
PARTICIPANT TYPE	Front-line staff	Site supervisors	Program administrators or other managers or directors	A blend of all participant types
CURRICULUM	<ul style="list-style-type: none"> • If primarily less experienced front-line staff, yes • If primarily more experienced front-line staff, no 	No	No	No
CO - LEADERSHIP	With structured, scaffolded experience, could develop into co-leadership model	Yes	Yes	Yes
COACHING	Coached by facilitator and by site supervisor, including on-site opportunities	Could incorporate peer coaching, including on-site opportunities	No	Site supervisors coach front-line staff
ORGANIZATIONAL SUPPORTS	<p>Receive organizational supports:</p> <ul style="list-style-type: none"> • Paid time to plan and attend meetings • A list of approved content areas • Strong program structure • Vision for how new skills align with program goals • Elective participation • All needed materials 	<p>Receive organizational supports:</p> <ul style="list-style-type: none"> • Paid time to plan and attend meetings • Strong program structure • Vision for how new skills align with program goals • Elective participation • All needed materials 	<p>Receive organizational supports:</p> <ul style="list-style-type: none"> • Paid time to plan and attend meetings • Strong program structure development • Vision for how new skills align with program goals • Elective participation 	<p>Depending on role, participants receive and provide supports:</p> <ul style="list-style-type: none"> • Paid time to plan and attend meetings • A list of approved content areas • Strong program structure • Vision for how new skills align with goals • Elective participation • All needed materials

tool for collaboration on best practices, problem solving, and resource sharing (McLaughlin & Talbert, 2010). Interviewees also noted that participation by both groups can signal that an agency is deeply invested in staff development, perhaps spurring even greater change. Nonetheless, blending PLC participant types may make PLC logistics more challenging; for instance, it may complicate finding the right schedule, structure, or frequency of meetings.

The responses of our experts suggest that, to determine the appropriate participants, facilitators can plan backward from the PLC's goals: What is the ultimate purpose of the PLC? At what level—youth, staff, supervisors, or system—does the focal issue have the most immediate or greatest impact? The answers to these questions will help determine who should participate. For example, if the goal of a PLC is to improve science enrichment quality, then the level of impact is youth; consequently, the best group to tackle this goal is staff who work directly with young people. If the goal is to expand the reach of science enrichment activities in a youth-serving organization, then a PLC for site supervisors, or one that blends front-line staff with program managers, might best support that goal. When issues affect multiple levels, PLC facilitators can choose which level to address first and then organize a PLC to address the highest priority goal before bringing in other participants or organizing subsequent PLCs.

Because goals should drive decisions about participant types, there is no incorrect approach—only informed planning to support the goal. Ultimately, whatever the form the PLC takes, it needs, as one interviewee noted:

commitment on the part of the [organization's] leadership team, no matter what. Once you get their buy-in, and they're committed to being consistent, continually shifting the emphasis from them to the participants, pretty amazing things happen. To me that's what's driven the success. The participants really see the benefits.

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Curriculum

The choice of whether or not to use a curriculum is linked to the goals of the PLC and the participant group, as illustrated in Table 2.

Interviewees recommended using a curriculum in PLCs for front-line staff. In this model, the PLC facilitator leads participants in learning a specific student curriculum or a set of activities (Public Profit, 2015). The experts

said that use of a curriculum helps to build participants' content knowledge and facilitation skills.

As one respondent put it:

We concentrate the training of the PLC on the theory, framework, the facilitation practice, the process modeling, [and] maybe demonstrating one or two activities or bringing a video from the field.... People get tools that they get to go back and replicate on their own.

The experts said that a curriculum is rarely necessary when PLC goals emphasize knowledge sharing, collective problem solving, and exchanging best practices. These goals align well with PLCs for program administrators. In such PLC sessions, participants may reflect on challenges and successes and address common issues in planning,

implementation, or coordination, such as aligning content to socio-emotional learning activities or eliciting buy-in from school teachers. As one interviewee recounted, such PLCs focus on "coming together to dialogue and reflect on our practice as consultants and trainers and coaches. We're not necessarily really teaching content."

Finally, the capacity of potential participants, including their level of content expertise, prior youth development experience, and available time outside of PLC sessions to learn and practice, should be taken into account. For participants entering the PLC with little or no content expertise or with little youth development experience, using a curriculum can help to structure learning and practice. However, for more experienced front-line staff, strict adherence to a curriculum may not be as useful because they generally have greater capacity to explore content in a less structured way than do newer front-line staff. They may be ready for some level of co-leadership.

Co-Leadership

Traditionally, PLCs for school educators use a model in which participants co-lead or are actively involved in shaping the community, from goal setting to facilitating sessions (McLaughlin & Talbert, 2010). Research suggests that youth workers also benefit from non-hierarchical, flexible, participatory training methods such as co-leadership (Fusco, 2012). When asked about the importance of participant involvement in early decision making, some of the interviewees agreed that active participant involvement is critical to a PLC's success—but they said that time is needed to build participants' capacity to engage in a highly collaborative training environment. Said one facilitator, "The backbone of a PLC is ... creating comfort in that kind of environment, and then defining roles and responsibilities for the constituents of the collaborative learning space." After establishing a strong sense of collaboration, this facilitator went on, "for sustainability, a key part of PLCs is distributed local leadership."

Interviewees asserted that the extent to which participants are involved in shaping the PLC agenda depends on participants' experience in the field. A school district facilitator, for example, said that the district refers to its model simply as "learning communities" as a way to make clear that participants do not play a significant leadership role. This respondent said that this level of involvement is a good fit for inexperienced front-line staff:

It is important over the course of our sessions to build a community and a community of practice with the people in the room ... but, for the most part, we [the district office] are really driving the content ... because of the experience and the skill set that a lot of the afterschool workforce [in the district] are coming in with.

Even when the PLC model for front-line staff is more structured than other PLC types, it nonetheless offers a more interactive, iterative experience than does a one-time training.

One way to give front-line staff more leadership is to scaffold their learning to help them become facilitators. The OST field can benefit when practitioners act as leaders and experts (Hill, Matloff-Nieves, & Townsend, 2009). Adult learning theory (Knowles, 1988) also supports co-leadership models: As participants are more in-

involved in the PLC process, learning becomes more self-directed, relevant, and aligned to participants' own goals. Co-leadership is thus integral to PLC design. Interviews echoed this point: "PLCs ensure that learning is meaningful and relevant when people are constructing it based on their own needs," one expert noted.

Interviewees recommended shaping co-leadership opportunities to PLC participants' experience and capacity.

One said, "PLCs should look different depending on who the participants are ... but a big challenge is that people aren't used to [taking on] leadership roles." As shown in Table 2, a strong co-leadership structure may work successfully in a PLC for managers with experience in facilitating professional development. For front-line staff who are new to the field, who have not had leadership experience, or who are not given adequate planning time, a more structured PLC experience may be necessary. These participants may grow into leadership roles over time.

These participants may grow into leadership roles over time.

Coaching

Interviewees emphasized that coaching is a key support for PLC participants. Coaches and participants should both surface immediate solutions to implementation challenges and set long-term plans around participants' goals. These conversations may include questions such as, "What do you think could be the solution to the challenges we saw today? What is your goal, and what is your resistance? What will you do next to address these barriers? What will you do in the next six months?" For example, the facilitator of a gardening PLC may visit a participant's site to check on progress toward creating a youth garden, to understand what is hampering full implementation of a recommended garden design, or to co-create a plan for gardening for the remainder of the semester. In coaching conversations, interviewees stressed, the true work of problem solving and visioning should come from the participant. "It's our philosophy to draw out solutions from them," said one facilitator. "The coach comes in and gives their input, but it's really not meant to be a one-way process at all."

On-site coaching offers facilitators the opportunity to understand how participants take PLC content back to their sites. One interviewee said:

It's really helpful for us to see what people think they are supposed to do after a PLC [session]. The coach

"PLCs ensure that learning is meaningful and relevant when people are constructing it based on their own needs," one expert noted.

gets to be an extension of [the session] just to verify what is happening on the ground. It's another form of assessment.

On-site coaching is the primary means by which facilitators determine whether and how PLC participants are putting their learning into practice. The experts agreed that this knowledge has implications for how PLCs move forward.

Implicit in the idea of coaching as assessment is coaching as contextualization. Asked about elements critical to PLC participants' success, one interviewee stressed that understanding participants' context is key to helping them move their skills forward.

There is such a range in where staff are coming from in terms of their skills. Whether they're having big challenges or doing well ... I've seen so much improvement with just one coaching visit, [but] you can't really know what's going on in the classroom until you get there.

Though evidence from interviews suggests that incorporating coaching into a PLC for OST front-line staff can positively affect participants' learning, Kasad, Agrawal, and Kelekis (2014) find that creating a sustainable and scalable coaching model is a common challenge. Interviewees noted that funding constraints are often a barrier to providing coaching from experts such as the PLC facilitator. In that case, interviewees suggested, site supervisors could provide increased support. Site supervisors can support front-line staff in PLCs even if they are not deeply familiar with the PLC content. "At the site level, site supervisors can be sitting and observing classrooms and holding basic coaching conversations," said a PLC facilitator. This respondent noted that site coordinators must see coaching as part of their role for this strategy to be successful.

Organizational Supports

Talbert (2010) argues that a lack of system-level supports, such as time and materials, can keep an organization from creating the conditions necessary for a PLC to thrive. Our interviewees said that organizations looking for a return on their PLC investment in the form of stronger staff practices and higher-quality programs must

first create the conditions that front-line OST staff need to practice and share their new skills. Too often, they said, front-line staff return to organizations that are not

structured to provide the supports that will help them implement new practices or share insights with colleagues. One expert expressed the need for organizational support in this way: "All the changes that really occur in programs have to happen at the site level.... Ultimately, whether it works or doesn't work, the litmus test is what's changing at the site level."

The experts we interviewed suggested that organizations must offer participating OST staff—par-

ticularly those who work directly with youth—the following supports:

- **Paid time to plan and attend meetings.** Designated planning time allows staff to anticipate potential implementation challenges.
- **A list of approved content areas.** Staff can select the content that interests them, and the organization will benefit by choosing mission-aligned content.
- **A strong program structure with established routines.** Helpful structures include dedicated space for programming, ample staff, and a consistent program schedule.
- **A vision for how new skills align with program goals.** Staff are more likely to use new practices if they understand how these practices contribute to organizational goals.
- **A choice in the PLC process.** Staff are more likely to fully engage in a PLC if they can decide whether to participate and choose the content they will learn.
- **All needed materials.** Without sufficient materials, staff can't deliver new content or practice new skills.

Some of these supports may also be applicable to program administrators.

According to our experts, site supervisors are critical allies to help PLC participants share the expertise they have gained. Site supervisors can coordinate the recommended supports and arrange time for knowledge sharing by, for example, giving the PLC participant time on the monthly staff meeting agenda or rearranging schedules so that staff members can observe one another.

Interviewees urged site supervisors to stay abreast of the content covered in the PLC by checking in with staff

and staying in contact with the facilitator. Site supervisors who are aware of the concepts covered in the PLC are better equipped to support their implementation. One facilitator who suggested regular check-ins with staff said:

They need, at the site level, to have a site coordinator who is both invested and supportive and checking in with that staff member—checking in with them specifically on their [professional development]. "Oh, I know that you went to the science learning community—and I know that because I am cc'd on all the invitations. What did you do this week? Have you got any thoughts on how you want to implement this week?"

When planning a PLC, facilitators may want to consider how to advocate, on participants' behalf, for necessary organizational supports. A few interview respondents shared ways to use the PLC recruitment and application processes to signal to site supervisors the need for organizational supports. During recruitment, facilitators can ask site supervisors to describe the supports available to staff. Similarly, PLC applications can clearly define how much time supervisors must invest to stay familiar with PLC content.

The promise of PLC learning is more likely to be fulfilled with key organizational supports, a supportive site supervisor, and careful facilitator planning. The facilitator of a STEM-focused PLC described the changes she's seen accomplished through the PLC:

The quality just skyrockets, in my view. In the last year, I've seen real transformations in 25 to 30 programs, in terms of staff retention, program quality—any way you could measure it. The culture—that's a big part of it. The culture really changes in very positive ways, where people understand their roles and expectations ... and a commitment to the organization has increased. The outcomes for kids are way better, in terms of retention, even in the older grade levels. Everywhere I look, there are important changes, most being driven by the [PLC] process."

High-Impact PLCs for OST Providers

Prior research demonstrates that PLCs are practice-oriented, collaborative, content-rich, and iterative in that

they rely on a learning cycle of questioning, learning by doing, and reflection (DuFour, 2004; Stoll et al., 2006). PLCs for OST youth workers can offer a multi-faceted professional development experience to support the multi-faceted layers of their work.

Purposeful planning can contribute to the success of PLCs in the OST field. The expert PLC facilitators we interviewed noted three key elements of a PLC that should be structured in particular ways to reap the biggest benefits for OST staff: opportunities to apply new skills, collaborative work, and guided reflection. Other PLC elements can—and should, according to our experts—be adapted to participants' abilities and needs and to the goals of the PLC; these include the type of participants, curriculum, co-leadership, coaching, and organizational supports. The decisions made on these features may influence other elements. For example, coaching may contribute to participants' increased ability to co-lead a PLC, or the participant type may influence whether to use a curriculum.

This study surfaced best practices for designing a PLC suited to the OST profession:

- Let PLC goals determine who participates
- Base curriculum decisions on PLC goals
- Scaffold learning to help PLC participants to become facilitators
- Train site supervisors to be coaches
- Enlist site supervisors to provide organizational supports

When thoughtfully planned, these factors are a recipe for a high-impact PLC for OST providers.

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Creating Holistic Partnerships Between School and Afterschool

Kenneth Anthony and Joseph Morra

According to the Harvard Family Research Project (2010), schools need collaborative partners to help children and youth thrive. For over a decade, afterschool programs have been positioning themselves as viable partners. After all, afterschool programs challenge students' thinking, teach collaboration, and help children and youth find their passion.

Furthermore, in 2008, 56 percent of afterschool programs were located in school buildings (Parsad & Lewis, 2009). Intentionally designed school-afterschool partnerships can have positive academic results (Bennett, 2015), increase social skills (Durlak & Weissberg, 2007), and improve attendance (Chang & Jordon, 2013). Addressing these factors could help our educational system close the achievement gap between low-income students and their more affluent peers. The depth of partnerships between afterschool programs

and schools has been shown to improve student academic outcomes (Bennett, 2015).

However, school-afterschool partnerships are more often promoted (and included in grant proposals) than fully realized. Current partnerships are often limited to daily attendance and behavior reports. School leaders accept that afterschool programming is important, even

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as they discount its worth by treating it as entirely separate from the school. Meanwhile, afterschool program leaders may be pulled from full partnerships with schools because of the immediacy of program needs, among other reasons. Educators on both sides are missing opportunities to go deeper, to improve student achievement by connecting students to afterschool experiences that complement their learning during the school day.

To identify what stands between schools and afterschool programs and what can connect them, the lead author, Ken Anthony, conducted an exploratory study in three schools in a southern New England city. In all, 18 interviews were conducted with school and afterschool staff. Following a framework proposed by Bennett (2015), this exploratory study focused on three specific aspects of school-afterschool relationships: sharing of academic resources, sense of partnership, and communication structures. Together, Ken and co-author Joseph Morra developed recommendations for the field based on the findings of this limited, small-scale study. We aim not to provide definitive conclusions but to enter a conversation about how schools and afterschool programs relate to each other. Our status as afterschool practitioners, though it could be seen as a source of bias, gives us a realistic perspective on what happens “on the ground” in school-afterschool partnerships.

Perhaps our most salient finding was a disconnect between school and afterschool staff. However, school and afterschool staff described informal structures and opportunities that could contribute to more substantial connections. The findings reinforce what afterschool practitioners have often identified as avenues for improving school-afterschool partnerships.

The State of School-Afterschool Relationships

Substantial research has shown that, in order for communities to reap the academic and social benefits of afterschool education, schools and afterschool programs must collaborate (Bennett, 2013; Durlak, Weissberg, & Pachan, 2010; Pierce, Auger, & Vandell, 2013; Vandell, Reisner, & Pierce, 2007). The Harvard Family Research Project (2010) asserts that “in-school and non-school supports [should] collaborate as equal partners to work toward a shared vision for children’s learning” (p. 2).

School leaders would seem to agree. In a nationwide survey (Daniels, 2012), 82 percent of school superintendents said that afterschool programs are important, citing the social-emotional and academic benefits; 75 percent reported that they encouraged principals to work with community-based organizations to offer stronger afterschool programs.

However, developing partnerships between schools and community-based organizations takes time and effort (Wallace Foundation, 2010). The perceived difference between youth development and formal educational approaches can impede conversations. Romi and Schmida (2007) assert that the two philosophies are inextricably linked; with good communication, practitioners of both can share their craft and art. Both partners

need to be thoughtful about the process, designing and building the system together and adjusting the relationship to keep it sustainable (Yohalem, Devaney, Smith, & Wilson-Ahlstrom, 2012) in order to build trust and a common vision. This common vision begins with “identifying and recruiting stakeholders from multiple backgrounds” representing all aspects of a child’s life (Anderson-Butcher et al., 2008, p. 166).

Our work is based on a framework proposed by Tracy Bennett (2015), which in turn builds on two studies by Gil Noam and colleagues.

The first of these (Noam, Biancarosa, & Dechausey, 2003) defined a bridging continuum of school-community partnerships, from *self-contained* programs, which make little attempt to collaborate with schools, through *associated*, *coordinated*, *integrated*, and finally *unified* programs. The last represents a seamless learning day, with little differentiation between the school and afterschool environment (Noam et al., 2003). The second study (Noam et al., 2004) identified “four Cs” of successful afterschool programming: collaboration, communication, content, and coherence.

Bennett (2015) refined these structures into a framework measuring alignment between schools and afterschool partners. The framework has three key areas: sharing of academic resources, sense of partnership, and communication. Bennett surveyed school principals and afterschool staff in 78 schools in 11 southern California districts about the extent to which they perceived align-

ment between the school and afterschool program, defining *alignment* as “specific collaboration practices between afterschool programs and schools that attempt to coordinate student learning as they transition from the regular school day to the afterschool program” (p. 1). She defined sites in which both school and afterschool leaders had high levels of agreement on all three scales as “highly aligned,” and sites where school and afterschool leaders showed substantial disagreement as “misaligned.” Bennett then examined more than 8,000 student standardized test scores to find that students at highly aligned sites performed better than did students at misaligned sites.

Instructional misalignment can result from lack of meaningful communication between school and afterschool personnel. Harris (2011) calls on educational leaders in schools and community-based organizations to identify curriculum linkages in order to translate classroom rigor into real-world relevance.

Methods

Our research involved a limited study of three afterschool programs located in schools. They are typical cases of expanded learning opportunities in out-of-school time, representing varying degrees of school partnership. Such cases can be useful for research purposes (Lichtman, 2013) because they may be representative of common practices and experiences among school and afterschool personnel and can help researchers identify practices that warrant further study.

Three K–6 school-afterschool sites in one urban school district in southern New England were chosen at random for study. Site A was located in a lower-income neighborhood and served families with significant needs. Site B was located in a more affluent area of the city but drew students from a nearby housing complex. Site C was also in a low-income area, but the neighborhood had more single-family homes and less crime than did Site A’s neighborhood. The afterschool programs studied at Sites A and B offered such typical programming as homework

help, physical activity, and academic enrichment. Site C hosted a theater program that had a long relationship with the schools it served. All three programs were just one of many in their sites, sharing the school with as many as five additional program providers.

All three programs received a mix of funding, including state grants, 21st Century Community Learning Center grants, and local philanthropies. Typically these funders require school districts to partner with a community agency. The district and community supported the alignment of learning through initiatives funded by a community network of afterschool providers and the school district (Whipple, 2014).

A total of 18 individuals were interviewed, six from each site: the principal, the afterschool program director, the afterschool site supervisor, one afterschool front-line staff member, and two school teachers. School district staff helped to identify appropriate interviewees and provided contact information.

The primary data collection tool was an 11-question interview guide based on Bennett’s (2015) framework. Every interview question addressed one of Bennett’s three areas: sharing of academic resources, sense of partnership, and communication. Questions asked respondents to describe the relationship between school and afterschool programs, the communication with the school or the afterschool staff, and any sharing of academic resources.

Other questions focused on the depth of the relationship, for example, the level of engagement of the principal and school leadership, afterschool staff training in curriculum delivery, and afterschool alignment with the school day.

One-on-one interviews were conducted in private offices at either the school or the community-based organization. After all 18 interviews had been conducted, the data were analyzed through an open-coding method that allowed for codes to be refined and themes to be developed.

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Staff Perceptions of the Relationship Between School and Afterschool

The first finding emerged during data collection: The length of the interviews was linked to the respondent's relationship to the afterschool program. Afterschool program directors gave the longest interviews. They expanded on basic responses to discuss, for example, the academic and social goals of their programming. School staff generally and principals specifically gave shorter interviews. Many reported little or no knowledge of the programming occurring after school. However, staff members and principals who had been involved in an afterschool program, either in the past or currently, gave longer interviews than those who had not. Though initially troubling, the brevity of responses emerged as a finding that reinforced all interviewees' perception of a disconnection between school and afterschool.

The iterative coding process revealed 25 codes in the data, 22 of which appeared in responses from all three sites. These 25 codes fell into five major themes:

- Misalignment
- School administrative support for the afterschool program
- Informal structures and opportunities
- Program elements
- Barriers

Misalignment

Interview responses that were coded *disconnection*, *collaboration and coordination*, *need for meetings*, and *need for communication* fell into the category of misalignment.

The code *disconnection* was particularly salient; it appeared in all 18 interviews. All three afterschool directors emphasized this disconnection. The Site B director said, for example, "I think half of the time, some principals don't even know what some afterschool programs ... provide." Similarly, the director at Site C stated, "No one from the school staff would check back in on what we were doing, sometimes not even responding to invitations ... to come see what the kids are doing." The Site A director described a lack of involvement with the school and its teachers, saying that she had no idea what

went on in classrooms or staff meetings. School teachers also described a lack of connection. A teacher from Site B summed it up: "There is no partnership at all.... We don't have any interaction with [the afterschool program]." A Site A teacher said that student performance might trigger communication, "but beyond that, it's really separate."

Lack of collaboration and coordination was evident, for example, when the Site C principal insisted that "anything that happens within the building afterschool needs to go through me." This assertion sounds more autocratic than collaborative. This same principal was open to increasing collaboration between school teachers and afterschool staff if "their educational piece in the afterschool" were "linked to what we do here."

School and afterschool staff talked about the need for meetings and better communication. Afterschool staff wanted ongoing dialogues to help school staff better understand the afterschool program. The principal at Site C seemed to agree that regular meetings could improve communication, seeing such meetings as a way to bring grade-level teams together to create targeted interventions that could bridge the school and afterschool environments. In terms of communication systems, the Site B principal suggested a streamlined system that would target student needs, such as a check sheet or other method of informal communication, suggesting that otherwise afterschool staff might inundate teachers. The afterschool director at this site suggested that email would be an efficient method of communication "if we had even just the email list provided by the school for the children in our class, who their teachers are." No consensus emerged about modes of communication, nor was there evidence that any of these suggestions would be followed through.

School Administrative Support for the Afterschool Program

The theme of school support for the afterschool program includes such codes as *administrative-level communication* and *depth of principal involvement*. The relatively large number of responses related to administrative communi-

cation and follow-up suggest that communication about such day-to-day concerns as homework assignments did take place at the study sites. The afterschool director at Site B reported, "Our staff gets the attendance from the day to ensure that we get the proper kids for the afternoon that were in school."

Evidence of deeper communication beyond purely administrative tasks was rarer. Four afterschool and one school respondent talked about the importance of shared academic goal setting. However, they did not indicate that such sharing actually took place at their sites. The afterschool directors at all three sites said that they had initial meetings with their school principals at the beginning of the year. The principal at Site B noted that she had little communication with the afterschool program, "other than behavior concerns or that type of thing." However, she reported that she had regular contact with a school-afterschool liaison whose position was funded by the state. The afterschool director at this site, by contrast, did not mention the liaison. She indicated that she met with the principal as needed but described a substantial connection with the school secretary on logistical issues.

The afterschool front-line staff seemed to perceive an informal and generally supportive relationship between the program and school administration. The Site B staff member said:

They always tell us that if there's any issues—anything we need whatsoever—don't hesitate to contact them. If I'm at the school and I run into the vice principal and whoever, they're always asking how things are going. They're very concerned.

The afterschool staff member at Site A had a similar assessment: "The assistant principal pops in once in a while. She'll ... say 'Hi' to the kids and see how everything is going."

The principal at Site B described how the school helped to recruit children into afterschool programs by asking teachers to identify students who could benefit. She also described her lack of involvement in the community-based program, saying that she got involved only in "logistic things" such as busing and parent pickups. The principal at Site C was disappointed in a lack of

communication about student recruitment: "I didn't have a whole lot of say on how they were inviting kids to participate, and that was a problem." This principal said that the letter sent by the afterschool program to parents about the child's status in the program was misleading. She concluded, "I think that next year I would like to look over what they write." She wanted to work with teachers to recruit children who could benefit most into the afterschool program.

According to Newmann, King, and Youngs (2000), the creation of partnerships outside of the school is the responsibility of the school principal. A hands-off approach on the part of school principals does not set a tone of collaboration between school and afterschool staff.

Informal Structures and Opportunities

The theme of informal structures and opportunities included interview responses that were coded into such categories as *homework* and *informal relationships*, among others. Nearly all afterschool staff members described having informal connections with the school teachers. The afterschool director at Site B described a typical situation:

If there is something that's going on with the child, and he doesn't understand homework or forgot their homework in the classroom, our staff takes the kids to the teacher. They go and ask for help, ask for clarification, or go get the homework ... so they're always visiting with the school-day teacher.

Some afterschool staff said that they ascertained what academic content children were studying by looking at their homework. School teachers did not discuss homework-based links with afterschool staff.

However, the principal at Site B said that afterschool staff might "ask questions on how to assist the kids with their homework" or check on children who say they don't have any homework.

Three afterschool staff members described using informal connections to work around lack of information shared about students due to confidentiality rules. The front-line afterschool staff member at Site C said, "If the student comes from a home of abuse or neglect, or ... is

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an easy on-off switch for having a crisis, we're not given that information. We're only given medical info." She then spoke about "having ... school staff on site" and knowing school personnel from previous experience, saying, "I can talk to them."

The idea that these informal connections were working is reinforced by the finding that afterschool and school staff who worked directly with children were more likely to agree with one another than were the afterschool and school administrators—particularly in this area of informal structures but also in responses to other questions. The reason may be that these front-line staff enjoyed more informal connections than the administrators did. More intentional connections could facilitate deeper communication about student needs.

Program Elements

The theme of program elements includes interview responses coded as *curricular components*, among others. One of teachers at Site B exemplified teachers' typical view of afterschool programming as "a good extracurricular activity for the students. It's more of a relaxed atmosphere.... It's something that [students are] interested in." The principal at Site B said that the afterschool programs were "not specifically teaching academic content.... Like the martial arts [program], they're not teaching academic content, they're teaching the self-discipline piece." This principal revealed a bias toward academic programming as she contrasted the martial arts program with the literacy program, noting that the staff were "automatically ... more academically aligned."

By contrast, the afterschool director at Site A talked about the academic content in her program: "[Participants] have spelling quizzes and spelling tests.... They... identify what the words are, define them, do riddles, things like that." The afterschool front-line staff member at Site B spoke of alternating social-emotional supports with academic instruction:

In planning with my colleague, we know that our students need help with blended words, they need help with fluency, they need help with sight words—and then they also need social and emotional awareness. So one day, we teach an intervention; the next day we teach a social-emotional skill.

School staff addressed training as an indicator of afterschool program quality. One teacher cited the importance of "how well the personnel is trained and how well they can work with kids."

These afterschool respondents believed that their programs were facilitating important learning, whether the content was strictly academic or also social-emotional.

Along those lines, the afterschool director at Site C outlined the substantial credentials of program staff:

All of the lead teaching artists have either degrees—in some cases a couple of advanced degrees in theater or in education—or extensive, 10 or 20-plus years of experience working in theater, especially working with children in theater, writing, directing, performing. So I'm working with theater professionals.

The afterschool director's perception of staff qualifications encompasses the diverse experience afterschool practitioners bring to their work.

Barriers

The theme of barriers included codes for *professional development*, *expectations and qualifications for afterschool staff*, and *territorialism*.

School staff addressed training as an indicator of afterschool program quality. One teacher cited the importance of "how well the personnel is trained and how well they can work with kids." The principal at Site C and the teacher at Site B both raised issues about how the afterschool staff managed student behavior. The teacher said that "one of the afterschool programs had a lot of difficulty with handling some of the kids, and so they had to bring in ... more structured staff." The principal at Site C seemed to have some respect for the training of the afterschool staff: "The onsite coordinators go through quite a bit of training on how to manage peers of their own age, because, I mean, they are young.... But they all go through quite a bit of training."

Some responses, particularly from afterschool staff, indicated openness to joint professional development; one said, "I think if they maybe had a professional development with us at their school, it would be helpful." A teacher from Site C said that the "young kids" working in the afterschool programs might want to "look for help" from the school staff. "If they put that out there, I'm sure the people in the building would be more than willing to give them a hand." A teacher at Site B, by contrast, said, "Even if [afterschool program staff are] trying to commu-

nicate with us about what they're working on or things that they have coming up, I don't necessarily know if all the teachers would be accepting of it." The teachers seemed to feel that they had something to offer the afterschool staff but that some teachers might not be willing to accept initiative coming from the afterschool side.

Both school and afterschool staff described issues with sharing space. Territorialism on the part of teachers was cited, for example, by the afterschool staffer at Site C, who ran an activity out of the teachers' lunch room. "Something that was said that maybe we shouldn't be in there because, if a teacher has to come in and use the telephone, they don't have the privacy that they wanted." The afterschool director at Site A spoke of how the principal needed to know exactly where in the school each afterschool activity was taking place at what time. Even the principal at Site C perceived territorialism on the part of her staff: "The sharing of space, classrooms—teachers can be very, very possessive of their materials and ... the cleanliness of their room, or the organization of their room." Lack of trust about something as basic as space use does not help to build the relationships needed to align goals and work together to serve children.

Conclusions and Recommendations

Review of the interview responses led to five conclusions related to the five themes into which the interview data fell: misalignment, school administrative support for the afterschool program, informal structures and opportunities, program elements, and barriers. For each of these conclusions, we offer recommendations based on our experience in the field.

Recommendations on Misalignment

The first conclusion is that school and afterschool leaders and staff experience substantial misalignment that impedes collaboration. One way to foster coordination is shared planning, starting with shared meetings. Afterschool directors could ask to report at school staff meetings and request that their staff be invited to teacher planning meetings. They could pay staff members who

are able to attend out of professional development funds. In turn, teachers—especially those whose classrooms are used by the afterschool program—may find it beneficial to attend planning sessions at the afterschool program. Even with differing missions, school and afterschool staff can complement and build on each other's work and share their expertise.

A hands-on approach by the school principal may facilitate collaboration (Newmann et al., 2000). For example, the principal can arrange for the schedules of some staff, including teachers and counselors, to be staggered slightly so they can welcome the afterschool staff and discuss the major events of the day. Samuelson (2007) describes the roles principals can take in creating school-afterschool connections: facilitating regular communication, serving as liaison between school and afterschool staff, and supporting the afterschool program as an integral part of the school.

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Recommendations on School Support

Our second conclusion is that the degree to which school and afterschool personnel perceive that the school supports the afterschool program is affected by the relationships between members of each group and by individuals' personal experiences.

Being aware of the social fabric of the school can help afterschool programs build more school support. For instance, if the school places a premium on particular values, such as citizenship, spirit, or compassion, afterschool staff can create programming that supports these values.

Another possibility is to request that the principal schedule visits at key points during the afterschool program to take a "learning walk" (Russo, 2006). Such observations can be an opportunity to show the principal how the afterschool program contributes to the academic, social, emotional, and physical growth of students.

Recommendations on Informal Structures and Opportunities

Our findings suggest that, even without formal administrative support, school and afterschool staff develop ad-

hoc connections related to homework and attendance. With more intention, these connections could be the basis for expanding collaboration. Sharing space can be a challenge, especially when the individuals using the same space have never met or can connect only in passing. Informal relationships can help to ease the tensions. Formalized agreements, such as memoranda of understanding, are no substitute. When school and afterschool staff develop informal relationships, trust may naturally follow. School staff may learn to see afterschool staff not as infiltrators but as collaborators.

Recommendations on Program Elements

Another source of tension between school and afterschool personnel is differing goals: Schools tend to focus on educational attainment while afterschool programs often emphasize personal development. Looking at youth holistically may help to bridge this difference. The skills youth need form a triangle: academic, social-emotional, and essential (21st century) skills. Take away one side, and the triangle is no more.

Admittedly, getting all of the adults who work with a group of children to foster growth in all three areas is easier said than done. One potential strategy is joint professional development. Social-emotional learning may be a key entry point (Moroney & Devaney, 2015). The facilitators of joint professional development should have a foot in each realm; they should be translators who can build community and trust by keeping the idea of youth success at the forefront. Professional learning communities comprising mixed cohorts of school and afterschool staff can provide both formal and informal support that leads to positive change in practice (Public Profit, 2015). The Connecticut After School Network (2016), for example, has created multi-year learning communities that include both school and afterschool professionals.

Recommendations on Barriers

The chief barrier to school-afterschool cooperation that emerged in interviews was school personnel's perceptions of the qualifications of the afterschool staff and their difficulty in sharing space with the afterschool program.

School educators must hold a degree in their field; most are also certified. They may look down on afterschool staff, some of whom do not have degrees and many of whom hold degrees in unrelated areas. However, an increasing percentage of afterschool workers are seasoned professionals. A workforce survey by the National Afterschool Association (2015) found that 38 percent of the workforce had been with their current employer for 10 or more years.

Over time, the perceived professionalism of afterschool staff will improve with the increasing trend in higher education of offering credentials or degrees in afterschool and youth development in schools of education, as in, for example, the University of Illinois at Chicago (2016), Rhode Island College (2016), and University of Minnesota (2016). Formal and informal education degrees

can influence one another and even overlap—to the benefit of all educators-in-training, whether their careers take them to schools or to community-based organizations.

In our experience, afterschool and school educators have much to offer one another. Afterschool staff can ably teach how to respect youth voice and choice, foster social-emotional development, and build community connections. School teachers can ably share learning on such concepts as Common Core, Next Generation Science Standards, and curriculum development. As noted above, professional learning communities including both school and afterschool staff is one exciting strategy. Another is exemplified in

the Hasbro Summer Learning Initiative in Rhode Island, which requires planning and implementation teams to incorporate both school and community-based staff in the design of summer learning programs.

Such networks can help to break down barriers and decrease territorialism, if school and afterschool professionals will both reach out to one another. The only way to break down barriers is to intentionally embed collaboration into the way schools and afterschool programs conduct their business.

Limitations

This study had three major limitations. The first is sample size and selection. Findings from interviews with 18 edu-

cators from one school district can suggest avenues for action but cannot be generalized. A second limitation is that all information was self-reported and therefore subject to bias. The actual state of the relationship between the school and afterschool programs cannot be verified without observation. The third limitation is researcher bias. Ken Anthony, who conducted the interviews and did the analysis, has been in the afterschool field for 21 years and has shared the experiences of many of the afterschool respondents. The analysis may have amplified the perceptions of the afterschool providers, while discounting the perspectives of the school educators.

Given these limitations, this study must be considered as exploratory and suggestive only. The findings cannot be generalized but do suggest conclusions and recommendations that are consistent with previous research. Larger studies could explore differences in pedagogy and practice while highlighting communication structures that work to bridge the gaps between school and afterschool personnel.

The Need for Communication

Coordinated systems that bridge in-school and out-of-school learning can support the holistic development of students. This study highlights the opportunities and barriers faced by afterschool programs housed in schools in one community. It highlights steps toward dialogue that can create a shared vision of student learning, particularly around informal relationships, principal leadership, fuller dialogue, and shared professional development. Both school districts and citywide coalitions need to provide the infrastructure that would support ongoing communication and encourage sharing. Conversations between school and afterschool partners need to be founded on trust, not speculation or notions of inability. We owe our students innovative learning experiences that are not limited by the school walls or by lack of coordination among the institutions that seek to educate them.

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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 Fall 2017. 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:

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- 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 Fall 2017 issue, submit your article no later than January 10, 2017, to 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:

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