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Towards a collaborative approach to measuring social-emotional learning in the arts

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ABSTRACT

This article reviews the field of research and practice for arts social-emotional learning (SEL) assessment. We propose areas and types of research that are needed and share the University of Wisconsin–Madison Community Arts Collaboratory as a model of mixed methodological approaches and results for developing and implementing assessments of arts SEL outcomes. The Collaboratory includes four different programs and curricula in creative writing/drama, dance, drumming, and visual arts. In light of the recent growth in SEL as valued school-based instructional goals, this article has implications for school administrators and educators as they seek to identify and analyze student-derived arts SEL data, and for policy makers who need researched-based support for allocating more resources to the arts as powerful sources of SEL data about teaching and learning.

KEYWORDS

Arts assessment; arts education; arts integration; social-emotional learning

Introduction

The research foundations for arts assessment and data analysis are influenced by the reality that there have always been questions and debate over whether the arts belong in U.S. formal education systems. This debate happens among policy makers and across the broader culture: Is making and experiencing art essential to a productive and fulfilling life? The most recent incarnations of this debate, in the late 1990s and recently over the past 5 years, set the stage for reframing participation in arts practices as powerful social-emotional learning (SEL). In 2002, when No Child Left Behind became law, test score data in non-arts academic subjects became the primary mechanism by which we judged the goodness of a child's education. Since policy makers detached funding from arts learning achievement, arts were seen as non-essential and less measurable (Sabol, 2010). As a result, arts researchers worked to establish the instrumental value of the arts for the core subject areas that became the focus of attention in formal education, reading and math. Arts advocates conducted numerous studies to try to establish this instrumental relationship, including some limited evidence that learning to make music makes one better at math, and learning to do drama makes one a better reader of print texts (e.g., Deasy, 2002).

More recently, in the “science, technology, engineering, and math (STEM) era,” there has been a rhetorical shift to valuing students' STEM skills as what students need for the jobs of the 21st century. In 2014, President Barack Obama hosted the first-ever White House Maker Faire, declaring, “I am calling on people across the country to join us in sparking creativity and encouraging invention in their communities” (White House Proclamation, 2014, p. 1). While STEAM (STEM + Arts) appears to value arts practices, in reality the arts component of STEAM often appears as a curricular afterthought, a decorative or presentational component of the “real work” of STEM. Programs that implement STEAM often offer additive artistic activities rather than build integral artmaking practices, routines, and arts-derived epistemological structure relying on STEM epistemic frames as central (Litts & Halverson, under revision). If the goal of education is for young people to be job-ready and the mechanism for evaluating readiness is a series of standardized measures (whether they be based on reading and math or on STEM outcomes), the arts are not considered a part of this ecology. For example, despite evidence that participation in performing arts field trips improves outcomes for students who are struggling (Bowen & Kisida, 2019), access to performing arts programs has steadily

decreased for minority students (Bowen & Kisida, 2017).

In combating the instrumentalization of the arts, arts educators have turned to what Sefton-Green and Sinker (2000, p. 3) called “romanticizing” children’s creative production. The argument suggested that children were inherently creative and the role of educators was to encourage young people to express themselves through art. To criticize or evaluate this art was to criticize the children themselves. Thus, the arts as a set of disciplines seems to teeter between instrumentalization and romanticization, leaving little room to consider what students actually get from their participation in arts-based learning experiences.

What can we know about the outcomes of students’ participation in the arts as learning experiences? Fundamentally, participating in the arts is an opportunity to engage in a universal learning process across domains: *the creation and use of representations to communicate ideas* (Halverson, 2013). The “representational trajectory” that student-artists learn when they create and share something they make mirrors the progressive formalization of representations valued in math and science education (Azevedo, 2000), which results in deep engagement with complex content (DiSessa, 2004). Similarly, setting and achieving personal learning goals, practicing new skills, and then applying them is mastery learning, a well-researched aspect of social-emotional health (Dweck & Elliot, 1983) present in arts programs that center them (Lashley, 2018). The arts also provide opportunities to *practice creativity* (Phonethibsavads et al., 2019); and despite the current assessment climate in schools, there is general agreement that creativity is an important academic outcome that describes successful students in the 21st century (Sawyer, 2019).

Researchers in the arts have advocated for a balance that embraces self-expression but maintains some elements of formalism that allow assessment and evaluation of student artistic work in learning settings (Fleming, 2010). Assessment practices can allow teachers and students to build and shape a body of data to assess growth outcomes in arts and social-emotional skills, extending research contexts for studying teaching and learning (Edgar, 2017). We also know that artistic disciplines, including dance, theater, visual art, the media arts, and instrumental music, lead students to develop and practice systems and routines of artistic behavior that become neurological, cognitive muscle memory, or what we call embodied arts (Barbour, 2006). Thus, our research questions, assumptions, assessment tools, and analyses should

reflect and investigate this complex source of research data.

In this article, we argue for the development of assessment tools to measure SEL as an outcome of participation in arts-based learning experiences, and share two relevant examples from the UW [University of Wisconsin]–Madison Community Arts Collaboratory’s community arts programing. This article lays groundwork for using assessment, measurement tools, and methods of analysis to inform teaching strategies and their future development. We propose that arts education is a uniquely valuable source of data, the complexity of which needs to be investigated and unpacked. Finally, we reflect on how our insights about the use of assessment to bridge arts education and SEL can be used to help build an emerging infrastructure for research in the arts and education.

The current SEL and arts assessment landscape

SEL “involves the processes through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions” (Collaborative for Academic, Social Emotional Learning, 2013, p. 4). Effective classroom-based programs systematically promote students’ social and emotional competence, provide opportunities for practice, and offer multiyear programing; deliver high-quality training and implementation supports, including initial training and ongoing support to ensure sound implementation; and are evidence-based, with carefully conducted evaluation that documents positive impact. However, there are few studies that document impact and few assessment tools specifically designed for arts SEL contexts.

SEL measures and assessment landscape

As scholars and researchers build a foundational landscape, it is important to note that SEL is still a very new area for innovation, assessment, outcome measurement, and research. The majority of research studies on SEL outcomes have been conducted for three main program focuses: (a) universal interventions across a school’s entire student body, (b) interventions to identify or support students who indicate early signs of emotional or behavioral difficulties, and (c) programs conducted in afterschool programs (Child Trends, 2014). Payton et al.’s (2008) study, which reviewed the impact of 317 different programs on SEL

for 324,303 K–8 students, found significant positive effects across the programs in a range of social emotional skills, attitudes about self and others, social behavior, conduct problems, emotional distress, and academic performance. Some limitations of the study were: (a) the inability to match skills taught with specific resultant outcomes; (b) outcomes only measured at two time points (pre and post) providing little information on growth; (c) the likely transferability of skills was not assessed nor measured; and (d) minimal data was collected on whether SEL gains persisted over time. The strengths and limitations of this study are representative of the needs and current limitations of the broader field. Thus, art educators' and researchers' work is twofold; to fortify SEL research practices and to create them for arts contexts.

The following SEL assessment, measurement practices, and themes have been prevalent in extant arts research thus far:

1. research has focused on evaluating measurement tools (primarily quantitative surveys) rather than evaluating curricula/program outcomes (Haggerty et al., 2011);
2. educators have sought to measure across entire school communities (institutional assessments) rather than within the classroom contexts where those skills are taught, practiced, and lived (Haggerty et al., 2011);
3. assessments have often focused on identifying risk factors and monitoring student health rather than measuring growth (Arthur et al., 2002);
4. some research has relied on teacher and parent data without student-derived data (Child Trends, 2014);
5. methods and procedures for the timing of data collection have not been established (Haggerty et al., 2011); and
6. qualitative data have not often been used to evaluate the validity of quantitative data (Farrington et al., 2019).

While there is hope that SEL education will lead to both the application and transfer of skills into behavioral choices, the alchemy has seldom been measured (Farrington et al., 2019), and causal effects of arts exposure have not been substantiated (Bowen et al., 2014).

Moving beyond these measurement practices may require reconsidering the “goodness of fit” through the following questions. Is indicator of interest a good match for the mechanism(s) that support SEL development? Are those mechanisms well represented by

the type of data used as evidence? And is the type of data well measured by the tools used to measure it?

Indicator of interest match

Scholars have chosen a range of indicators, outcomes, and contexts for general SEL and arts-specific SEL research: school climate, at-risk behavior, referrals/discipline infractions, behavioral “problems,” academic performance (via tests and/or grades), school attendance, arts skills, arts appreciation/awareness, and social-emotional skills (Farrington et al., 2019). While schools need to assess the degree to which students feel emotionally healthy and safe, school climate and referrals (and other general behavioral metrics) do not provide the level of context specificity to provide useful data for educators on the outcomes of the SEL lessons, conversations, or practices in their individual classrooms (Lashley, 2018).

Some researchers have also approached creating measures and assessment with the primary goal of finding a one-size-fits-all means of assessing SEL (Haggerty et al., 2011), although we know that each school is a collection of environments where students behave and connect differently (Bandura, 1997). Generalized approaches do not utilize data that might reveal the unique ways different contexts can provide new insight into ways to teach and integrate SEL that may be unique to some subjects and environments before focusing more broadly (Farrington et al., 2019). Grades and standardized test scores have often not predicted life outcomes as strongly as student self-efficacy (Usher & Pajares, 2008). Finally, if students' growth in life skills is the variable of interest, one key end-goal must be to form data-driven predictions of how those gains will likely be transferred into positive choices and actions in the future. This requires assessing the outcomes and practices of the interventions and SEL curricula in context-specific ways (Bowen et al., 2014).

Data type match

The infrequent use of qualitative data as a means of corroborating quantitative gains represents an opportunity for future research. First, analyzing student interviews along with student self-report surveys provides a more complete understanding of students' social-emotional outcomes. Individual interviews, for example, can reveal behavioral choices and thought processes that support making a stronger case for cognitive transfer and causal claims regarding arts/SEL impact (Lashley, 2018). Surveys only allow a view of the constructs each item represents. Second, if our

goal is to know if what and how we teach manifests student knowledge, understanding, and the willful application of those skills (metacognition), we need experience-based evidence of those processes (Bowen & Kisida, 2019). The goal of SEL is to support development that leads to conceptual social understandings and then skills that result in prosocial behavior. Metacognitive development and thoughts about how understandings in social-emotional areas contribute to young people's conceptions of their own lives are central (Lashley, 2018). Qualitative data can add evidence for determining what motivates these decisions and actions not possible through survey data alone. Similarly, employing different measures that provide multiple, complementary observational data sources/perspectives are also effective models to consider. Child Trends (2014) proposed, for example, using student efficacy surveys in SEL skills in conjunction with teacher surveys on the same constructs.

Measure match

Researchers have recognized the connection between SEL and self-efficacy (defined as personal beliefs in one's ability to accomplish specific tasks) and created quantitative measures to assess student levels in this area (Child Trends, 2014). However, scholars have often assessed efficacy in non-context-specific terms without fidelity to the self-efficacy construct (Bandura, 1997). The reality that SEL is connected to cognition and behavior at every moment of thinking, learning, and doing means that the muscles it builds are as broad and varied as its applications. Thus, it is no surprise that the ways of assessing it have drifted away from the maze of applied environments to what feels like more stable terrain, the measurement tools themselves (Haggerty et al., 2011).

Social-emotional learning arts assessment and measurement

Recent research by the Chicago Consortium for School Research (Farrington et al., 2019) documented the relationship between engagement in arts practices, students' cultural resources, and SEL outcomes, saying:

Perhaps the greatest need is for applied research that better articulates and explores the ways that specific arts practices and pedagogical strategies in different contexts lead to different social emotional competencies. Rather than asking, "Does this arts program result in X outcomes?" researchers instead might ask "What are the mechanisms whereby particular arts activities support the development of specific social-emotional competencies?" (p. 39)

If we accept Farrington et al.'s (2019) proposed starting point of focusing on the mechanisms through which SEL arts learning are operationalized, new questions emerge. What are the contexts where the mechanisms are effective? How and why do the mechanisms function in some arts and educational contexts differently than in others? And finally, how should all of these considerations impact the development of arts SEL assessment?

UW–Madison Community Arts Collaboratory's approach

School districts have established that learning environments for SEL are badly needed (National Commission on Social, Emotional, and Academic Development, 2019), and that effective measures of development in youth and children are in short supply (Haggerty et al., 2011). We also know that the arts are powerful ways to support SEL growth, and that arts practices flourish in school-wide cultures that encourage them (National Commission on Social, Emotional, and Academic Development, 2019). The UW–Madison Arts Collaboratory (Arts Collab) brings rich art opportunities to schools that reinforce the Payton et al. (2008) findings that evidence-based practices that are Sequenced or coordinated steps, Active learning methods, Focused on skill instruction, and Explicit teaching of specific skills (SAFE) produce positive outcomes. Further, Payton et al. (2008) also revealed a need for future research to, "determine the extent to which coordinated programming efforts produce more powerful effects than when programs are offered separately" (p. 17). While the Arts Collab was not designed using these principles, our programs all mirror the SAFE model.

The Arts Collab houses four community arts outreach programs that offer arts education residency programs to schools in the Madison Metropolitan School District (MMSD), alternative school programs, Madison area community centers, and rural communities in Wisconsin. Outcome disparities have made MMSD, a mid-sized urban school district serving just over 25,000 students, one of the most unequal districts in the country (Wisconsin Council on Children and Families, 2013). Although average test scores and graduation rates in the district place it near the middle of the distribution in Wisconsin, disparities in academic achievement are striking. In the 2017–2018 school year, 62% of White students scored at or above proficient on the state standards test in math compared to 10% of African American students and 19%

Table 1. CCSR and Arts Collab SEL competency comparison.

CCSR Competencies	Self-Management and Discipline	Interpersonal and Relationship Skills	Self-Expression and Identity
UW Arts Collab Constructs	Discipline Confidence Coping	Collaboration Community Connection	Resiliency Empowerment Leadership

of Latino students. One in five students eligible for free or reduced-price lunch reached proficiency in that year, compared to three quarters of ineligible students (Wisconsin Department of Public Instruction, 2018). The Arts Collab programs provide artmaking opportunities for youth to cultivate wellness (a sense of agency and responsibility to actively pursue personal health) and advocate for social change. Each program is staffed by a faculty director, experienced teaching artists, and one program manager for all programs.

The Arts Collab shares promising arts integration and SEL practices across the programs, which include:

- Whoopsocker, a creative writing and performance residency that supports emerging writers as they find agency through art;
- Performing Ourselves, which combines dance education, dance/movement therapy principles, and performance to empower youth in the areas of embodiment, self-concept, and resiliency;
- Drum Power, which uses learning traditional drum and dance from West Africa, Brazil, and Cuba to facilitate SEL around discipline, community and leadership; and
- FauHaus, a program for teens, which uses visual art to reposition Black cultural identity. The Arts Collab shares research and promising-practices through arts integration and SEL.

The Arts Collab, housed within the office of Professional Learning and Community Education within the School of Education, comprises faculty, students, and staff from the departments of Curriculum & Instruction, Dance, Art, and Educational Psychology. Combined expertise in art, dance, music, and theater alongside knowledge and skills in social science research methods are employed to: (a) develop partnerships with youth-serving community organizations; (b) design arts-integrated programs that focus on positive development of all youth, especially low-income and ethnically diverse communities; (c) research program effectiveness/outcomes and conduct exploratory research in learning and human development through the arts; and (d) provide professional development (PD) and training to impact young people, artists, and educators. While

each program offers independent arts learning experiences for students, the programs share a range of effective practices and collaborate to better serve young people and develop as a unit. The following examples show the key elements and priorities that the Arts Collab engages to implement SEL development and measurement work.

Arts Collab example 1: Four program SEL arts interprogram assessment alignment

In 2018, the School of Education at UW–Madison funded an initiative designed to bring together university and community partners to identify and address critical problems in education, health, and the arts. The Arts Collab received a grant through this initiative to develop shared definitions and measures for SEL to be tested and utilized across all four community arts outreach programs. This project was also an opportunity to launch a research lab attached to our Arts Collab programing to build a reciprocal relationship between research and practice in our community arts work.

Our research team engaged in an emic process of mapping constructs used across the four arts outreach programs. We began with 29 constructs, extracted from each program's assessment tools and we worked to: (a) define each with fidelity to its program-specific meaning/context; (b) reach consensus on SEL constructs shared by the four programs; and (c) consolidate the large number of components into the highest priority SEL competencies for interprogram assessment.

Our emergent constructs align with the Chicago Consortium for School Research (CCSR)'s theory of action to describe the relationship between arts education and SEL (Farrington et al., 2019). The consortium posits that every arts education process/program consists of small-scale arts practices that include social emotional components. Table 1 compares Arts Collab SEL components and those highlighted by Farrington et al. (2019). CCSR identified three core areas of SEL derived from a combination of literature review and fieldwork interviews: self-management and discipline, interpersonal and relationship skills, and self-expression and identity. The Arts Collab identified nine SEL components that parallel the CCSR competencies where

three map clearly onto each of CCSR's (Farrington et al., 2019) core competency areas.

Having defined all the program constructs (step "a" above), and pared down to nine constructs (steps "b" and "c" above), the Collab research team is currently working to: (a) further consolidate to three to four constructs, (b) develop measures based on those constructs, and (c) begin testing/implementing those measures in school- and community-based Arts Collab programs scheduled for 2019–2020. The assessment development process has not only focused on construct alignment, but also required deeper theoretical reflection on the benefits and methods of assessing students' internal growth (which includes evidence students are aware of it: metacognition), as well as external behaviors that show observable SEL skills acquisition and application. *Please see Appendix A for full definitions of the constructs: discipline, confidence, coping, collaboration, community, and connection.*

Discipline, confidence, and coping describe very similar skills that will be merged into one construct that still allows measurement of each through appropriate quantitative and qualitative student- and teacher-derived data. The same is true for collaboration, community, and connection, which also connote similar, parallel, and in some cases, identical sets of skills. The construct consolidation process has included comparing behavioral examples and exemplars of the skills that serve as evidence of each construct/competency from all of the programs. Thus, in our work we have aimed to both ask whether arts programs result in outcomes, and to explore the mechanisms by which arts practices engage students in social-emotional experiences.

Arts Collab example 2: Arts integration dual-program collaboration and assessment

Our work developing shared constructs to assess SEL resulted in the *Arts Integration for Social Emotional Learning (SEL)* project, funded by the School of Education's efforts to support interdisciplinary teams working on problems in education and the arts at the intersection of research and practice. Beginning in fall 2019, we delivered community arts programming synthesizing the arts of drum and dance through Drum Power and Performing Ourselves. We aimed to provide high-quality programming for SEL for student development, and to expand the field of SEL research in the areas of school staff PD, and SEL arts integration outcome assessment. This project has three key objectives: (a) provide SEL development and practice to students through drum and dance, (b) provide modeling and PD

to school staff on arts integration and SEL integration with academic skill teaching that includes coaching and observations, and (c) assess student growth in SEL and drum/dance skills self-efficacy, and assessing teacher growth in SEL and arts integration practices. The project uses quantitative surveys to measure student SEL self-efficacy growth (see Appendix B) and qualitative interviews (see Appendix C) to gain deeper understanding of outcomes for both teachers and students, and seeks to lay powerful foundations for SEL arts integration work in one school community and to establish a model for moving this field of research and practice forward.

Drum Power and Performing Ourselves use drum and dance, respectively, to practice and develop SEL skills and provide PD to instructors/teachers in arts integration techniques derived from those disciplines. Both programs aligned their SEL goals toward the development of shared assessment and evaluation described in the first example project. Drum Power's SEL goals for students are: (a) *Discipline*: practice building healthy ways of interacting and self-regulating and perseverance, (b) *Community*: finding a sense of belonging through supporting their own learning and the learning of fellow students, and (c) *Leadership*: experiencing personal power and meaningful opportunities for contribution and ownership. Performing Ourselves's main SEL goals for students are (a) *Coping*: body-based regulation, (b) *Connection*: with peers and teachers, and (c) *Confidence*: leadership and agency. Both programs have essentially parallel SEL outcomes and validated measures for assessing student growth in self-efficacy and SEL skill development using both qualitative (Charmaz, 2006) and quantitative data (Lashley, 2018). Self-efficacy is defined as beliefs about one's personal agency derived from life experience and observations (Bandura, 1986). Efficacy, which is more highly correlated with growth in ability than other constructs, is the methodological indicator of interest. Thus, we will measure drumming skill efficacy and dance community efficacy, for example.

Arts integration for Social Emotional Learning (SEL) asks the following research questions:

1. What do students learn and gain in SEL skills and self-efficacy from their participation in an arts-integrated school program over time?
2. How does participation in this arts-integrated program affect the positive development of drum/dance artistic skills, discipline/coping, community/connection, and leadership/confidence?
3. How do classroom teachers change as a result of their experiences with arts and SEL integration PD, coaching, mentorship, and support?

To address the first research goal, students filled out a five-point Likert scale survey in response to a total of 26 items in each of the four component categories at three time points (Day 1, 6–8 weeks, and 6 months) (see [Appendix B](#)). The survey, validated in Lashley (2018) through Principal Components Analysis (Cronbach's α . 897), was adapted with fidelity from two previously validated scales (Aldridge et al., 1999; Velayutham et al., 2011).

To address the second research goal, students participated in semi-structured interviews (see [Appendix C](#)) to reveal experience-derived themes that allow reasoned conclusions on shared and individual impact(s) on self-efficacy, drumming/dance skills and SEL skills, and present/reveal key common qualitative markers that are distinct and unique to the Drum Power and Performing Ourselves programs. The construct of self-efficacy is context-specific, so measures must be tailored to the students' tasks, contexts, and specific content areas. For this reason, we did not utilize a control group; however, we plan to analyze participant attendance and behavioral referrals as additional evidence of program impact.

To address the third research question, teachers were given an inventory questionnaire to determine how SEL and arts integration skills, tools, and concepts currently live in their teaching practices, and then later participated in semi-structured interviews after 6 months to share their experiences, reflections on the most impactful elements that they observed and implemented in their teaching, as well as what the process involved for them. We will compare their interviews with the baseline inventories for evidence of growth as well as assess the qualitative nature of it. Participating teachers are engaging in the following:

1. Observe the first four integrated-arts classes taught by Arts Collab teaching artists in order to see how the systems, routines, and foundations are initially laid with students in "real-time."
2. Participate in 6 hours of PD training with Arts Collab leaders, planning and building their own integrated-arts curricula, lesson plans, and classroom routines for SEL and academic content.
3. Receive two observations with feedback from Arts Collab leaders as they implement integrated-arts curricula in year 1, and two observations in year 2.

Although this is a pilot initiative, the constructs were codeveloped in the prior project and most of the assessment elements and measures were used in an earlier

Drum Power study (Lashley, 2018) allowing us to expect this iteration to build on the previous findings by adding breadth and rigor by applying them across two programs. For example, The Drum Power quantitative and qualitative data provided different viewpoints that, when taken collectively, allowed a more complete view of students' experiences in drumming. The *Drumming Skills Efficacy* subscale performed very well, providing a solid model for translating actual academic skills into self-efficacy items showing significant student growth over time, a promising result toward quantitatively assessing context-specific academic skill efficacy and growth. The qualitative interviews showed student-perceived growth in social-emotional skills (discipline, community, and leadership) more reliably and revealed additional conceptions and experiential outcomes: *Feeling Personally Connected*, *My Teacher as Trusted Guide & Caregiver*, *Practicing the Pillars (Social Emotional Skills)*, and *Finding my Power*. More importantly, the qualitative data provided a view of the processes leading to efficacy growth, confirming where growth took place, how it was felt and understood by students, and how and why they saw it as having occurred. There was student-derived evidence of transferring SEL skills gained in drumming to other contexts and metacognition. The qualitative data also tied the quantitative drumming skill results to specific classroom pedagogical strategies and elements, including teacher behaviors and routines. It confirmed that the drumming class provided: a safe and respectful environment, caring and trusting relationships, high and clear expectations, opportunities for meaningful contribution and ownership, as well as consistency and continuity.

UW Arts Collab contributions toward evolving arts SEL assessment models

In addition to providing a model for interdisciplinary interdepartmental collaboration, the UW Community Arts Collaboratory has allowed programs designed to maximize student growth, empowerment, and engagement through the arts to become contributors to this field of research, keeping students and teachers at the center. The *Arts Integration for Social Emotional Learning (SEL)* project pairing Drum Power (drumming) and Performing Ourselves (dance) to enrich students, professionally develop and support teachers, and utilize a dual-discipline assessment of project outcomes will likely add rich data given the range of metrics of analysis. Similarly, the Arts Collab research lab is designed to generate innovative research on the role(s) of the arts in improving children's learning and development, and we plan to apply that research:

1. focusing on arts program SEL curricula/program outcomes;
2. measuring SEL within the arts classroom contexts where those skills are taught, practiced, and lived;
3. measuring arts skill and SEL growth rather than risk factors;
4. using student-derived data;
5. employing methods and procedures for the timing of data collection for effective arts SEL measurement;
6. employing qualitative data to evaluate the validity of the quantitative data; and
7. demonstrating the transferability of skill development into behavioral choices and methods for reliably measuring those outcomes.

The theoretical and epistemic frames that are the genesis of the Arts Collab's approach to assessment, measurement, and data analysis are robust mixed methodological efforts. They focus on data derived from students and art educators in contextually appropriate ways intended to reveal more than they conceal. Bowen and Kisida (2019) called attention to the lack of empirical evidence in the art education field given limited evidence of causal impact and a general lack of applied scientific methodology. The Arts Collab models for assessment apply scientific method, including the following elements:

1. systematic data collection;
2. focusing on design rather than results;
3. planning for an independent variable input (arts and SEL curricula/PD in this case), and observing its effect on a dependent variable (SEL and arts skills and educator practice); and
4. ensuring results are valid, reliable, easily interpreted, and could be replicated.

The Arts Collab also provides models for empowering art educators to propose their own experience-based hypotheses around arts SEL outcomes to create their own context-specific measurement tools and assessment strategies, both as individuals whose experience/expertise add depth, and as arts programs working collaboratively, sharing ideas and resources.

Limitations and implications for future research

As art educators and teaching artists who share through making and empowering others to make, we are far from having a body of research practices that effectively communicates the nuances of what we do or assesses its impact as

measurable outcomes. This also means that the young artists who find voice and power in art spaces, often struggling to do so in other spaces, have yet to have their journeys understood or truly counted as building blocks toward scholarship that could lead to policy and institutional changes that could benefit the students who come after them. Definitional work on what constitutes SEL in the arts is under development (Peppler et al., 2015). Constructs, measures, and metrics for determining what constitutes positive change in students' SEL are also evolving (Child Trends, 2014). UW Arts Collab's work has embarked on research practices, avenues of research inquiry, and processes toward better understanding how arts education leads to SEL skills, and how those experiences represent real and lasting growth for students. However, more research is needed especially given the context-dependent nature of arts environments, the SEL skills they require/build, and the unique ways those elements interact to produce growth. It is our hope that the focus on prioritizing student-derived data, deep reflection on the arts, and SEL skills/processes, as well as the power of collaboration, are models on which future research will build.

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Appendix A

UW-community arts collaboratory SEL constructs

Discipline: “using my energy for good things”; self-regulation toward empowerment; discipline contains self-empowering perseverance, focus, and passion toward long-term goals; making choices that serve personal and group development in the class. (Drum Power)

Confidence: the power to direct your own behavior and/or limit or regulate your actions. Young people who understand privileges and respect are earned through demonstrated responsibility will learn to make wise choices and feel a sense of control. (Performing Ourselves, from Ginsburg, 2011)

Coping: one’s ability to effectively deal with something difficult. Young people who possess a variety of healthy coping strategies will be less likely to turn to dangerous quick fixes when stressed. Emotional regulation. (Performing Ourselves, from Ginsburg, 2011)

Collaboration: contribution as the act of helping or assisting another person. Young people working together to create a product (story, performance) of which they are proud, and doing so by choice in a self-motivated way. (i.e., not as a required part of the program). (Whoopensocker)

Community: (“supporting my own learning and the learning of others”); learning to embrace the responsibility of giving support, and learning how to receive it; responsibility, helping others, empathy, inclusion, collaboration, sharing, cooperation, opportunities for student meaningful contribution and ownership. (Drum Power)

Connection: is the act of relating to another person or to yourself. Connections with other people, schools, and communities offer young people the security that allows them to stand on their own and develop creative solutions. (Performing Ourselves, from Ginsburg, 2011)

Appendix B

DRUM POWER STUDENT SURVEY

PART 1

FIRST NAME: _____

LASTNAME: _____

GRADE: _____

These questions ask about Drumming Skills. Mark ONE ANSWER for EACH QUESTION with an “X”.

	For SURE YES!	Yes	Sort of	No	NO WAY!
1. I can play all the rhythms we have learned in drumming.					
2. I can name all the rhythms we have learned in drumming.					
3. I can play the right response when the teacher or another student plays the break.					
4. I can play the bass, slap and tone sounds on the djembe drum.					
5. I can keep up with what the teacher is showing me.					
6. I can play the basic exercise (warm-up).					
7. When class starts I can start drumming with no difficulty.					
8. When I have trouble learning a new rhythm I can think about it a different way that makes it easier.					
9. I can teach at least 1–2 drum rhythms I learned to someone else.					

What are your thoughts on Discipline? (Mark one X for each line).

	For SURE YES!	Yes	Sort of	No	NO WAY!
10. I can refocus my concentration on drumming when I find myself thinking about other things.					
11. I sometimes miss important points in class.					
12. I do not give up even when the work is difficult.					
13. I concentrate in class.					
14. I keep working until I finish what I am supposed to do.					
15. I have personal goals for this class.					
16. I know what I am trying to accomplish in this class.					

These questions ask about Community. (Mark one X per line.)

	For SURE YES!	Yes	Sort of	No	NO WAY!
17. I can depend on most students to follow the rules.					
18. Members of this class are friendly toward me.					
19. In this class I get help from other students.					
20. I learn from other students in this class.					
21. Students work with me to achieve class goals.					

Appendix C

Drum power qualitative constructivist grounded theory interview questions

- How would you describe your experience with the drumming class?
- Why did you join the drum group?
- What did you expect it to be like and why?
- Did you expect to fit in? Why or why not?
- Did you expect to be good/bad at drumming before you first started? What made you think that? Did that stay the same or change with more time in class?
- Have you learned anything about yourself in drumming this year? If so what? (Prompts: “understand,” “discover”)
- What did you learn in drumming?
- What was the most important thing you learned in drumming? Why?
- Have you learned anything in drumming that you think will help you in the future? If so what and why?
- What was your favorite thing? Why?
- What was your least favorite thing? Why?
- Was drumming easy for you? If yes, why? If not, how was it hard and what did you do to deal with that? And why?
- Was drumming like other classes you have been in? How was it like other classes/ how was it different? (Prompts: Were the expectations the same? Was it run

- the same? Was your role the same? Were the rules the same?)*
14. Was the drumming teacher like other teachers? How was he similar and how was he different?
 15. What does discipline mean to you?
What does it mean in action? Example?
Will it help you in other situations? If so, how?
 16. What does community mean to you?
What does it mean in action? Example?
Will it help you in other situations? If so, how?
 17. What does leadership mean to you?
What does it mean in action? Example?
Did you lead anything? How did that feel?
Will it help you in other situations? If so, how?
 18. How did it feel to be a member of the group? Why?
 19. What do you think most affected how well you did in drumming?