The Mirror and the Canyon: Reflected Images, Echoed Voices
Final Report

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Abstract

Global Writes (GW), a nonprofit organization, has partnered with arts organizations across the country to implement an arts education model that integrates literacy, performance, and technology. In 1998, the co-founders of GW partnered with the DreamYard Project, an arts education organization located in the Bronx, to develop and implement a new model of arts integration, combining original poetry writing, the art of performance, and the use of video conferencing technology to promote standards-based literacy, communication, and the use of technology. In this model, poets from local arts partners work with students and English Language Arts (ELA) teachers on poetry writing and performances, culminating in a Poetry Slam competition. The GW program is based on research which shows that participation in the arts encourages and fosters key Social Emotional Learning (SEL) skills which have been acknowledged by the education community as necessary for students to be prepared for college and careers. However, more rigorous data are needed to demonstrate the relationship between the arts and the development of key SEL skills.

Metis Associates, an independent research and evaluation firm, was contracted by GW to conduct a quasi-experimental study to determine the impact of the arts-integrated model on students' SEL skills. Two research questions were explored as part of this study: 1) do participating students show greater improvements in their social emotional skills than similarly situated students? and 2) what social emotional skills are most strongly impacted and which are least strongly impacted by the program? The study was designed to contribute to the field of arts education as well as increase awareness of the impact of arts education on students' SEL skills. In order address the questions, students in two treatment and two comparison schools completed a published instrument designed to assess social skills [Social Skills Improvement System (SSIS) Rating Scale] on a pre- and post-basis. Analyses of covariance were conducted to determine whether there were differences between treatment and comparison students. Results show that students in the treatment group made significantly greater gains than those in the comparison group on the overall Social Skills scale and specifically in the areas of Assertion, Empathy, and Responsibility.

Overall, the results of this study are compelling and suggest that the program impacts social skills outcomes in areas that have been identified as essential to the success of students. These findings, added to previous research on the program conducted by Metis, offer evidence that it may be a strong addition to arts programming in schools and support the social emotional learning of students in a Common Core aligned, ELA-content embedded environment. However, there are several limitations to the study that suggest a need for further research, including a small sample size and a limited amount of data to determine impacts.

Executive Summary

Global Writes (GW), a nonprofit organization, has partnered with arts organizations across the country to implement an arts education model that integrates literacy, performance, and technology. In 1998, the co-founders of GW partnered with the DreamYard Project, an arts education organization located in the Bronx, to develop and implement a new model of arts integration, combining original poetry writing, the art of performance, and the use of video conferencing technology to promote standards-based literacy, communication, and the use of technology. In this model, poets from local arts partners work with students and English Language Arts (ELA) teachers on poetry writing and performances, culminating in a Poetry Slam competition.

The GW model uses performance as both a context for writing and a means to share original writing with authentic audiences. The key elements of the model include: integration of performance instruction with core literacy instruction; collaborative instruction and collaborative learning; authentic assessment; individual performance; team-based academic competition; and use of technology to facilitate and extend collaboration, performance, and assessment. Each classroom receives a residency with a teaching artist (TA) who co-teaches with the ELA classroom teacher over the course of 30 weeks during the school day for 90 minutes per week. Program activities provide unique opportunities for students to develop their voices (written and spoken), to develop oral literacy, to use movement and gesture, and to build skills in improvisation and text-based performance. Activities are designed to teach the writing process for drafting, revising, and publishing original work. The publishing of student poems takes place in the form of individual performances, developed by each student, and coached by the TA, the teachers, and their peers. A key characteristic of the program is a reliance on authentic assessment and publishing and performing for authentic audiences.

The GW program is based on research that shows that participation in the arts encourages and fosters key Social Emotional Learning (SEL) skills, which have been acknowledged by the education community as necessary for students to be prepared for college and careers. However, more rigorous data are needed to demonstrate the relationship between the arts and the development of key SEL skills. Metis Associates, an independent research and evaluation firm, was contracted by GW to conduct a quasi-experimental study to determine the impact of the arts-integrated model on students' SEL skills. Two research questions were explored as part of this study: 1) do participating students show greater improvements in their social emotional skills than similarly situated students? and 2) what social emotional skills are most strongly impacted and which are least strongly impacted by the program? The study was designed to contribute to the field of arts education as well increase awareness of the impact of arts education on students' SEL skills.

Two Bronx schools in Community School District 10 were selected as treatment schools. Comparable District 10 schools were selected based on school-wide characteristics, including grades served, geographic location, percent of students eligible for free/reduced price lunch (FRL), percent of English language learners (ELL), and percent of special education students. Treatment and comparison students completed a published instrument designed to assess social skills [Social Skills Improvement System (SSIS) Rating Scale] on a pre- and post-basis. Baseline equivalence was established between the treatment and comparison groups on each of the overall scales and subscales using an independent samples t-test on pre-test scores to eliminate selection bias.

Analyses of covariance (ANCOVAs) were conducted to determine whether there were differences between treatment and comparison students on the SSIS. The findings demonstrate that students in the treatment group made significantly greater gains than those in the comparison group on the overall Social Skills scale and specifically in the areas of Assertion, Empathy, and Responsibility. There were no significant differences on the Problem Behaviors scale or subscales.

Overall, the results of this study are compelling and suggest that the program impacts social skills outcomes in areas that have been identified as essential to the success of students. These findings, added to previous research on the program conducted by Metis, offer evidence that it may be a strong addition to arts programming in schools and support the social emotional learning of students in a Common Core aligned ELA-content embedded environment. However, there are several limitations to the study that suggest a need for further research, including a small sample size and a limited amount of data to determine impacts.

I. Research Motivation

Global Writes (*GW*), a nonprofit organization, has partnered with arts organizations across the country to implement an arts education model that integrates literacy, performance, and technology. In 1998, the co-founders of *GW* partnered with the DreamYard Project, an arts education organization located in the Bronx, to develop and implement a new model of arts integration, combining original poetry writing, the art of performance, and the use of video conferencing technology to promote standards-based literacy, communication, and the use of technology. In this model, poets from local arts partners work with students and ELA teachers on poetry writing and performances, culminating in a Poetry Slam competition.

Through funding from three US Department of Education (DOE) Arts in Education Model Development and Dissemination (AEMDD) grants, the *GW* model has been successfully replicated in schools located in the Bronx, Chicago, and San Francisco. Metis Associates, an independent research and evaluation firm, evaluated the implementation and outcomes of each of these projects. The rich and long-standing partnership between *GW* and Metis resulted in a trove of data on the impact of the *GW* model on student learning and the conditions and contexts that lead to student change. The evaluations of these projects allowed and encouraged the *GW* team to continually "Look in the Mirror," reflecting on the model of practice, building on what works and bringing it to new cities and schools, as well as modifying and customizing the model to meet individual school and arts partner needs. At the same time, the team "Listened to the Echo," which included stories and documentation from students and teachers collected along the journey from classroom to classroom, school to school, and city to city.

This study takes the next step in analyzing impacts of the *GW* model on students, and directly addresses the National Endowment for the Arts (NEA) goal of "enhancing knowledge and understanding through expanding and promoting evidence of the value and impact of the arts." Indeed, through the implementation of Common Core Standards and performance-based assessments, the education community has acknowledged the need for students to be better prepared for college and careers through the development of stronger Social Emotional Learning (SEL) skills. Research shows that participation in the arts encourages and fosters these skills (Catterall, 1998). However, more rigorous data are needed to demonstrate the relationship between the arts and the development of SEL skills.

This study was designed to help address the dearth of literature that links the arts to the development of SEL skills. Aligning with NEA's goal of "increasing the evidence base of arts in education expansion and promotion", a primary goal of this study was to contribute to the knowledge base in arts education as well as increase awareness of the impact of arts education on student SEL skills, a key indicator of success in college and careers (Durlak & Weissberg, 2011).

II. Existing Literature

Several key movements in education in recent years have made the time ripe for developing a better understanding of the areas in which the arts truly make a difference in students' development. These movements include: 1) the recognition of the depth and breadth of skills that students need to be successful in college and careers, 2) the introduction of the Common Core Standards, and 3) the transition away from standardized multiple choice tests to performance-based assessments. The Common Core Standards were developed in response to an Achieve Inc. (2004) report that found that high school students were graduating without the essential skills they needed to be successful in their future education and careers. The new standards include higher-order thinking skills, such as critical thinking and problem solving, as well as SEL skills, such as collaboration and empathy. For example, consider the skills needed to meet the following Common Core Standards in Writing and Speaking and Listening for 6th grade:

- ***Writing*: Production and Distribution of Writing**: With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.
- ***Speaking and Listening:* (1) Comprehension and Collaboration**: (a) Participate in collaborative conversations with diverse partners and texts with peers and adults in small and larger groups; (b) Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. **(2) Presentation of Knowledge and Ideas**: Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

Arts educators assert, and the *GW* model is based on the contention, that the movement toward Common Core Standards and performance-based assessments is aligned with the skills that the arts promote. Indeed, according to an Arts Education Partnership (AEP) report, *Preparing for the Next America: The Benefits of an Arts Education*, students who have access to arts programming have increased pro-social behaviors. For example, students are more likely to be accepting of diverse cultures and backgrounds and demonstrate value for developing cross-cultural understanding. Other studies support these findings, including the 2012 *Arts and Achievement in At-Risk Youth: Findings from Four Longitudinal Studies*, which found that youth who participated in arts education programs showed more positive social outcomes than youth who did not participate in arts education programs. Another study of low-income urban students found that students who participated in a culturally based arts program experienced an increase in self-esteem, social skills, and in leadership competencies as compared to the comparison group (Mason & Chuang, 2001). Other key behavioral

outcomes for students, including ELL and at-risk youth, have been attributed to arts participation include student confidence and self-efficacy.[1]

It is clear that improved SEL skills are often associated with arts participation. It is also clear that the *GW* model correlates to the elements identified as essential to a quality arts implementation. Case studies in *Third Space: When Learning Matters* by Stevenson and Deasy (2005) illustrate how arts education changes schools, changes communities, and most significantly, changes the lives and learning experiences of students. As shown in Table 1, activities defined in the *GW* model correlate with several key components defined by Stevenson and Deasy that are considered in the research to be elements needed for successful arts integration programs in schools.

Table 1: Matrix of Stevenson and Deasy Research Elements Identified in Arts Programs that Support Academic Achievement in Relationship to the Global Writes Model

Research Element:	Stevenson and Deasy (2005) Definition:	*Global Writes Model* Approach:
Student as Artist	Students develop a third space where they draw on their world and what they have learned from their teachers to create and express something new.	Students are engaged in a writing process in developing their own poetry. Students use technology for writing, editing, and publishing their work.
Student as Contributor	The dimension of the art experience that culminates in a product that has value to oneself and an external audience. This is particularly important for students who recently immigrated to the US and are struggling with reading and speaking English.	Students prepare a final version of selected poems from their original collection and use performance skills to engage in a Poetry Slam Competition with other participating schools. Students are encouraged to write and perform poetry in their native language.
Self-Efficacy	The ability to stand up and express an idea and back up that idea with feelings and be themselves. When students have a real audience they are preparing for they create a self-imposed set of high standards. They demand a high level of quality from each other and themselves.	Students are engaged in peer editing activities to prepare their poems and performances for slam competition. Video conferencing technology is used for students to share their original work with other students as well as authentic audiences across other cities and states. Digital media is used for recording students' work and for feedback in the classroom.
Adaptive Expertise	Students develop the ability to apply what they are learning to new situations and experiences in	Students that participate in the original model have also shown success in other subjects such as

[1] http://www.artsedsearch.org/students/research-overview#academic

Research Element:	Stevenson and Deasy (2005) Definition:	*Global Writes Model* Approach:
	school and in daily life. Students become progressively more competent at the routine procedures or technical aspects of all subjects.	History, Debate, and other public speaking activities.
Learning from Artists	Partnerships with teaching artists allow for advanced skills in the art form in a classroom. Artists also bring their own experiences of personal growth and development fostered by their careers in the arts.	Participating ELA teachers are partnered with a teaching artist for two 15-week writing and performance workshop sessions. Non-arts teachers learn strategies for developing poetry and performance in their classrooms. Access to the expertise of a professional writer and performing artist provide real world experiences.

Each of the aforementioned AEMDD grants explored the impacts of the *GW* model, aligned with the Stevenson and Deasy definitions, on student outcomes. The studies included either a quasi-experimental or experimental design, allowing for comparisons in outcomes for students who participated in the programs and those who did not. Data from the evaluations of the AEMDD grants revealed that the model had significant impact on students' academic motivation. Specifically, evaluations found that students who participated in *GW* were more likely to: 1) enjoy going to school, 2) follow school rules, 3) enjoy learning new things, 4) get homework done on time, and 5) try to do well in school (Metis, 2006; Metis, 2010) than those who did not. While it is undeniable that academic motivation and academic achievement are inextricably intertwined (Preckel, Holling, & Vock, 2006), data from the AEMDD grants reveal that impacts of the *GW* model on academic achievement were inconsistent. In one project, treatment students made significantly greater gains than students in English language arts (ELA) achievement after controlling for baseline scores, while in the other project, the results were mixed, and control students in one cohort outperformed treatment students in ELA achievement (Metis, 2006; Metis, 2010).

Results from the AEMDD grants align with findings from other research studies examining the impact of the arts on student learning. While some studies showed clear links between participation in the arts and improved academic achievement, including reading, writing, and math skills (see, for example, Catterall, 1998; Critical Links, 2011), others did not find such clear connections and argue that studies that have found links between arts participation and academic achievement have inherent design flaws (Winner & Cooper, 2000). This literature, and the initial outcomes of previous *GW* studies, suggests a need to look deeper into the outcomes that the *GW* model is most likely to impact, including SEL skills. This research study is focused on measuring the impacts of the *GW* model on SEL

skills, which are now being recognized as critical to students' future success (Durlak & Weissberg, 2011).

III. Theory

The *GW* model uses performance as both a context for writing and a means to share original writing with authentic audiences. The key elements of the model include: integration of performance instruction with core literacy instruction; collaborative instruction and collaborative learning; authentic assessment; individual performance; team-based academic competition; and use of technology to facilitate and extend collaboration, performance, and assessment.

Each classroom receives a residency with a teaching artist (TA) who co-teaches with the ELA classroom teacher over the course of 30 weeks during the school day for 90 minutes per week. A key part of the *GW* model, TAs serve as the catalysts for teaching poetry and performance, while *GW* serves as the catalyst for collaboration, facilitating student-to-student, classroom-to-classroom, and community-to-community sharing and growth via digital technology, such as blogs, wikis, social networks, and video conferencing so participants may share content and perform for authentic audiences.

Program activities provide unique opportunities for students to develop their voices (written and spoken), to develop oral literacy, to use movement and gesture, and to build skills in improvisation and text-based performance. Activities are designed to teach the writing process for drafting, revising, and publishing original work. The publishing of student poems takes place in the form of individual performances, developed by each student, and coached by the TA, the teachers, and their peers. A key characteristic of the program is a reliance on authentic assessment and publishing to and performing for authentic audiences.

Competitive events are a fundamental part of program, and are entirely based on the structure and rules of the traditional *poetry slam*. Along with a culminating open microphone celebration, the slams serve as the primary venues for student performance. Each class holds in-class slams to determine the members of competitive teams who would represent their classes in the inter-school slam elimination tournament. The tournament is held as a series of multi-point video conferences, linking students in their classrooms to other classrooms and to a panel of judges at a separate site. Scoring for the competitions is based on Common Core Standards aligned rubrics for writing and performing and each judging panel includes a mix of adults (teachers and staff) and students from non-competing schools. Through this structure, students are given ownership of their personal creative process, of

the criteria by which their work will be valued, and of the actual assessment of the performances given by their peers.

This research project was designed to look at outcomes of the *GW* model in areas that have not yet been fully explored in previous studies, including a focus on SEL. Given the fact that a randomized control trial (RCT) design would not be feasible for this study, in accordance with the What Works Clearinghouse (WWC) guidelines (2008), Metis employed a quasi-experimental design to determine impacts of *GW* program participation on participating students when compared to students who did not participate in the model. To conduct the study, the *GW* model was implemented in two District 10 Bronx schools that have a history of at least five years of program participation.[2] The program was implemented in two classes per school (about 60 students per school). Comparable District 10 schools located in the Bronx were selected based on school-wide characteristics, including grades served, geographic location, percent of students eligible for free/reduced price lunch (FRL), percent of English language learners (ELL), and percent of special education students. As shown in Table 2, the treatment and comparison schools had very similar demographics: almost all students in each school were either black or Hispanic, the majority of the students were eligible for free or reduced price lunch, and about one quarter were designated as special needs. Between 17 and 33 percent of students were designated as English Language Learners (ELLs) across the four schools.

Table 2: Treatment and Comparison School Demographics[3]

School Type	Grades Served	Percent of Students			
		Black or Hispanic	ELL	Free Lunch Eligible	Special Education
Treatment School 1	6-8	97%	33%	86%	21%
Treatment School 2	6-8	96%	26%	65%	24%
Comparison School 1	K-8	97%	17%	89%	24%
Comparison School 2	6-8	98%	33%	73%	22%

2013-2014 NYCDOE School Quality Guide Data

The study was designed to explore the theory that students who participate in the *GW* model would show significant improvement in SEL skills, compared to students who did not participate in the model. In order to do so, two **research questions** were explored as part of this study:

1. Do participating students show greater improvements in their social emotional skills than similarly situated students?

[2] Schools with prior experience were selected to ensure teacher comfort with the program and a high level of fidelity of implementation.

[3] Demographics of matched treatment and comparison students are presented in the Appendix.

2. What social emotional skills are most strongly impacted and which are least strongly impacted?

IV. Description of Data

To measure change in social skills among students in the treatment and comparison groups, students completed the **Social Skills Improvement System** (SSIS) Rating Scales instrument on a pre-and post-basis (January and May of 2015). The SSIS (Gresham & Elliott, 2008) is a set of scales designed to assess children's behaviors in a variety of areas, including social skills, problem behaviors, and academic competence. For the purpose of this study, items specifically related to the Social Skills domains (i.e., Communication, Cooperation, Assertion, Responsibility, Empathy, Engagement, and Self-Control), and the Problem Behavior domains (i.e., Externalizing, Bullying, Hyperactivity/Inattention, and Internalizing) were used. The SSIS is intended for use for students in kindergarten through twelfth grade.

SSIS Administration. Prior to administration, parent consent forms and student assent forms were distributed to students and their families. Only students who returned signed parent consents forms and student assent forms completed the SSIS. The SSIS took about 15 to 20 minutes for each student to complete for each of the two administrations. As per SSIS instructions, students were administered the scales in a quiet room without distractions and were monitored and supervised by school staff. Instructions and answer choices were read aloud and clarified as needed (Gresham & Elliott, 2008).

SSIS Subscales. Table 3 provides a brief description of each subscale as well as items on the SSIS that relate to each subscale.

Table 3: SSIS Subscale Descriptions

Subscale	Description	Example items on SSIS
Social Skills		
Communication	• Taking turns and making eye contact during a conversation, using appropriate tone of voice and gestures, and being polite by saying "thank you" and "please"	• I say "please" when I ask for things. • I am polite when I speak to others.
Cooperation	• Helping others, sharing materials, and complying with rules and directions	• I pay attention when others present their ideas. • I follow school rules.
Assertion	• Initiating behaviors, such as asking others for information, introducing oneself, and responding to the actions of others	• I ask for information when I need it. • I say nice things about myself without bragging.
Responsibility	• Showing regard for property or work and demonstrating the ability to communicate	• I do my part in a group. • I do the right thing without

Subscale	Description	Example items on SSIS
	with adults	being told.
Empathy	• Showing concern and respect for others' feelings and viewpoints	• I try to forgive others when they say "sorry." • I try to make others feel better.
Engagement	• Joining activities in progress and inviting others to join, initiating conversations, making friends, and interacting well with others	• I make friends easily. • I ask others to do things with me.
Self-Control	• Responding appropriately in conflict (e.g., disagreeing, teasing) and nonconflict situations (taking turns and compromising)	• I stay calm when I am teased. • I try to find a good way to end a disagreement.
Problem Behaviors		
Externalizing	• Being verbally or physically aggressive, failing to control temper, and arguing	• I make people do what I want them to do. • I have temper tantrums.
Bullying	• Forcing others to do something, hurting people physically or emotionally, and not letting others join an activity	• I hurt people when I'm angry. • I try to make others afraid of me.
Hyperactivity/ Inattention	• Moving about excessively, having impulse reactions, and becoming easily distracted	• I often do things without thinking. • I find it hard to sit still.
Internalizing	• Feeling anxious, sad, and lonely; exhibiting poor self-esteem	• I'm afraid of a lot of things. • I feel lonely.

SSIS Scoring. The SSIS forms were scored by using the numbers 0, 1, 2, and 3 which are the point values corresponding to the responses *Not True, A Little True, A Lot True, and Very True*. For each subscale, the items related to that subscale were totaled. [4] For example, items 6, 10, 16, 20, 30, and 40 were summed to create the communication subscale. As per SSIS scoring requirements, students who were missing four or more items were removed from analyses (N=7 students). Students who were missing between 1 and 3 items on the SSIS were scored with an SSIS approved method for adjustment.

Overall response rates for students with parental consent and student assent as well as matched pre-post administrations of the SSIS are presented in Table 4.

[4] See the Appendix for the ways in which the results for each subscale can be interpreted.

Table 4. SSIS Response Rates

School	Total Students	N (%) with Pre Scores	N (%) with Post Scores	N (%) with Matched Scores
Treatment School 1	55	28 (51%)	28 (51%)	26 (47%)
Treatment School 2	104	19 (18%)	19 (18%)	17 (16%)
Treatment Total	**159**	47 (30%)	47 (30%)	**43 (27%)**
Comparison School 1	87	41(47%)	41(47%)	38 (44%)
Comparison School 2	226	18 (8%)	18 (8%)	17 (8%)
Comparison Total	**313**	59 (19%)	59 (19%)	**55 (18%)**

Subscale scores were calculated for each student in each of the Social Skills domains (i.e., Communication, Cooperation, Assertion, Responsibility, Empathy, Engagement, and Self-Control), in the four Problem Behavior domains (i.e., Externalizing, Bullying, Hyperactivity/Inattention, and Internalizing), as well as overall scores for the Social Skills and Problem Behavior scales. Students with both pre- and post-scores were considered for inclusion in analyses to assess differences in social skills competence between the groups from pre- to post- using an analysis of covariance (ANCOVA) test. In preparation for these analyses, baseline equivalence was established between the treatment and comparison groups on each of the overall scale and subscale pretest group means using an independent samples t-test. As a result, some comparison students with matched pre- and post-scores were removed from the analyses. Information on the baseline equivalence of the treatment and comparison groups is presented in Tables 5 and 6.[5]

[5] Tests of baseline equivalence of the treatment and comparison groups in the analysis samples were conducted to ensure that the evaluation eliminates overt selection bias and meets the WWC evidence standards, albeit with reservations given that unobserved variables may not be equivalent between groups.

Table 5. SSIS Baseline Equivalence Data: Social Skills Scale

Scale/Subscale	Group	N with Matched Scores	Pretest Mean	t value	Hedge's g*
Overall Social Skills Scale	Treatment	43	75.00	1.051	0.227
	Comparison	43	79.63		
Communication	Treatment	43	10.00	0.970	0.214
	Comparison	39	10.67		
Cooperation	Treatment	43	11.63	0.770	0.174
	Comparison	36	12.19		
Assertion	Treatment	43	10.77	-0.834	0.180
	Comparison	43	10.02		
Responsibility	Treatment	43	12.07	0.633	0.140
	Comparison	39	12.56		
Empathy	Treatment	43	10.51	0.449	0.097
	Comparison	43	10.88		
Engagement	Treatment	43	12.23	0.168	0.036
	Comparison	43	12.37		
Self-control	Treatment	43	7.79	0.950	0.215
	Comparison	43	75.00		

*Group means are considered equivalent when Hedge's g < .25.

Table 6. SSIS Baseline Equivalence Data: Problem Behavior Scale

Scale/Subscale	Group	N with Matched Scores	Pretest Mean	t value	Hedge's g*
Overall Problem Behavior Scale	Treatment	43	26.95	0.542	0.117
	Comparison	43	28.79		
Externalizing	Treatment	43	9.33	0.069	0.015
	Comparison	43	9.42		
Bullying	Treatment	43	2.91	0.164	0.035
	Comparison	43	3.00		
Hyperactivity	Treatment	43	6.30	1.070	0.231
	Comparison	43	7.21		
Internalizing	Treatment	43	8.42	0.610	0.132
	Comparison	43	9.16		

*Group means are considered equivalent when Hedge's g < .25.

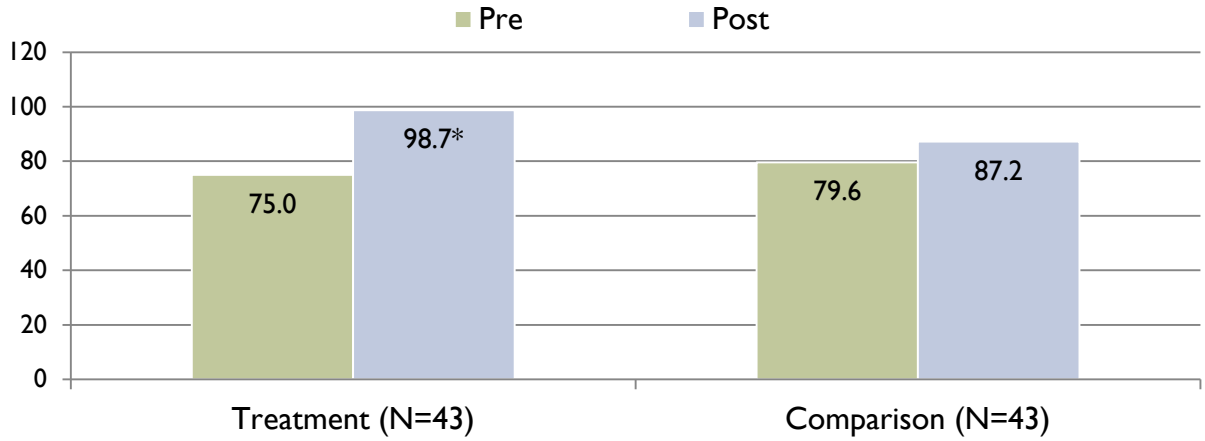
V. Analyses

In order to gauge whether students in the program outperformed their comparison peers, analyses of covariance (ANCOVAs) were conducted to determine whether there were significant differences between the post SSIS scores of the treatment and comparison populations, while holding their pre scores as constant. In addition, effect sizes (Hedge's g) were calculated in order to provide a measure of the magnitude of the differences between the two groups.

Social Skills Scale Results

As shown in Figure 1, treatment students' mean score on the overall Social Skills scale increased by 26.7 points, while the comparison group mean scores increased by 7.6 points. Results of the ANCOVA showed that the difference in the treatment and comparison group scores at post-test was statistically significant (p=0.02; effect size=0.50).

Figure 1: SSIS Mean Scores, Pre- to Post-Test
Overall Social Skills Scale

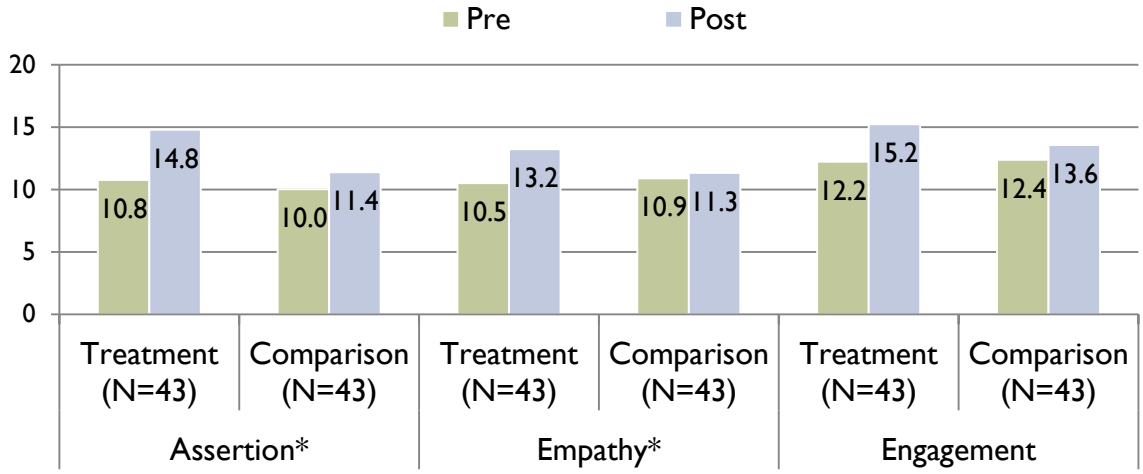


*Denotes a statistically significant difference at the p<0.05 level in the post treatment and comparison group scores.

Results of statistical comparisons of Social Skill subscales means indicate that students in the treatment group made significantly greater gains than those in the comparison group in the subscale areas of *assertion* and *empathy* (Figure 2).

- In the area of *assertion*, treatment group mean scores increased by 4.0 from pre- to post-test, while the comparison group mean scores increased by 1.4 during this period, a difference that was found to be statistically significant (p=0.00; effect size=0.80).
- In the area of *empathy*, treatment group mean scores increased by 2.7 from pre- to post-test, while the comparison group mean scores increased by 0.4 during this period, a difference that was found to be statistically significant (p=0.02; effect size=0.49).
- In the area of *engagement*, treatment group mean scores increased by 3.0 from pre- to post-test, while the comparison group mean scores increased by 1.2 during this period. However, the results were not found to be statistically significant based on an ANCOVA (p=0.07; effect size=0.39).

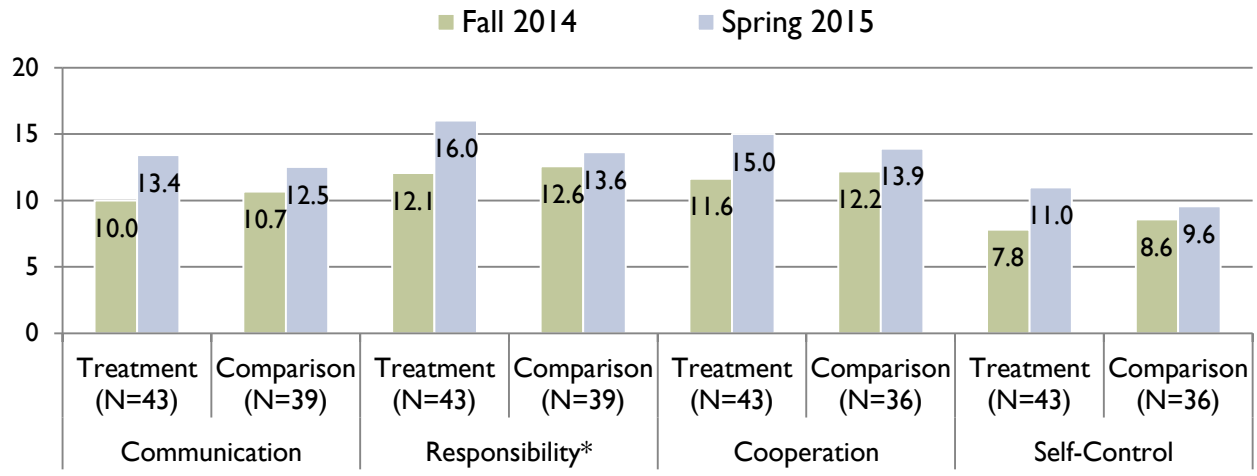
Figure 2: SSIS Mean Scores, Pre- to Post-Test
Social Skills Subscales: *Assertion*, *Empathy*, and *Engagement*



*Denotes a statistically significant difference at the p<0.05 level in the post treatment and comparison group scores.

As shown in Figure 3, in the area of *responsibility*, treatment group mean scores increased by 3.9 pre- to post-test, while the comparison group mean scores increased by 1.0 during this period, a difference that was found to be statistically significant (p=0.01; effect size = 0.60). Mean scores for both the treatment and comparison groups increased from pre- to post-test in the areas of *communication* (3.4 and 1.8, respectively), *cooperation* (3.4 and 1.7, respectively), and *self-control* (3.2 and 1.0, respectively). However, the differences between the two groups at post-test were not found to be statistically significant based on ANCOVAs (p>0.05).

Figure 3: SSIS Mean Scores, Pre- to Post-Test
Social Skills Subscales: *Communication, Responsibility, Cooperation,* and *Self-Control*

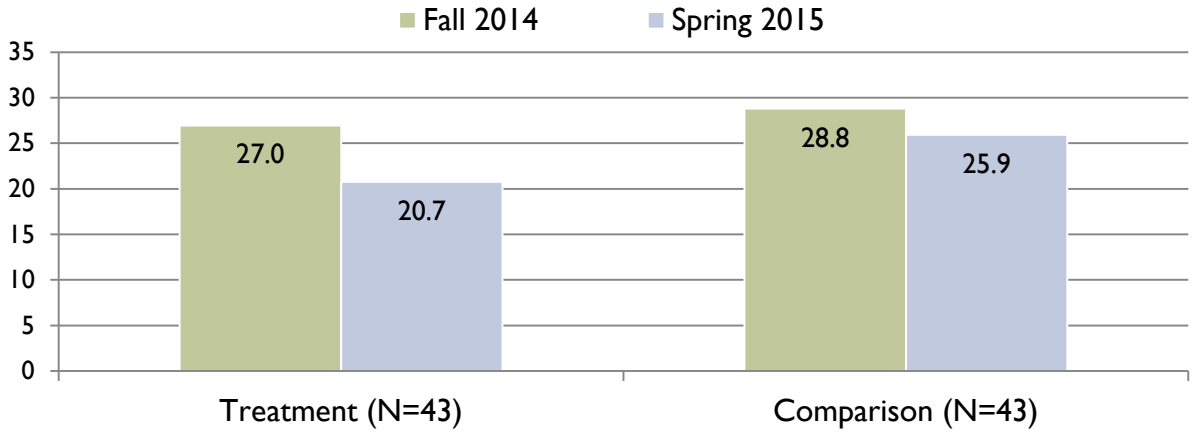


*Denotes a statistically significant difference at the p<0.05 level in the post treatment and comparison group scores.

Problem Behavior Scale Results

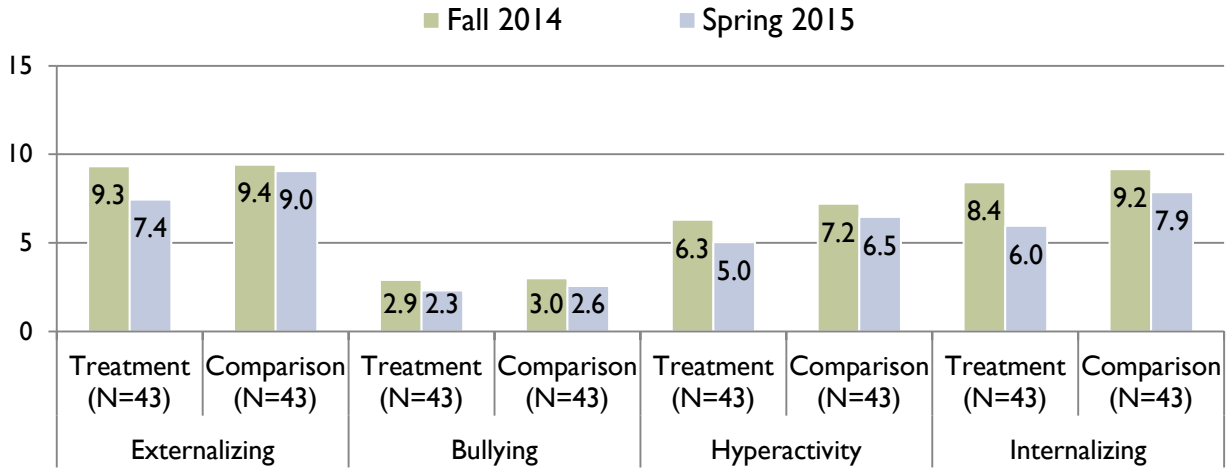
As shown in Figure 4, both groups demonstrated slight decreases in the mean Problem Behavior scale (-6.3 points for the treatment group and -2.7 points for the comparison group). However, the difference between the two groups at post-test were not found to be statistically significant based on an ANCOVA (p=.24; effect size=.22).

Figure 4: SSIS Mean Scores, Pre- to Post-Test
Overall Problem Behavior Scale



Mean scores for both the treatment and comparison groups decreased on all Problem Behavior subscales from pre to post, including the areas of *externalizing* (1.9 and 0.4, respectively), *bullying* (0.6 and 0.4, respectively), *hyperactivity* (1.3 and 0.7, respectively), and *internalizing* (2.4 and 1.3, respectively). However, the differences between the two groups at post-test were not found to be statistically significant based on ANCOVAs (p>0.05).

Figure 5: SSIS Mean Scores, Pre- to Post-Test
Problem Behavior Subscales: *Externalizing, Bullying, Hyperactivity*, and *Internalizing*



Conclusions

This study provides evidence on the impact of the *GW* model on student SEL skills, as well as helps to address the dearth of literature that links arts instruction to the development of SEL skills. Study findings indicate that students who participated in the program made greater gains than those in the comparison group on the overall Social Skills scale as well as on the Responsibility, Empathy, and Assertion subscales, and that these gains were statistically significant. These findings are notable for several reasons:

- The *GW* program encourages students to express themselves through poems, performances, and other original works as well as support others through peer editing. The statistically significant gains on the Empathy and Assertion subscales suggest that the *GW* model may deepen empathy and support the ability of participants to assert themselves, resulting in students who are more able to show concern and respect for others' feelings and viewpoints as well students who are more comfortable asking others for information and responding to the actions of others.

- Throughout their participation in the *GW* program, students are expected to work with teachers, professional writers, and teaching artists, and to display high levels of responsibility in editing their work and working with others. Statistically significant

gains on the Responsibility subscale suggest that the *GW* model may help improve participants' regard for property or work and their ability to communicate with adults.

This study represents the first investigation of the SSIS rating scale on the *GW* model. Overall, the results of this study are compelling and suggest that the program impacts social skills outcomes in areas that have been identified as essential to the success of students. These findings, added to previous research on the program, offer evidence that it may be a strong addition to arts programming in schools and support the social emotional learning of students. However, there are several limitations to the study that suggest a need for further research. These include a small sample size and a limited amount of data to determine impacts. For example, the SSIS also offers complementary instruments for teachers and parents and could be administered to teachers and parents of treatment and comparison students to further explore the impact of the program on student social skills.

Appendix

Table A1. Behavior Levels Corresponding to Subscale Raw Scores for the Student Form, Ages 8-12

Subscales	Below Average	Average	Above Average
Social Skills			
Communication	0-10	11-17	18
Cooperation	0-12	13-20	21
Assertion	0-9	10-18	19-21
Responsibility	0-11	12-19	20-21
Empathy	0-9	10-17	18
Engagement	0-11	12-19	20-21
Self-Control	0-6	7-15	16-18
Problem Behaviors			
Externalizing	0	1-13	14-36
Bullying	-	0-5	6-15
Hyperactivity/Inattention	0-1	2-11	12-21
Internalizing	0-2	3-15	16-30

Table A2. Demographics of Treatment and Comparison Students with Matched Pre-and Post-Test Results on the Overall Social Skills and Problem Behaviors Scales

School	Total Students	Demographic Data						
		% Female	% Hispanic	% Black	% Other	% Students with Disability	% Eligible for Free/ Reduced Lunch	% English Language Learners
Treatment School 1	26	53.8%	76.9%	23.1%	6.1%	0.0%	69.2%	26.9%
Treatment School 2	17	76.5%	70.6%	29.4%	10.0%	0.0%	94.1%	6.3%
Treatment Total	**43**	62.8%	74.4%	25.6%	7.0%	0.0%	79.1%	19.0%
Comparison School 1	33	39.4%	84.8%	9.1%	0.0%	51.5%	90.9%	36.4%
Comparison School 2	10	40.0%	90.0%	0.0%	0.0%	10.0%	90.0%	66.7%
Comparison Total	**43**	39.5%	86.0%	7.0%	0.0%	41.9%	90.7%	42.9%

Table A3: Social Skills Scale ANCOVA Results

Scale	Group	N Tested (Matched)	Mean Score (*SD*)		Mean Difference	ANCOVA	
			Pre	Post		*p*-value[6]	Effect Size[7]
Assertion	Treatment	43	10.77 (*4.48*)	14.79 (*4.61*)	4.02	0.00*	0.80
	Comparison	43	10.02 (*3.76*)	11.37 (*3.48*)	1.35		
Empathy	Treatment	43	10.51 (*3.69*)	13.23 (*4.23*)	2.72	0.02*	0.49
	Comparison	43	10.88 (*4.00*)	11.33 (*4.32*)	0.44		
Engagement	Treatment	43	12.23 (*4.04*)	15.23 (*4.87*)	3.00	0.07	0.39
	Comparison	43	12.37 (*3.66*)	13.56 (*3.92*)	1.19		
Communication	Treatment	43	10.00 (*3.38*)	13.42 (*3.86*)	3.42	0.20	0.29
	Comparison	39	10.67 (*2.78*)	12.51 (*3.28*)	1.85		
Cooperation	Treatment	43	11.63 (*3.77*)	15.00 (*4.81*)	3.37	0.18	0.30

[6] The p-value is the probability that the observed results occurred by chance or coincidence, and not due to a specific intervention. A *p*-value of less than .05 denotes statistical significance (i.e., there is less than a 5% chance the results occurred due to chance or coincidence).

[7] Effect size (Hedge's g) is a measure of the magnitude of the group difference. Effect sizes of about .2 are considered small, .5 medium, and .8 or greater are considered large.

Scale	Group	N Tested (Matched)	Mean Score (*SD*)		Mean Difference	ANCOVA	
			Pre	Post		*p*-value[6]	Effect Size[7]
	Comparison	36	12.19 (*2.75*)	13.89 (*3.53*)	1.69		
Responsibility	Treatment	43	12.07 (*3.68*)	16.02 (*4.31*)	3.95	0.01*	0.60
	Comparison	39	12.56 (*3.36*)	13.64 (*3.84*)	1.08		
Self-Control	Treatment	43	7.79 (*3.69*)	10.98 (*5.69*)	3.19	0.07	0.38
	Comparison	36	8.58 (*3.70*)	9.56 (*3.80*)	0.97		
Total Social Skills Scale	**Treatment**	**43**	**75.00 (*21.85*)**	**98.67 (*29.23*)**	**23.67**	**0.02***	**0.50**
	Comparison	**43**	**79.63 (*18.88*)**	**87.21 (*21.07*)**	**7.58**		

*Denotes a statistically significant difference between the treatment and comparison groups at the p<0.05 level.

Table A4: Problem Behavior Scale ANCOVA Results

Scale	Group	N Tested (Matched)	Mean Score (*SD*)		Mean Difference	ANCOVA	
			Pre	Post		*p*-value[8]	Effect Size[9]
Externalizing	Treatment	43	9.33 (*6.41*)	7.44 (*6.96*)	-1.88	0.20	0.22
	Comparison	43	9.42 (*6.15*)	9.05 (*6.87*)	-0.37		
Bullying	Treatment	43	2.91 (*2.46*)	2.30 (*2.91*)	-0.60	0.72	0.06
	Comparison	43	3.00 (*2.79*)	2.56 (*3.09*)	-0.44		
Hyperactivity	Treatment	43	6.30 (*4.26*)	5.05 (*5.08*)	-1.26	0.33	0.18
	Comparison	43	7.21 (*3.58*)	6.47 (*4.10*)	-0.74		
Internalizing	Treatment	43	8.42 (*5.89*)	5.95 (*6.56*)	-2.47	0.22	0.23
	Comparison	43	9.16 (*5.41*)	7.86 (*6.23*)	-1.30		
Total Problem Behavior Scale	**Treatment**	**43**	**26.95 (*16.61*)**	**20.74 (*19.33*)**	**-6.21**	**0.24**	**0.22**
	Comparison	**43**	**28.79 (*14.75*)**	**25.93 (*17.56*)**	**-2.86**		

[8] The p-value is the probability that the observed results occurred by chance or coincidence, and not due to a specific intervention. A *p*-value of less than .05 denotes statistical significance (i.e., there is less than a 5% chance the results occurred due to chance or coincidence).

[9] Effect size is a measure of the magnitude of the gains or losses. Effect sizes of about .2 are considered small, .5 medium, and .8 or greater are considered large.

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