
GLASS ROOTS

2018-19 PROGRAM EVALUATION REPORT

OCTOBER 2019



OUR MISSION

GlassRoots ignites and builds the creative and economic vitality of greater Newark, with a focus on underserved youth and young adults, through the transformative power of the glass art experience.

OUR VISION

Through involvement with GlassRoots' arts, New Jersey residents of all ages are empowered to think creatively and realize new visions of their futures through the art of glassmaking. Widely renowned for excellence in collaborative programming, GlassRoots presents high quality, rigorous, innovative, relevant, and diverse programming that both reflects and expands the community's interests.

OUR PROGRAMS

As of June 2019 GlassRoots has served over **20,000 young people** with its programs, with its primary focus on students in the city of Newark, as well as students in the greater Newark area in the nearby communities of Orange, East Orange, and Irvington. GlassRoots conducts programming at both at our studios in Newark and on location within the community at **schools, municipal recreation centers and community centers** including;

- school field trips
- high-quality after-school, weekend, and summer workshops
- workforce development and entrepreneurship programs for young adults that develop skills and create opportunities for residents to generate income
- glass-art education programs for people of all ages in our public weekend and evening classes
- glass-art educational programs for adults and young adults with developmental disabilities
- studio rental space for glass artists
- one-of-a-kind commissioned artwork and awards

No matter in which setting, GlassRoots programs encourage and promote students to create and innovate, to reach and exceed their potential, and to guide them towards educational and career opportunities that they may have not had access to otherwise. Our programs offer students:

- specific connections to New Jersey State Learning Standards in art, math and science
- a connection to STEM and STEAM based careers and occupations
- multiple opportunities to practice 21st century skills such as creativity, cooperation, collaboration and communication, and
- multiple opportunities to develop social-emotional skills which are transferable to other areas in life.

Public benefits of our work include access to the arts for at-risk youth and under-resourced communities.

Additionally, GlassRoots continues to be a valuable resource for educators offering high-quality Professional Development workshops and curriculum enhancing in-school residencies.

OUR IMPACT: EVALUATION TOOLS AND METHODS

To measure the effectiveness and impact of our programs, GlassRoots uses a number of tools including, beginning in 2015, data collection and analysis using a Program Evaluation and Assessment protocol developed and funded through the generosity of the Victoria and Geraldine R. Dodge Foundations.

Our primary instrument is a questionnaire, or survey, designed to measure changes in **behavior, attitude and knowledge**. Students participating in a one day workshop complete a single exposure post-program survey; students in long-term programs complete pre and post program surveys which measure growth. We continue to use paper surveys but have added online/digital versions using QR codes. Additionally we use **teacher observations, interviews and reflective conversations between teachers and students**, and **post-program de-briefings** in the assessment of all our programming.

OUR IMPACT: The Year in Numbers

In 2018-2019 GlassRoots delivered a total of **5,663 hours** of glass-art instruction during **2,072 visits**. Our talented Teaching-Artists:

- ✓ instructed **272 youth & young adults** on location at schools, community centers and art centers
- ✓ hosted **776 youth** in our studios for unique, STEAM-based field trips and workshops
- ✓ taught **191 participants**, ages 10 and up, in public classes
- ✓ trained **315 adults** in private groups, lessons and studio rentals
- ✓ entertained and amazed **350+ people** at school and community events, streets fairs and festivals

For a fourth year, both anecdotal and quantifiable program evaluation data demonstrate consistently high satisfaction rates with both our one-day and long-term programs:

	2015-2016	2016-2017	2017-2018	2018-2019
Program satisfaction	98%	94%	96%	96%
Would return for more programs	85%	98%	96%	97%
Would recommend to family or friends	Not measured	Not measured	98%	98%

2018-19 PROGRAMS

Our 2018-19 Evaluation Report includes evaluations of the following programs;

LONG-TERM PROGRAMS	
Page 5	YES! Youth Entrepreneurial Spirit ; a teen, college and career readiness program which combines hard business skills with glass art making techniques. This year-long program for high school students culminates with students creating an original product and competing in a business plan competition, and which encourages students to explore their options after high school. YES is offered as both a weekly after-school program and daytime program for students who participate in approved internship programs at their high school.
Page 7	Long Term Residencies ; customized glass-art programs that match the needs and interests of students in grades 5-12, and align with New Jersey State Learning Standards, conducted on site at schools and community centers.
Page 11	Summer Youth Leadership Corp (YLC) ; offered in cooperation with the city of Newark, the YLC program provides work experience, leadership training, and opportunities for Newark teens to mentor younger students in our summer programs, gaining important skills and building resumes.
SHORT TERM PROGRAMS	
Page 17	One Day Field Trips ; during a three-hour workshop, students participate in two hands-on, STEAM-based activities in our Flame and Flat studios and witness a glassblowing demonstration in our Hot Shop. Field Trips include our one-day Glass Volcano Experience Workshops , a hands-on STEAM-based workshop that uses molten glass to teach 6-12 th grade students about the science and behavior of volcanoes.
Page 21	Teacher Evaluations
CAREER AND COLLEGE READINESS PROGRAMS	
Page 23	The Bead Shop ; a craft entrepreneurship/workforce development program aimed at women.
Page 25	Introduction to Scientific-Glassblowing ; prepares young women and men for entry-level jobs in the research and laboratory glassware industry.
Page 27	The GlassRoots-Penland Fellowship ; the third and final year of a three-year initiative with Penland School of Craft; this fellowship is a thirteen-week art intensive, 9-college credit fellowship program, intended for high school graduates and created in collaboration with the Penland School of Crafts in Penland, North Carolina. The program includes work and study in our studios in Newark and off-site at Penland in North Carolina.

LONG TERM PROGRAMS: YES! YOUTH ENTREPRENEURIAL SPIRIT

GOALS: Three hours per week after school, over the course of an academic year, currently enrolled high school students design a business around glass art or glass products while learning and practicing important life skills.

SURVEY GROUP: 34 students total. This year's cohort included students from North Star Academy, through our partnership with the school, and 5 students who applied independently to our Wednesday after-school program.

DEMOGRAPHICS: 85% of students are from Newark or the greater Newark area. Additionally, we had one student each from the outlying neighborhoods of East Orange, South Orange and West Orange.

GENDER IDENTITY: 24 students identified as male, 10 as female.

RACIAL / ETHNIC IDENTITY:

71% Black/African-American

34% Hispanic/Latino

8% American Indian or Alaskan Native

2% White/Caucasian

**Percentage totals are 116%, indicating that some students chose more than one racial or ethnic identifier*

GRADE:

16 high school seniors

7 juniors

10 sophomores

1 freshman



PROGRAM HIGHLIGHTS

This spring GlassRoots concluded the 15th year of its youth entrepreneurship program. The size of this year's cohort made for a more robust program overall. With more than one student designing products in each of our three studios, students were challenged to truly differentiate themselves from their peers' designs and ideas. Students worked individually, as well as in groups of two or three students, creating businesses and products using glass.

Several students reported that the program met or exceeded their expectations and that they felt supported by GlassRoots' Teaching-Artists. They also felt that the program allowed sufficient time to learn both the business and studio skills necessary for creating a successful product.

Students asked for more training and practice in public speaking and pitching products; the opportunity to work with mixed materials or media with the glass; additional special field trips and more time in the studios for practice and making. Student feedback on the curriculum included a request for examples that are more realistic/relevant to high school students (versus adult entrepreneurs), and dissatisfaction with using the phone app (mostly connectivity problems). Seniors graduating from the program expressed an interest in attending college to continue their study of business and art, as well as marine biology and criminal law.

Jonathon, a student in the daytime version of YES, attends the Big Picture Learning Program at Eastside High School, where each student is part of a small learning community of students called an 'advisory'. Each advisory is supported and led by an educational advisor that works closely with the students to help them identify their interests and personal learning style, and to choose among the many providers of daytime internship programs offered to all Big Picture students, of which GlassRoots is one.

In our daytime program, each student works closely with one of our teaching-artists as their mentor, learning glass-art production in a real world setting, with additional support and training from the entire teaching staff. The result is a student-centered learning curriculum, where students are actively invested in their learning and are challenged to pursue their interests by a supportive community of educators and professionals.



This year teaching-artist Kate Dowd acted as Jonathon's mentor. In addition to teaching, Kate oversees all commissioned work for GlassRoots. In his time at GlassRoots Jonathon created or assisted in the creation of commissioned work, designed and produced items for sale including jewelry, and explored new product ideas using the vibrant Portuguese community as his inspiration, including an idea for glass pendants that use the colors of the Portuguese flag.

Kate asked Jonathon to create the prototype for one client who originally ordered five awards. They were so pleased with the prototype that they increased the order to twenty-seven awards! Jonathon said he felt great knowing his work helped to increase GlassRoots' earned income. Jonathon never missed a class and often wanted to stay late in order to keep perfecting his products. He would remark how quickly time flew while here.

Additionally, Jonathon was required to give a presentation about his experience at GlassRoots to fellow students and teachers at his school for which he earned an A.

LONG TERM PROGRAMS: MOSAIC RESIDENCIES



Before, during and after photos of the ambitious mosaic project at First Avenue School.

GOALS: To learn glass-art skills, and to practice 21st century skills including teamwork, communication, collaboration and problem solving while creating a group or individual project.

SURVEY GROUP: In the 2018-19 school year, GlassRoots served a total of ninety-four students in grades 5 to 8 through our mosaic residencies. The average length of a residency was 8-10 weeks. Each residency involved designing and creating large-scale mosaics for installation at the school. Residencies took place at four schools in Newark; **Link Community Charter School** and **Philip's Academy Charter School**, where GlassRoots' teaching-artists have been in residence at each school for four or more years, and for the first time at **Hawkins Street School** and **First Avenue School**, where art teachers secured the funds for each residency through New Jersey State Council of the Arts grants.

DEMOGRAPHICS: 100% of the students served live in Newark, and the greater Newark area.

GRADE: At 55%, eighth graders represent the largest number of participants in our long-term mosaic programs, with 15% of participants each in 5th, 6th and 7th grades.

RACIAL/ ETHNIC IDENTITY: Participants in our long term residencies identified themselves as follows;

- 62% Hispanic/Latino
- 24% Black/African American
- 9% White/Caucasian and
- 5% choosing not to respond

72% of respondents reported that they speak English as their first language.

GENDER IDENTITY: 63% of respondents identified as female, while 37% identified as male. No students identified as gender neutral.



From left to right; mosaic residency students at Link Community Charter, Philip's Academy and Hawkins Street School.

PROGRAM HIGHLIGHTS

Mosaic residencies allow our Teaching-Artists the opportunity to offer students a deeper knowledge in mosaic and kilnform glass-art making. At the same time, they allow our staff to develop trusting relationships with students, and for students to develop deeper relationships and better communication with their peers. GlassRoots is pleased to continue our long relationship with students at **Link Community Charter School and Philip's Academy**, delivering mosaic instruction for over five years at each school.

Tabitha Rodriguez, Teaching-Artist at Philip's Academy, relates the inspiration for this year's 8th grade legacy project; *"Students wanted to represent the transformation they underwent over the years (in middle school), the transition(s) to come, and their vision of growth they hope to experience. They depicted these transitions as hot air balloons -- gently moving forward on their journey. I love being able to help create a safe space for young adults to express themselves freely. Listening to their stories and dreams for the future brightens my days. They are rock stars!"*

This year GlassRoots was pleased to bring mosaic instruction to two new schools in Newark, **Hawkins Street School** and **First Avenue School**. At First Avenue School, fifth grade teacher Victoria Litterio imagined an ambitious project for fifty of her 5th grade students; a glass mosaic mural to adorn the entryway to the school's STEAM lab.

Mrs. Litterio and her students worked with GlassRoots' Teaching-Artist Amira Rogers, meeting twice a week for four weeks. First, they researched and created a design to represent each component of STEAM; science, technology, engineering, art and math. Next, they transferred the designs directly onto the blank walls outside the lab entrance. Students then worked as a team, cutting and gluing the glass tiles to the wall. Lastly, with help from Ms. Litterio and colleagues, Amira applied grout to the entire design to affix it permanently to the walls.

One of Amira's favorite moments during the residency was the day she was transferring the design depicting 'math' to the walls. A student from the class walked by and his face lit up; it was his idea to use the sign for Pi for the math "pie" (decal). His pride and excitement in seeing his design idea being adopted was evident and inspiring; it also highlights how our residency programs enable students to be decision-makers and full participants in a project.

LONG TERM PROGRAMS: MEASURING IMPACT

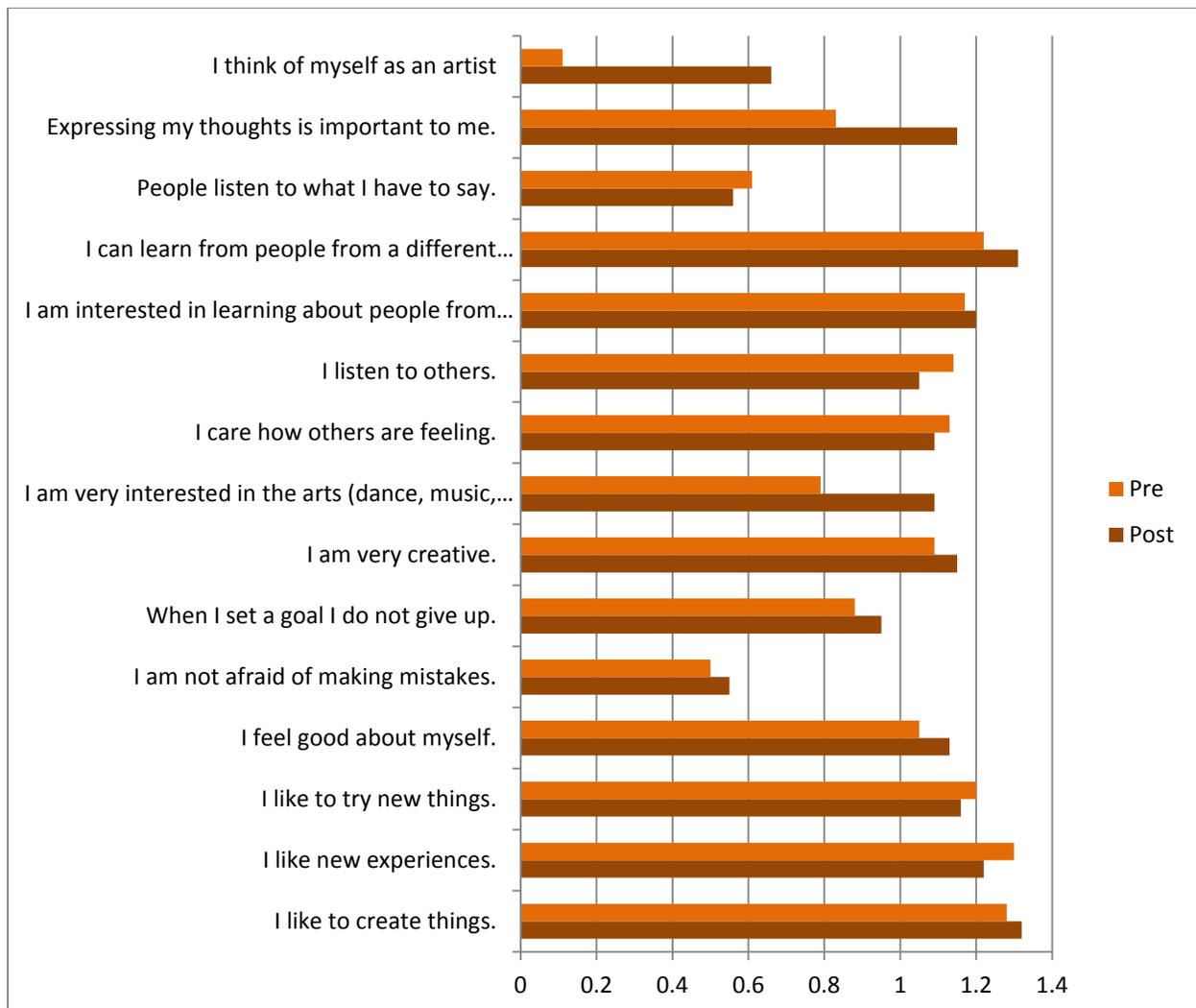
Measuring Social-Emotional Growth and 21st Century Skill Development

Many programs delivered by the nonprofit and public sectors are designed to help change people’s lives. When the changes of individuals are aggregated, a larger community impact can be determined. The changes usually represent **knowledge, attitude** or **behavior** outcomes. The following charts were created using the aggregated data of participants in three of our long term programs: **YES, FLAME** and **Mosaic Residencies**.

Creative Ability and Risk Taking

Participants in our long term programs showed gains across a number of measurements in;

- creative ability and risk-taking, including their attitudes towards themselves as creative or artistic people
- how much they value personal expression
- an interest in the arts in general
- an interest in learning about and from people of different backgrounds, and
- perseverance in the pursuit of goals, and in feeling good about themselves

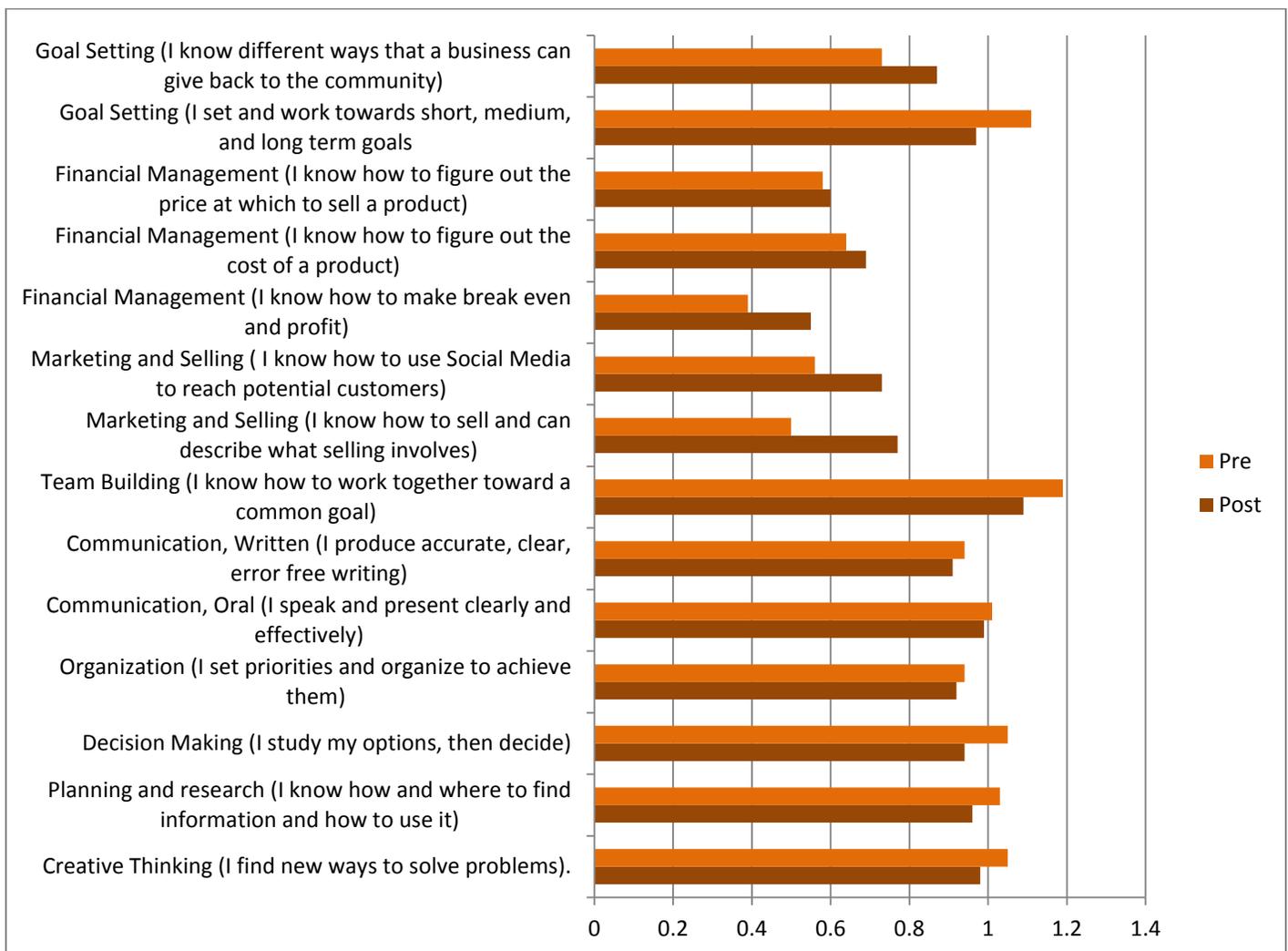


21st Century / Transferrable Skills

In measuring program knowledge and transferrable skills, participants reported gains in skills that will serve them in all aspects of their life including college and career, such as;

- understanding the value their business or product can contribute to the community and economy
- calculating cost and profit margins, and
- how to market and sell a product, including the use of social media as a marketing tool

From this chart, we see room for improving or increasing our instruction in Communication, both written and oral, Team Building skills and Planning and Research.



Reading the charts: numbers are based on an average of a 2, 1, 0, -1 or -2 point Likert scale. Measurements over 1.5 are considered “good” or “great”. A lack of negative measurement, or an overwhelming positive trend in scoring, is considered excellent.

LONG TERM PROGRAMS: YOUTH LEADERSHIP CORP



Each year teenagers from Newark's summer employment program participate in GlassRoots' Youth Leadership Corps training program, gaining skills in glass-art making and leadership.

GOALS: The goal of the Youth Leadership Corp (YLC) program is for participants to grow by mentoring younger kids and to practice 21st Century skills such as collaboration, teamwork, problem-solving and communication.

SURVEY GROUP: This year the cohort was made up of nine participants. Of the nine, eight of the students are Newark residents and were participants in Newark's Summer Youth Employment program. One student is a resident of East Orange who enrolled independently.

GRADE:

3 high school seniors
1 junior
4 sophomores
1 freshman

SCHOOLS:

3 students from Science Park HS
3 from Arts HS
1 from University HS
1 from North Star Academy

GENDER: Six of our participants identified as female, 2 as male, and one as gender neutral.

RACIAL/ ETHNIC IDENTITY: Seven students identified as Black or African-American, two students identified as Hispanic/Latino. 100% of the students spoke English as their first language.

PROGRAM HIGHLIGHTS

GlassRoots YLC program provides in-depth training on leadership and mentorship skills, preparing participants to serve as mentors in our summer glass-experience program.

This year marked the fourth year of the YLC program in which participants completed 24 sessions, or a total of 96 hours of training.

In this 6-week summer work/internship program, high school students receive on-site and on-the-job training and experience that helps ready them for college and/or the workforce, while not losing the gifts and uniqueness of our glass-art program. The YLC create, learn, and grow intellectually, socially and emotionally and can apply this experience to their resumes and school applications. With a focus on developing communication, teamwork, personal identity, professionalism, and project management, the YLC complete the summer having developed the skills they need to succeed.

This year the YLC program included:

- A field trip to Luna Parc, a unique “living art” project and the home of artist Ricky Boscarino located in western New Jersey. Over 30 years, Ricky, a RISD-trained designer and jewelry maker, designed and built a home which is comprised of multiple buildings, with interior and exterior landscapes furnished with unique sculptures, paintings and mosaics. Our YLC were invited to add to the home, creating mosaic panels, which Ricky installed on an exterior wall of the house. Meeting Ricky and adding to the project gave students an opportunity to expand their experience with and definition of art and design.
- YLC acting as teaching assistants to GlassRoots staff, for classes conducted on and off-site. Students in these classes included over 100 participants from the Newark Museum’s Summer Camp ages 9-12, 150 students participating in Newark’s summer expanded-learning program, Summer Plus, ages 10-13, and adult students from JESPY House, a daytime and residential organization providing programs for adults with intellectual and developmental disabilities, who participate in bi-monthly mosaic workshop at GlassRoots.

MEASURING IMPACT

By working together in trainings, production, and in assisting classes, the YLC became a close knit group. Together they successfully developed and executed several Lead Projects (described below), demonstrating their abilities and growth in communication, leadership, and problem solving skills. Additionally, the YLC demonstrated a proficiency in glass-art making.

Development of 21st Century Skills

Each of the six weeks of training was devoted to the development of a specific skill;

- ✓ Week 1 - Goal Setting
- ✓ Week 2 – Leadership
- ✓ Week 3 – Collaboration
- ✓ Week 4 – Communication
- ✓ Week 5 - Career Planning
- ✓ Week 6 - Problem Solving

GlassRoots board and staff, and community members, contributed to the training of the YLC in these focus areas, providing lessons in financial literacy, communications, problem-solving, resume writing, and goal setting. Students were

given opportunities to practice these skills by assisting in classes, representing GlassRoots at outside events and in the creation of their Lead Projects.

Program Satisfaction and Attitude

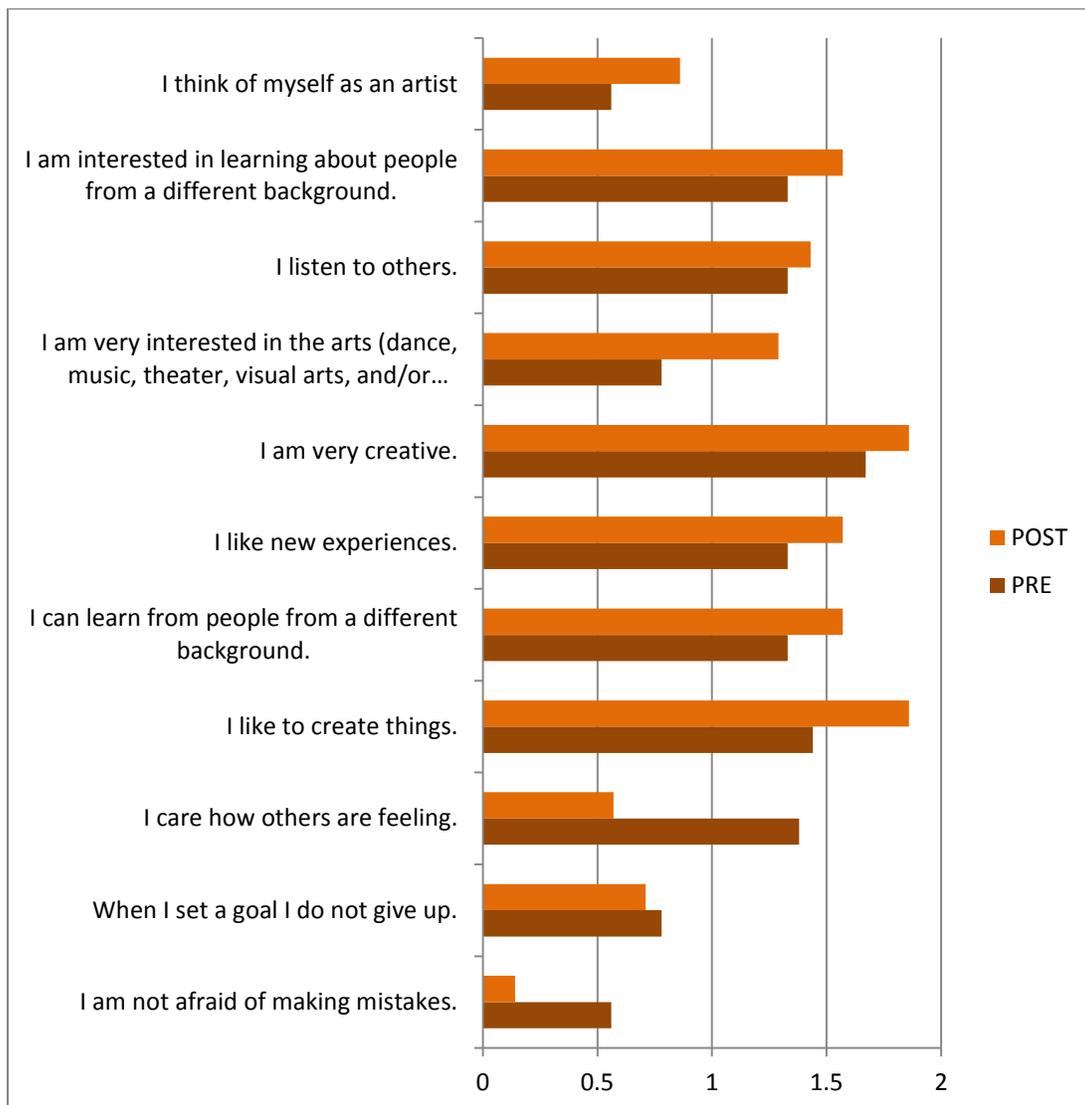
Post program, 100% of participants rated themselves as Satisfied or Very Satisfied with the program. Additionally,

- 100% of participants reported that they enjoyed the experience
- 87% reported that the experience made them think in new ways
- 72% reported that this program made them more interested in the arts, and that they want to attend another program like this

Creative Ability and Risk Taking

Program participants reported gains across a number of measurements in creative ability and risk-taking, including:

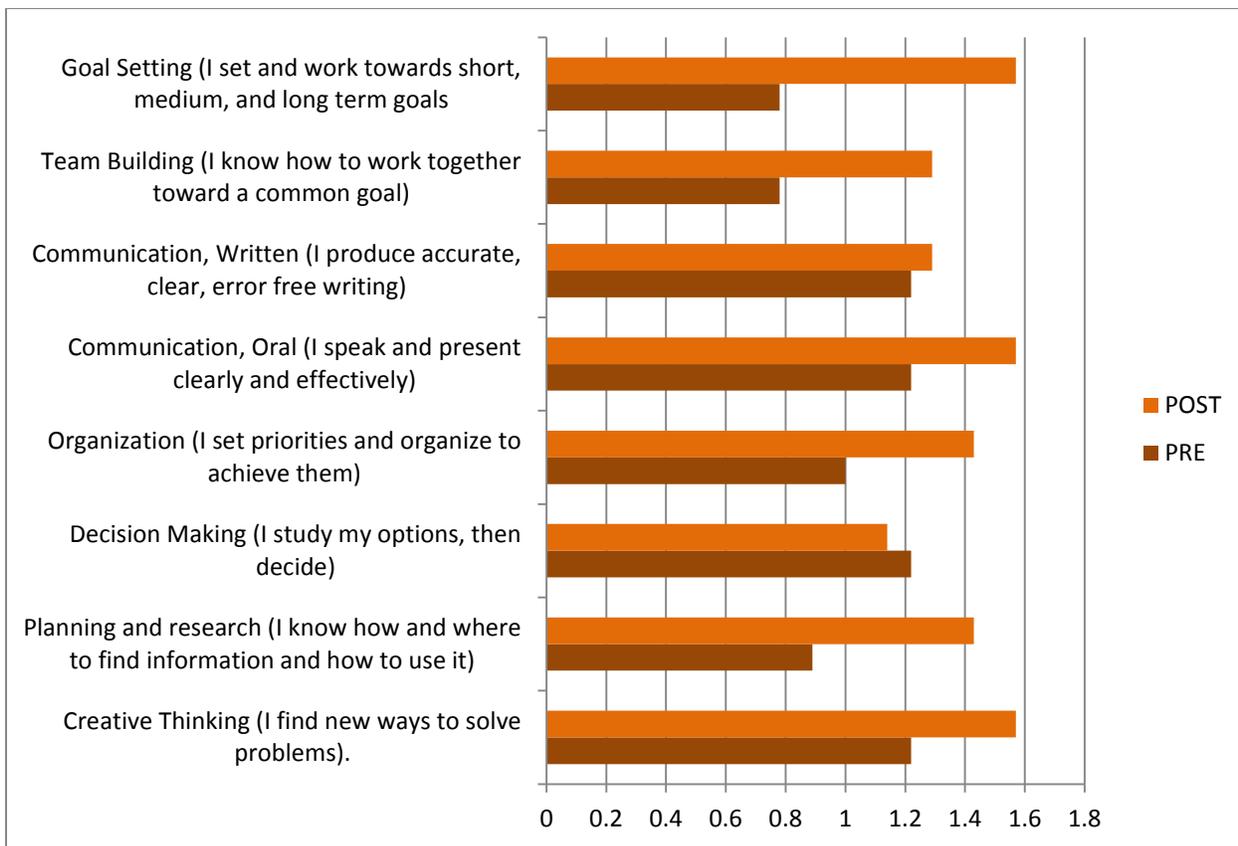
- “I think of myself as an artist,” and, “I like to create things.”
- “I like new experiences,” and, “I learn from people from a different background.”



Notably, participants reported a greater level of fear of making mistakes post-program. Teaching-Artists recognized this as a common sentiment among students after they complete a program; it is a reflection of the students' newfound understanding of the challenges of mastering a particular material and their own limitations in achieving a desired outcome.

21 Century / Transferrable Skills

With the exception of Decision Making, program participants reported gains in skills that will serve them in college, career and life such as **goal setting, written and oral communication, organization** and **planning and research**.



Reading the chart: numbers are based on an average of a 2, 1, 0, -1 or -2 point Likert scale. Measurements over 1.5 are considered “good” or “great”. A lack of negative measurement, or an overwhelming positive trend in scoring, is considered excellent.

Additional Participant Feedback

In addition to gathering data from surveys, GlassRoots’ staff conducted de-briefing sessions with students, asking for feedback on several features of the program. This feedback is used to gauge the impact and effectiveness of the program, and is taken into consideration when designing the following year’s program;

- I. On assisting with classes:
 - Most of the group liked teaching classes.
 - Some students did not like working with youth and wanted an alternative option.
 - Some YLC had safety concerns about teaching a large number of students in our small studios.

- II. On making things:
 - Everyone felt as though they did more teaching than making. A suggestion was to have equal time for both.
 - all appreciated the opportunity to try all 3 shops
 - Loved getting praise from staff
 - Working on commissions (paperweights) was too hard/stressful
- III. Visitors
 - Enjoyed visitors/ found them interesting
- IV. Trips
 - They liked all the trips
 - Suggested we have a “fun trip”/ facilitated hangout (e.g. movies, pool, amusement park)
- V. Work Dynamic amongst YLC and staff
 - Everyone worked well with each other
 - Enjoyed building relationships with staff
 - Wanted more time for team building – getting acquainted with each other
- VI. Program structure
 - Appreciated feeling in charge/ a part of GlassRoots
 - Wanted more administrative tasks and to work and help with jobs upstairs
- VII. Lead Project
 - All thought it was success and made for an amazing project
 - Some people didn’t want to create advertisements, others loved it and thought we should have done more
 - They liked getting noticed in the street by people they taught
 - One suggestion was to have a few options for the lead project that the group could choose from
 - One suggestion for a future project was to develop and teach a full workshop
- VIII. Instagram takeover
 - Successful - some people came to workshops based on the posts

YLC LEAD PROJECTS

Lead Projects are intended to provide an opportunity for our YLC to practice their 21st century skills, especially leadership. Students are tasked with the design, marketing and execution of an independent activity, demonstration or lecture, that helps create greater awareness of GlassRoots' programs.

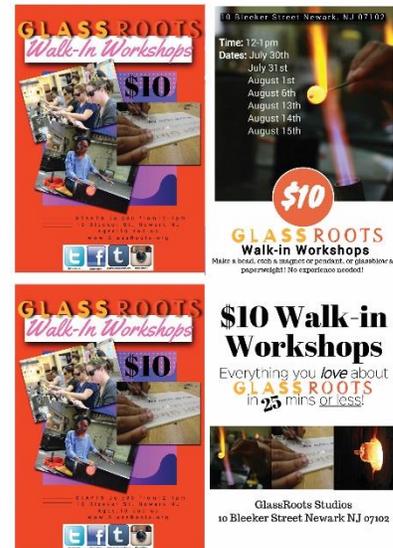
This year's Lead Project was an outstanding group effort; the creation of lunchtime Walk-in Workshops in all three of our studios. Students designed 30 minute lessons for novices in each studio; created social media promotional materials and paper flyers to advertise the workshops -- with which they stood in the street outside GlassRoots' on multiple days, soliciting customers; and, in addition, taught each workshop to participants.

Program Highlight "The summer highlight for me was the YLC Lead Project; creation of Walk-In Workshops. These workshops made GlassRoots' programs accessible to people who cannot afford our regular workshops. For \$10, participants could make a bead, sandblast a magnet, or even work in the Hot Shop. The Project was a multiple skill-building exercise for our Corp, as they took the lead to teach, market and sell these workshops. Walk-ins were so successful that our staff decided to add these workshops to our regular program offerings."

-- **Kate Dowd, Lead Teaching-Artist**

A total of 21 people participated in these youth-led Walk-in Workshops. From the post-program surveys we learned;

- 8 participants made a bead in the Flame Shop
- 9 worked in the hot shop
- 4 created a sandblasted magnet or pendant in the Flame Shop. Participants learned of the workshops via social media or word of mouth from family or friends. 3 participants learned about the workshops from walking by the studio. 100% of the participants were very satisfied or satisfied with the workshops. 20 participants reported being "very satisfied" with their experience with 1 reporting they were satisfied with the experience. 20 participants would be interested in returning to another class at GlassRoots (95%). 100% of participants would recommend GlassRoots to friends or family.



SHORT TERM PROGRAMS: ONE DAY FIELD TRIPS

Our one-day field trips are our way of exposing students to the wonders of glassmaking, a unique art-form not readily available to most elementary and secondary students. Typically, teachers bring a class of up to 25 students to create projects in our Flame and Flat Shops, which can be taken home the same, and to witness a glassblowing demonstration in our Hot Shop.

GOALS: To learn basic skills in glass art, to understand basic elements of STEAM as related to glass art, to create a piece of glass art that can be taken home, and to have fun.



SURVEY GROUP: This year 563 youth participated in our one-time workshops. Among the data we collect, data for one-day field trips continues to represent our largest sample set.

DEMOGRAPHICS: 80% of our students are from the city of Newark or the greater Newark area; 15% of students are from outlying suburban neighborhoods and 5% from schools more than 15 miles away from Newark.

RACIAL/ETHNIC IDENTITY:

40% Black/African American
34% identified as Hispanic/Latino
22% as White/Caucasian
Among the 4% who checked 'Other', they included these identifiers: *Haitian, Guyanese, Portuguese, Indian, Turkish and Jamaican.*

GENDER IDENTITY:

61% female
36% male
1% identify as gender neutral
2% identify as gender fluid or gender non-binary

GRADE:

48% high school students
43% middle school (grades 6-8)
11% of students in grades 3, 4 or 5 (elementary school)

PROGRAM SATISFACTION

Satisfaction for programming in our one-day field trips remains high and consistent with previous years' measurements.

- 94% of respondents reported that they were "Very Satisfied" or "Satisfied" with their GlassRoots experience
- 97% of respondents said they would recommend GlassRoots to friends and family
- 94% of respondents said Yes they would like to come back to GlassRoots



“I never knew Newark had stuff like this!”

STUDENT SNAPSHOT: *Who did we serve in one day field trips this year?*

GlassRoots’ field trip participants continue to represent the diverse constituency of Newark and surrounding communities, as evidenced by participants’ self-reporting as to cultural identity, as well as where students live and what schools they attend.

The top five cities or towns served by one-time visits or field trips are:

- Newark (275 students, or 49% of total students served)
- Hoboken and Rahway (25 students each)
- Linden and Lyndhurst (18 students each)

Within Newark, the top three neighborhoods we have served through one-time visits are:

- Forest Hill/Mt. Pleasant (62 students)
- Fairmount/Roseville (48 students)
- University Heights (41 students)

Program Impact

We asked students if their experience at GlassRoots impacted them and how. Here are the top 5 most popular responses from the multiple choice responses:

- “I enjoyed this experience.” **94%**
- “This experience made me feel happy.” **70%**
- “I am going to tell my parents/family about this experience.” **68%**
- “I am going to tell my friends about this experience.” **67%**
- “The experience made me more interested in the arts.” **54%**

We then asked students what they liked about the program as an open-ended question. Of the 563 participants surveyed, we received 497 responses, which were grouped along these sentiments:

On impact or influence on self-regard or future plans:

- “I liked everything about the program however, because my left hand is deformed, I wasn’t able to do it all by myself. It made me feel limited in my ability. I like the fact that the staff was able to help me and still allow me to feel as though I was doing it myself.”
- “I liked the fire part. It makes me feel older.”
- “I liked how calming everything was.”
- “I enjoyed how it gave me an idea for a future job.”
- “It literally caught my eyes – highly interested in this as a hobby.”
- “This program taught me new things about the arts and that there are many different jobs involving the arts.”

On how they felt about creating glass-art/artistic expression:

- “I liked that we got to work with the glass rather than (only) watching, but I still found watching the glassblowing pretty cool.”
- “I liked how everyone was open to create in different ways.”
- “I liked how peaceful and focused I felt when doing the mosaic.”
- “This program allowed me to think and express my emotion in art.”
- “I liked that it was hands-on, and that I was able to bring my things home.”
- “I like how you can just start with what seems like nothing to (create) something cool.”
- “It doesn’t have many rules and it allows you to be creative.”
- “How they let us have an experience working at each station.”

★★★★★★★★★★

“I can’t choose one thing I liked about this program - because I loved everything!”

On how they felt about staff and the atmosphere at GlassRoots:

- “Instructors were informative and very patient.”
- “The employees were very nice and helpful.”
- “I liked the environment and the positive energy the employees have.”
- “The people here are fun and positive; they put up with my craziness and hyper-ness ☺”
- “The tutors are nice and cared about my safety.”
- “It was very hands-on and easy to access because it was in the city.”
- “How friendly the people were and how it was something we were able to do freely on our own.”
- “I liked how we could make a mosaic ourselves – instead of watching them do everything.”

★★★★★★★★★★

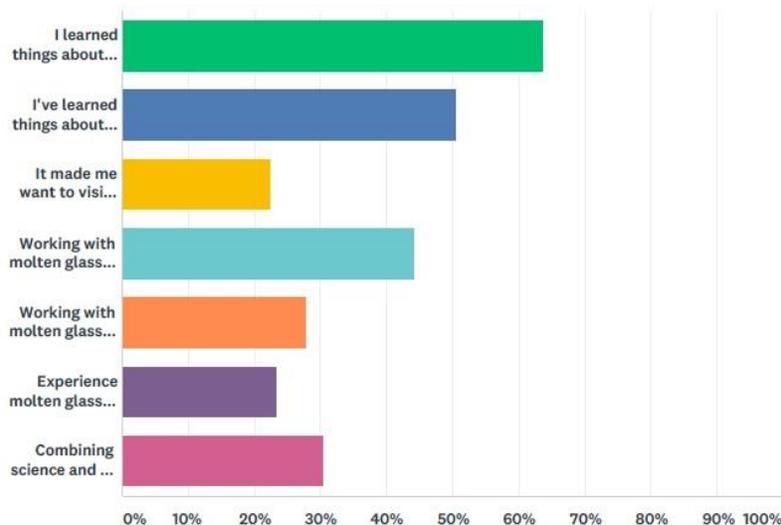
ONE DAY FIELD TRIPS: THE GLASS VOLCANO EXPERIENCE

Thanks to a generous grant, we were able offer “The Glass Volcano Experience,” to **128 students** this year, in middle and high school, from Newark and three outlying suburban school districts.

The Glass Volcano Experience is a hands-on STEAM-based workshop that uses molten glass to offer an **interactive, intensive introduction to the science and behavior of volcanoes**. Originally funded by the National Science Foundation as part of its Opportunity for Enhancing Diversity in the Geosciences grant program, the Glass Volcano Experience is a collaboration between Rutgers University-Newark’s Department of Earth and Environmental Sciences and GlassRoots, and was piloted at GlassRoots in the spring of 2015. The two-hour workshop includes four components:

- A video presentation describing volcanoes and their behavior;
- A hands-on *Flame Shop* experience in which students work with fire and glass to simulate lava behavior by creating “Pele’s tears” and “hair,” products of Strombolian volcanic eruptions;
- A *Flat Shop* experience in which students learn about obsidian, aka volcanic glass, and are able to smash glass causing a ripple pattern that mimics that of volcanic rocks; and
- A *Hot Shop* experience observing molten glass that is heated to 2000 degrees simulating lava flow and how it reacts to various environmental features.

Q31 How did the Volcano Experience affect you?



ANSWER CHOICES	PERCENTAGE	RESPONSES
I learned things about volcanoes I never knew before	63.57%	82
I've learned things about molten glass I never knew before	50.39%	65
It made me want to visit a volcano in person	22.48%	29
Working with molten glass made learning about volcanoes a fun experience	44.19%	57
Working with molten glass made me understand how volcanoes function	27.91%	36
Experience molten glass in the context of learning about volcanoes helped me understand the properties of molten glass	23.26%	30
Combining science and art is a good way for me to learn	30.23%	39

ONE DAY FIELD TRIPS: TEACHER EVALUATIONS

All teachers and chaperones for One Day Field Trips are asked to complete surveys. This year, thirty-three participants completed the survey:

- 52% reported they are high school teachers
19% middle school teachers
6% elementary school teachers and
33% reported that they are chaperones (parents), teacher assistants, aides or school administrators
- 27% of teachers responding taught art (vs. 28% last year)
17% of teachers responding taught science and
10% of teachers responding taught math
10% of teachers responding taught History/Social Studies
10% of teachers responding taught Technology
26% reported that they are chaperones (parents), teacher assistants, aides or school administrators

SUCSESSES:

- 100% of teachers reported satisfaction with their GlassRoots experience
- 100% said that they would recommend GlassRoots to other educators
- 100% of teachers said they plan to return with their students to GlassRoots
- 100% of teachers said their students were engaged and interested in the learning process, and
- 97% of teachers said that the in-studio program was relevant to their curriculum

When asked to rate one’s agreement with the impact of GlassRoots’ Arts programs, respondents reported that they “Agree” and “Strongly Agree” with the following statements.

Answer Options	% Strongly Agree + Agree
It increases student self-confidence.	97%
It improves a student's ability to express ideas.	100%
It results in students having a better cooperative learning experience.	100%
It results in students having better peer relations.	81%
It results in students having a more positive attitude toward learning.	100%
It results in students having a more positive attitude about school.	97%
It increases student appreciation of Fine Arts.	100%
It increases student achievement in Science.	84%
It increases student achievement in Math.	63%
It increases students’ critical thinking skills.	94%

FREE-FORM RESPONSES

In the open response portion of the survey, we asked teachers to tell us about their experience in their own words, and also, how they think we could improve their and their students' experience. Here is a sample of their responses:

- It was a great and educational experience for students and teachers.
- Really enjoyed it and so did the kids!
- This was wonderful! Will definitely come back next year, thank you so much!
- This was a wonderful experience, for myself, and students! I believe they will remember this for years to come!
- It was a great field trip - thank you so much!
- This was a tremendous experience and I look forward to planning another trip soon.
- You all did a great job and were very informative.
- (This was) an excellent, interactive and fun program for students.
- Workshop for (teaching) staff includes both glass and mosaic lessons, to enhance experience and to ensure it models the students' experience. Very helpful.
- GlassRoots' instructors offered insight about career opportunities.

ROOM FOR IMPROVEMENT:

- I think the students could be challenged to put more effort into their mosaics; some were content to just use large pieces and fill the space, rather than pushing themselves to make something.
- When you are able to have a larger group we will be back! Thank You!
- Touching upon the science/glassmaking colors would have been "grand slam", but loved everything you've done!
- More time for the workshop!

CAREER & COLLEGE-READINESS PROGRAMS: THE BEAD SHOP

GOALS: The Bead Shop is a program designed to teach participants, aged 18 and up, to become proficient in flameworking, and to assist them in launching businesses resulting in supplemental income.

SURVEY GROUP: A total of eight participants completed the Bead Shop program “Jewelry in a Box.” The workshop ran for two consecutive weekends (32 hours of instruction).

DEMOGRAPHICS: 100% of participants are residents of Essex County, NJ.

RACIAL/ETHNIC IDENTITY:

6 identify as Black/African American
3 identify as Asian or Pacific Islander
2 identify as Hispanic/Latino

AGE:

18 to 24: 5 people
25 to 34: 1 person
45 to 54: 1 person
55 to 64: 1 person

GENDER IDENTITY:

5 identify as female
3 identify as male



PROGRAM IMPACT:

Pre-program, we asked participants why they had enrolled in the Bead Shop program:

- 100% of respondents expressed a desire to learn how to make glass bead and jewelry and
- 72% said they wanted to earn supplemental income by selling jewelry
- 60% expressed an interest in learning how to create their own business.

Post-program, 100% of participants reported that the program had met their expectations, and 100% said they would tell friends and family about GlassRoots’ programs.

Additionally, participants reported that they **Agreed** or **Strongly Agreed** with these statements, demonstrating increases in self-confidence, self-expression, focus and resiliency.

- I am comfortable learning a new skill (100%)
 - I am interested in being a glass artist (66%)
 - I consider myself an artist (100%)
 - I am very focused when completing a task (100%)
 - I am a creative problem solver (83%)
 - I have great determination (100%)
 - Self-expression comes easily to me (100%)
 - I look at mistakes as a learning opportunity (100%)
 - I am comfortable making mistakes (83%)

Also post-program, respondents reported gains in skill for **Financial Management, Marketing and Selling, Planning and Research** and **Creative Thinking**:



Reading the chart: numbers are based on an average of a 2, 1, 0, -1 or -2 point Likert scale. Measurements over 1.5 are considered “good” or “great”. A lack of negative measurement, or an overwhelming positive trend in scoring, is considered excellent.

CAREER & COLLEGE-READINESS PROGRAMS: INTRODUCTION TO SCIENTIFIC GLASSBLOWING

PROGRAM GOALS: GlassRoots' **Introduction to Scientific Glassblowing** Program prepares young women and men for entry-level jobs in the research and laboratory glassware industry.

The employment opportunities for scientific glassblowers are good. Though jobs are not guaranteed, the US Department of Labor projects growth of 8 - 14 percent over the next decade. Scientific Glassblowers can earn from \$9 - \$15 per hour as an entry level worker.

GlassRoots offers this program to recent high school graduates or individuals with a GED. The target age range is 18 - 24 older students are considered as candidates. The program includes:

- 1) **Introduction to Computer Aided Design, Drafting and Blueprint Reading; Geometric Concepts for Glass Blowers.**
- 2) **Hands-On Scientific Glassblowing Training.** Studio training with instructors from the American Scientific Glassblowing Society. Students will learn how to make borosilicate glassware and artistic glassblowing.
- 3) **Workplace Readiness Training.** Soft skills training covering: professionalism and responsibility; interviewing; entrepreneurial thinking; communication in the workplace; self-esteem; financial literacy; managing family issues; time management and more.
- 4) **On Site Visits:** Apprentices have an opportunity to visit local scientific glassware company. Transportation costs are covered by the program.

SURVEY GROUP: Two participants.

GENDER: Both participants identify as gender neutral or gender non-conforming.

AGE: One participant is 21 and the other is 22 years old.

RACIAL / ETHNIC IDENTITY: One participant identifies as both Black or African American and Hispanic or Latino, one participant preferred not to answer.

PROGRAM IMPACT:

Post-program, both participants indicated they were very satisfied with the program, and that they would recommend the program to friends and family.



Additionally, we asked students to rate their agreement with the following statements regarding their self-regard and skills. Their responses indicate a high level of confidence with themselves as learners and with the course material. 100% of participants reported:

- I am comfortable learning a new skill.
- I am comfortable working with fire.
- Self-expression comes easily to me.
- I look at mistakes as a learning opportunity.
- I am comfortable making mistakes.
- I know how to use a computer in a work setting.
- I am comfortable reading blueprints.
- I am comfortable with Computer Aided Design (CAD).
- I know how to produce under an Artisan Contract.

Lastly, we asked the participants to indicate what the program may inspire them to do in the future. Responses included:

- Create more glass products
- Create glass art
- Learn more about scientific glass
- Find a full time scientific glassblowing job
- Think outside the box
- Tell people about my experience at GlassRoots
- Ask questions
- Imagine possibilities
- Solve a problem
- Start my own glass business

CAREER & COLLEGE-READINESS PROGRAMS: GLASSROOTS FELLOWSHIP

2018-19 was the third year of the GlassRoots-Penland Fellowship, a college readiness program which is a unique collaboration between GlassRoots and the Penland School of Crafts in Penland, North Carolina. Each year six students were chosen for the thirteen week Fellowship, guided by two mentors; one from GlassRoots and one from the Penland School.

At the end of the three weeks of preparation, students traveled to Penland for an 8-week intensive craft workshop in one discipline. The program concluded with one week of de-briefing at GlassRoots, including a program evaluation by students and Teaching-Artists, completion of college applications and an art show of completed works. Each student who successfully completed the program received up to nine transferrable college credits.



PROGRAM GOALS

- To expand personal and professional development opportunities for inner-city young adults through a sustainable partnership between Penland and GlassRoots;
- To foster accountability, self-esteem, and other important interpersonal and social skills, including developing the confidence to pursue post-secondary education and career development;
- To expand students' vision of future possibilities and broaden young people's network of supportive peers, teachers, and mentors;
- To teach young adults marketable skills that will further their vocational and academic success;
- For at least 90% of participating students to apply for college/university, vocational training, and/or employment in the 12 months following their completion of the program.

DEMOGRAPHICS: Five students participated in the program.

CONCENTRATION: One participant studied ironwork, one 2D art (painting/illustration) and 2 studied textile design.

GRADE/AGE: At the time of the program's start, four participants were 18 years old, and 1 student was 19 years old.

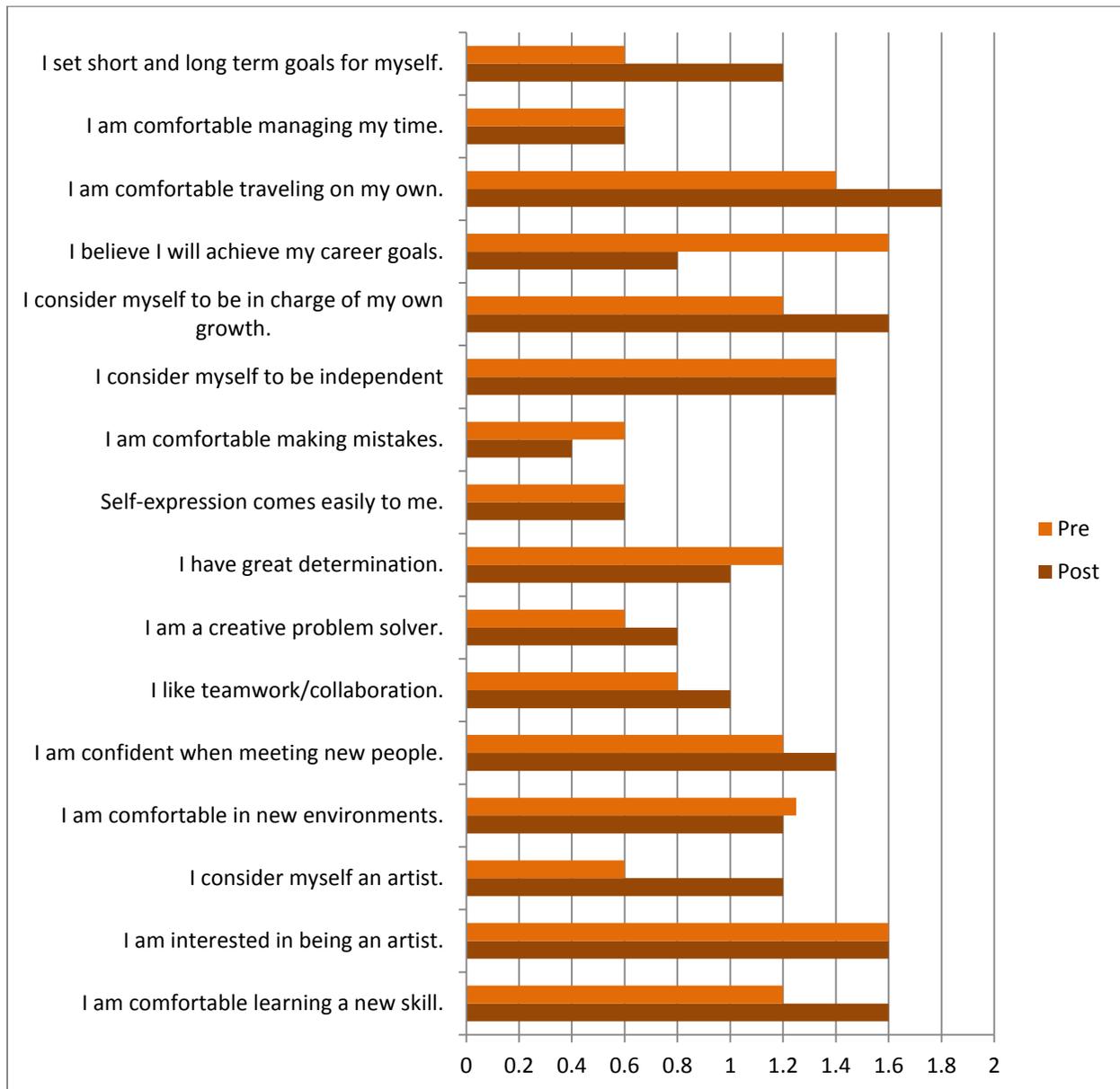
RACIAL/ETHNIC IDENTITY: 3 participants identify as Hispanic or Latino, 2 identify as Black or African American.

GENDER: Three participants identify as female and two identify as male.

PROGRAM IMPACT:

Post-program, Fellowship participants reported gains in several measurements assessing **Goal Setting, Confidence, Risk-Taking, Independence** and **Artistic Interest or Ability**. Additionally;

- 100% of participants reported they were Very Satisfied or Satisfied with the program.
- 100% of participants would recommend the Fellowship to friends and family.



Reading the chart: numbers are based on an average of a 2, 1, 0, -1 or -2 point Likert scale. Measurements over 1.5 are considered “good” or “great”. A lack of negative measurement, or an overwhelming positive trend in scoring, is considered excellent.

PARTICIPANT TESTIMONIALS

As with our other programs, in-person conversations, program de-briefings and the use of open-ended questions in our program surveys allows our teaching and administrative staff the opportunity to solicit substantive, actionable feedback from our program participants. For our Fellowship students, we asked these questions about their experience;

On their biggest successes:

- “Being able to make practical articles of clothing.
- Being on my own and managing my time wisely was my biggest success.
- Being able to throw a kitchen set (clay).
- Completing my artwork, all handmade (no technology).
- My biggest success was being able to gain life experience that I definitely would not have gotten if I stayed in New Jersey.”

On how the program helped to further their goals:

- “It's given me another possible avenue for creation.
- This experience helped open my eyes to new mediums and forms of art that could benefit me later on.
- It showed me what I want to study more about-- design -- and make it into a career.
- I believe the program helped me to realize that I will be making art no matter where I go or I where I find myself. It also made me realize that I want my future to be surrounded by this ideology; that I can definitely work in a new environment without being afraid of making a lot of mistakes.”

On whether the program met their expectations:

- “I definitely expected to try new forms of art in both Penland and GlassRoots and it has met (that) expectation.
- Everything that they said it would be, it was!
- I believe they showed me more path ways to (the) art; I was struggling in the beginning.
- They hit all the criteria that I hoped it would hit; whether it's working alone, working on a team, networking, building relationships, or gaining a new (art) skill.”

On how we can improve the program:

- Possibly have one person as mentor and another to do the grading, opposed to two people. It was confusing as to who was responsible for assessing our work (and our progress).

Teaching-Artist' Feedback

Our students came from various schools and backgrounds throughout the greater Newark area, with varying artistic abilities and interests. Each of them rose to the challenge of leaving their comfort zone, in both artistic expression and production, and in leaving the literal comfort zone of their neighborhood, schools and families. As a whole the group produced work that demonstrated thoughtfulness, perseverance and personal growth.

Collectively the students felt that the initial three weeks spent at GlassRoots in the beginning of the program was too short and densely packed, and could be expanded to five or six weeks. This would allow students more time to absorb the information and, more critically, provide more experience and practice time in the studio.