



Commentaries in Urban Education

STEAM for Social Change: The Anti-Gun Violence Asset Mapping Project

Abstract

For the past five years, there have been separate but parallel efforts to encourage both civics and STEM development. Historically, there have not been opportunities to support youth of color in social justice work while they are gaining technology skills and developing their leadership skills in their communities. STEAM (Science, Technology, Engineering, Arts, Math) for Social Change is an after-school program of DIVAS for Social Justice that combines these two. It is offered in Southeast Queens and Central Brooklyn at Title I schools. DIVAS for Social Justice also challenges the notion that certain topics cannot be taught to younger children (8-11). Instead, there is greater importance on introducing the intersection between STEAM and social justice to ensure the development of critical thinking skills. This article focuses on one of the projects: The Anti-Gun Violence Asset Mapping Project. It demonstrates how students can

be supported to engage in a social action project as they leverage STEAM skills to address the issue. DIVAS explores the importance of projects that can allow youth of color to lead a project that leads to conversations, and changes in policy, and instills pride in them.

Keywords

[asset](#), [STEAM](#), [community mapping](#), [social justice](#), [emerging technologies](#)

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DIVAS (Digital Interactive Visual Arts Science) for Social Justice was awarded funding in 2020 from the Verizon Foundation to expand programming to South Jamaica and the Bronx by providing STEAM (science, technology, engineering, arts, math) learning at New York City Housing Authority (NYCHA) community centers. DIVAS was new to funding from the Verizon Foundation, which

traditionally funded nonprofits with bigger budgets and which usually would have acquired local government funding to run a community center in a NYCHA complex. DIVAS was unique in that because of the nature of the funding, we would need to collaborate with a more established organization.

Mapping What Matters

DIVAS was invited to participate in two partnerships to fulfill their work funded under the Verizon grant. A representative from NYCHA's Private/Public Partnerships department served as a liaison to coordinate bringing the two organizations together. The representative from NYCHA met with DIVAS and suggested creating an interactive map addressing the issue of gun violence focused on the northern section of the Bronx. DIVAS had previously worked on two successful environmental community mapping projects: *The Bed-Stuy Community Eco-Mapping Project* and *Perspectives in Alcohol in East New York*. Both community mapping projects utilized Google Maps of the neighborhoods and points on the map highlighted media content as a solution to the community issue that was being addressed. For example, from 2010–12, the work of *The Bed-Stuy Community Eco-Mapping Project* raised awareness to highlight all of the community gardens in the neighborhood that were growing fruits and vegetables to address the issue of food insecurity. It also highlighted that the majority of the urban farmers were people of color who cared about the health and environment of their community. For the project *Perspectives in Alcohol in East New York*, youth documented within a five-block radius of their school how many alcohol advertisements youth were exposed to. Both projects focused on developing a solution-based approach to a community issue rather than just focusing on the deficits of the community.

As the executive director of DIVAS, I expressed my concern about creating a community mapping project with a focus on gun violence. The major question I asked the NYCHA representative was: Is the expectation that we collect information on the loss of life to gun violence? DIVAS was not willing to create a map that focused solely on highlighting violence in communities of color. The NYCHA representative agreed. I suggested, "What if we highlight what is good in a community that could help fight gun violence?" NYCHA appreciated the concept and agreed.

Assets and Access for All

In designing the curriculum for the *Anti-Gun Violence Asset Mapping Project*, DIVAS wanted the facilitation to be accessible in the event participants only had access to Wi-Fi, Chromebooks, and Web 2.0. In addition, there was an emphasis on understanding and identifying community assets in the neighborhood that focused on health, wellness, and economic development. Through a partnership with New York University (NYU), Dr. Kayla DesPortes and her research team developed the pilot curriculum over the span of four months in 2020 and launched it in the spring of 2021. The goals of the curriculum were to:

- Develop a greater understanding of how gun violence is a health crisis and how it affects communities of color.
- Teach students the fundamentals of community mapping as a tool for community activism.
- Develop a clear understanding of community assets, focusing on economic development, health, and wellness.
- Allow students and facilitators to develop technical skills through open-source materials for deliverable output.
- Develop critical thinking skills through research of community assets that are effective in preventing gun violence.

Using Open Source Strategically

DIVAS for Social Justice and the team from NYU knew that digital equipment would be limited at NYCHA community centers. The goal was to create a curriculum that could teach young people the power of utilizing open-source resources to help build their future portfolios for school and work. DIVAS and NYU designed lessons that focused on utilizing the tools in Google Drive to build the multimedia project. For example, one of the first lessons of the curriculum focused on understanding what community is and the definition of community assets. In the lesson, students were introduced to using the digital whiteboard *Jamboard*, as a tool for them to express what community means to them through words and images. *Jamboard* is also used as a tool to highlight community

assets based on research using keywords. Utilizing open source as the driving force to learning also educated students in digital literacy.



Figure 1. Example of combining open source (Jamboard) with emerging technology (laser cutting)

The Responsibility of Access

DIVAS for Social Justice believes that facilitation in the program must be reflective of the community members. The expansion of the program to the Bronx was DIVAS's first scaled expansion. The educational team did not just have a responsibility to youth learning but also to the facilitators working in the community center. NYCHA community center facilitators are traditionally paid anywhere from \$15–20 an hour to work in an after-school program. DIVAS for Social Justice offered to pay a facilitator from the other nonprofit's staff to facilitate the curriculum. The facilitator would be paid to work approximately 15–20 hours a week on the *Anti-Gun Violence Asset Mapping Project*. Seven hours of the allotted time were for recruitment and planning for facilitation. Even though

we provided resources and training opportunities along with the curriculum, the pilot struggled.

The Perception of After-School Programming

DIVAS for Social Justice received its first major contract to run an after-school program in 2014. The organization worked to create the STEAM for Social Change program as a model that could help rethink the opportunities for after-school programs. DIVAS was determined to show the intersection between STEAM and social justice through creating social action projects. The challenges this model faced have included:

- Students are not accustomed to a free structured program that has an emphasis on STEAM/literacy.
- There has been limited civic involvement within a previous after-school program and it's a new concept to students that's often met with resistance.
- Staff working in previous after-school environments have the mentality of ensuring safety for the children but not academic and cultural enrichment.

While DIVAS faced these challenges in their after-school programming, we later found that expanding to another organization's program was even more difficult.

Organizational Culture

A collaborative project entails understanding the culture of both organizations and clearly seeing the alignment. The new organization would need to run its funded program at its community center, so DIVAS hired one of the organization's after-school facilitators. The program director of the community center did not feel a responsibility to help the facilitator recruit for "our project." It was a them versus us mentality, not a collective effort. The facilitator did not have experience in recruiting and he was a recommendation from the nonprofit. In addition, the facilitator was not given guidance from the lead site supervisor and was

unwilling to help in this capacity. The reality was the facilitator needed both of us. As much as we have a responsibility to youth, we also have a responsibility to the neighborhood as a community-based organization.

While DIVAS provided the hired facilitator and the curriculum and training, we did not have access to a computer. DIVAS did not learn this until the organization was a month into launching the program, and then the facilitator was provided with a laptop. As an organization, we were determined that the facilitator would have access to technology. The educational team that developed the curriculum stressed the importance of the asset mapping project to represent the local community. This required research and planning on the part of the facilitator which was challenged by the existing culture of the community center they worked at and the lack of access to technology all around.

Reflections

In retrospect, I realized that the facilitator would need significant training to fulfill the requirements of the asset mapping project. We were launching a pilot program and we thought providing support along the way could have worked as we developed it. Instead, the facilitator needed an initial four to six weeks of training but also required self-motivation and the collective support of both organizations they were working for. DIVAS for Social Justice needed to provide more detail about what was needed for the partnership. While the organization provided the goals of the project, we needed to provide our vision of what we considered holistic programming. DIVAS needed the opportunity to showcase our model of programming so the other organization could make an informed decision about whether or not our visions aligned.

DIVAS held a three-week program with the original partner to meet the grant requirement. DIVAS decided to seek out another organization to start the mapping project and reached out to a community mediation solutions organization located in the South Bronx and they were receptive. DIVAS facilitated a six-week program with 15 youth ages 17–23. Youth were exposed to learning audio recording and photography and identified a local community green asset in their housing project as their contribution to the mapping project. Before the program, the youth were responsible for the beautification of the area that was now enjoyed by everyone, especially seniors. Even with the challenges, the

organization successfully facilitated youth-led content that could be featured on the first iteration of the *Anti-Gun Violence Asset Mapping Project*.



Figure 2. Youth from the Northern Bronx share what is positive about their communities to help fight gun violence

Meeting the Standards Through Asset-Based Learning

DIVAS for Social Justice and NYU were very proud of the first iteration of the project but our partners were non-responsive after we launched the mapping project. Neither DIVAS nor NYU could understand their evasive behavior. The curriculum team decided to reevaluate the curriculum based on the pilot programming in the Bronx. DIVAS and NYU redesigned the curriculum to ensure that it met New York State Standards in English Language Arts, Social Studies, and Computer Science. The team also made the collective decision to ensure that the initial lessons were asset-based learning. Students are initially introduced to community mapping and focused on community assets that would specifically include economic development. Focusing the first semester of the

curriculum on the assets of the community, as opposed to the deficits, would allow us to develop the idea of expanding on these assets before even introducing the topic of gun violence.

In further developing the curriculum, DIVAS for Social Justice wanted to include scaffolded learning as a literacy aspect. During the revamp of the curriculum, DIVAS was approached to join the [NYC Land-Based Healing Project](#), led by Dr. Ana Ortega Williams. The organization stewards a community garden in Southeast Queens. There was a direct correlation between the *Healing Project* and the *Anti-Gun Violence Asset Mapping Project*: The mission of the *Healing Project* was to highlight the role that land plays in the healing of communities of color, and thus, it serves as a direct solution to help fight gun violence, a public health crisis.

A small team from DIVAS joined a virtual monthly meeting with the *Healing Project*. The meetings initially consisted of site-based planning visits to green spaces led by communities of color and exploring the concept of how the land heals us. One of the exercises the group participated in was reading an excerpt from the book *Braiding Sweetgrass*, by Dr. Robin Kimmerer. At the end of the excerpt, participants were asked to answer the questions: What was your first memory of the land? and How have you experienced reciprocity? The experience inspired the inclusion of a book club as part of the *Anti-Gun Violence Asset Mapping* curriculum. The book would catalyze conversations with youth in identifying the role that the land plays in healing communities. In addition, there was an opportunity for youth to connect the writing to their own culture and experiences with the land. (See *Appendix for examples of the youths' reflective writing on Braiding Sweetgrass*).



Figure 3. Youth from the South Bronx capture photos of the community garden beautification project

Scaling the Asset Mapping Project

In September 2023, the *Anti-Gun Violence Asset Mapping Project* expanded to Laurelton, Queens, and East New York, Brooklyn. Students, ages 8–14 participated in the project and have successfully contributed content to the mapping project in different mediums. Students in middle school conducted community street audits of their neighborhoods and identified community assets to be featured on the interactive map. While all students learned the foundations of urban planning, elementary students focused on using a 3 in. x 10 in. vinyl map to identify the assets in their community and redesigned parts of the neighborhood through magnetic tiles, expanding on the good of the community. All youth focused on finding community assets with a focus on health, wellness, and community. Middle school students from both Queens and Brooklyn also conducted interviews with community stakeholders through sound and film that will be featured on the map.



Figure 4. Students conduct community street audits in Laurelton, Queens



Figure 5. Elementary students expand what's good in their community by creating additional housing and shelters for foster children and pets as well as green space

The expansion of the project was supported by two foundations that took the time to understand the importance of creating a community asset mapping project. Initially, there was hesitation in supporting the project because the thought was why should an organization like DIVAS create a project that should be spearheaded by an anti-gun violence organization? DIVAS for Social Justice was able to show that their role was to serve as an ally to anti-gun violence organizations. DIVAS hopes that as the project expands, anti-gun violence organizations can use this model as an organizing tool to change policy and show why more federal funding must be provided to underserved communities to improve economic development and public health disparities.

Appendix

Youth Reflective Writing on *Braiding Sweetgrass*

The appendix consists of the reflective writing of youth in the STEAM for Social Change after-school program. These students participated in a weekly book club and read the book *Braiding Sweetgrass* by Dr. Robin Kimmerer. After each chapter of the young adult version of the book, a rhetorical question was asked to engage critical thinking on how the book aligns with youths' individual lives and to help them reflect on the role the land plays in their resilience. The examples of student writing range from middle-school- to high-school-aged youth. The question that guided their writing was: *What is your first memory of being connected to all living things?*

Alexis deSuze

My earliest memories of being connected to all living beings were from early middle school, probably in kindergarten or first grade. I remember sitting on the ground with my friends watching the ants climb up trees or dig holes in the ground. Sometimes, we liked to pester them with leaves or sticks, but we mostly just watched them move, pick up food, and live their lives. However, I don't think I

realized all living things participate in each other's lives until I was in fourth grade and learning about ecosystems. Learning about the different food chains and life cycles of different beings really hit me then. I remember being fascinated about how small organisms like leaves or ants could contribute to the lives of large animals like lions or Komodo dragons. Even now, when I sit outside and watch things interact, I think about how involved everything really is.

Isayah Barro

My first memory of being connected to all living beings was going to the beach for the first time. Spending time with family on vacation is always a wonderful way to feel connected to living things. Sunday morning in Jamaica at around 11:00 am, I went with my father, mother, and brother to the beach. We hopped in the car and drove off. We arrived 20-30 minutes later, and I was asleep, so my father woke me up. After finally arriving at the beach, I was extremely excited. We grabbed our towels and clothes and rushed to the sea. I dropped my things on the chair and went with my father in the water. I could swim at the time, so he let me go on his shoulders and jump in the water. It was incredibly fun! After I went to the sand while the sun was shining on my body and my feet tingling within the sand. I made five sandcastles total. Finally, after a couple hours, at around 4:30 pm, we ate at Fish and Festival in the food court. It was delicious and I enjoyed it. It was a fun experience.

Jaylia Hawkins

If I can remember, my first memory was probably when I first started school. Even though I connected with my family, I have never experienced a connection with strangers. When I got dropped off to school seeing these people was weird. We had to go in to meet teachers, students, and the principal. My mom left because she had to work so I unfortunately had to get to know people on my own. I was scared that I wouldn't make any friends but when I sat in the lobby this girl came up to me and asked to get to know me. We got to know each other and found out what class I was in. We got to know each other, but I quickly found out that some people don't have the best intentions. I was bullied by some of these "friends," but it taught me to communicate and speak up for myself. I am more open to people and strangers. I was taught to be respectful and more

obedient to people as well. This connection has taught me that all living things can make you feel connected, however, it also taught me to choose my friends wisely.

James Black

My first memory of being connected to all living beings is when I got my pet bird. It was a blue parakeet, and I spent the whole car ride home trying to talk to it. When I got home, I tried to think of a name for it. Finally, I created a name for this bird. I decided to name it Falcon. Once I named the bird, I decided to feed it and give it water, he chirped a lot and started to drink the water. Then, we got him a green parakeet, my favorite color, and my little sister named him Evergreen. For the next 4 years, Falcon and Evergreen got along. Then, one day, mysteriously, Evergreen died. It was a sad day. However, on the bright side, I got to know Falcon more. I felt connected to all living beings through my pet bird. The bird helped me to feel connected because it was a living being.

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