

Using Food to Advance Education

By

Christina Beck

We are impressed by Foster's (1994) assertion that is crucial to educate the mind, but also to educate for character building, personal fulfillment, and for dual competence in larger society and in one's local community. Thus, the purpose of promoting intellectual development ultimately should not be to increase test scores per se, but to promote economically rewarding and personally valued cognitive skills, knowledge and understanding across a broad range of intellectual competencies, as well as other desired outcomes in the realm of affect and motivation.

Imagine that you are a ten year-old child on your way to school. You pass through a maze of tall apartment buildings. The sidewalks are littered with trash. There is very little grass. The grass that is there is fenced in so that you cannot go on it. Your stomach is aching because your mother had very little to feed you. There is never a lot but it is nearing the end of the month and mom has run out of money on the EBT card. You shiver because your coat is no match for the brisk wind. You cough because the wind is irritating your asthma. You think about going back home. You know that once your asthma has started, just moving around makes your asthma worse. But you know that your mother will be mad if you turn back. You have already missed a lot of school and you still have 4 months before the year is over. You slow down for a moment but someone from a gang approaches you. You quickly start moving and just in the nick of time your friend Tony joins you. The gang member backs away. You are excited to see Tony. And as Tony always does, he starts to talk about scary things that happened to him over the weekend in the shelter. Tony's family had to leave their apartment so they now live in a shelter near by. His stories remind you that your situation is bad but it could get worse. This is poverty.

Poverty is the single most significant obstacle in a child's life. According to Gunn and Duncan, in *The effects of poverty on children. Future Child*, "children who experience poverty, particularly during early life or for an extended period, are at risk of a host of adverse health and developmental outcomes through their life course." From birth, poverty affects nutrition, brain development and availability of healthcare. Stress quickly begins to impact the child's health and behavior. As the child grows, poverty has dramatic an influence on social circles, choices, ability to decipher between right or wrong, development and their perception of the world. But this is just the beginning.

The child must begin their education. As a child is taken to school, in accordance with laws, it is next to impossible for them to concentrate. Beyond their cognitive disabilities and behavioral problems, their primal instincts kick in. They are much more concerned about their nutrition, shelter, health and safety. It seems that they are set up for failure before they even begin.

According to the US Census, the South Bronx is the poorest congressional district in the United States. In the South Bronx there is a community called Claremont Village, otherwise known as Morrisania. This community has twenty NYCHA low-income housing developments, many over fifteen stories tall. Children here struggle to have their most basic needs met. This drastically challenges the child's ability to learn and develop normally..

Should the education program remain the same core curriculum and budget for all students in the New York City School District, regardless of children who have been affected by prolonged poverty, that influences their psychosocial health and contributes to low test scores and high drop out rates; or should the education curriculum and budget be adjusted to help students overcome obstacles that are extreme in their life in the South Bronx of New York in 2017?

Claremont Village- South Bronx, New York



Photo by Jim Henderson

More than a quarter-million people in the South Bronx are living in poverty, making Rep. Jose Serrano's 16th Congressional District the poorest in the nation, according to the U.S. Census Bureau. The South Bronx had 256,544, or 38 percent, of its residents living below the poverty line, the new county-by-county Census stats show. The figures are worse for children, with 49 percent living in poverty.

-Foster Kramer of the Village Voice

The situation I described above is very common in Claremont Village. This neighborhood is one of the largest low income housing communities in the country. In November of 2017, Metropolitan College of New York hosted a Summit, gathering leaders together, to brainstorm things they could do for the South Bronx. In a series

of meetings, they identified that a quarter of the children serving time in adult prisons are from New York's 15th Congressional District in the South Bronx. This alarming statistic shows us that the way we have been developing children in this community has to change. We must find a way to prepare children for a successful life, especially when confronted with challenges such as those of poverty.

- 8% of the children in Manhattan are living in poverty compared to 59% in the South Bronx
- 9% are unemployed in Manhattan compared to 28% in the South Bronx
- 78% graduation rate in New York City verses 32% in the South Bronx
- 37% are food insecure in the South Bronx
- 75% of youth live in single parent homes in the South Bronx
- On a Department of Education conducted survey at his school, more than 50% of the students said that their biggest obstacle is their own personal health and wellness.

I travelled to Claremont Village to see a school in the neighborhood. On my way there, I noticed there were no trains that went close to the school. I had to a bus several stops to get there, and then walked through a maze of public housing before coming to a bridge over train tracks to get to the school. There were two trash cans and two recycle trash cans (all together) in the 3 blocks I walked however there was trash all over the ground just a few yards away.



As I approached the school, I instantly saw raised planters and a bright, inviting front door. I heard kids playing so I looked up to see a rooftop playground. I was pleasantly surprised after expecting a neglected building. Now I was anxious to see what was inside.



In the school, I had the pleasure of completing an interview with Principal Luis Torres. He has been the principal at Community School 55X, at 170th Street and Park Ave, for 12 years. I asked him to explain what it was like to educate in a poverty stricken community.

As I walked through the halls, I saw murals and art pieces everywhere. The school was full of life even more on the inside than outside. This was very different than the reputation of South Bronx schools. Luis explained that when he took over the school it was one of the most dangerous schools in New York City. It is an elementary school but it had serious issues; over aged children, a lot of violence in the community that was coming into the school, lack of resources. The school needed a lot of work and support. Luis quickly realized, in this community, education is not the first priority; it is the fifth priority.

Luis explained, the misconception is that parents don't value education, however the truth is that shelter, food, safety and health come before education. Unless those 4 other factors are taken care of, the education piece will not be a priority. If there is a housing issue, the parent has to go look for another housing situation. Eventually the parent will resort to the dangerous shelter system. When the children are constantly being moved around, they are not able to focus on education. Another example is when a child is hungry. It is very hard for them to read a book when their stomach is growling. Instead of learning, the child is upset. If the child is not healthy it can cause problems. For example, if they are asthmatic they may have problems with attendance. The child will get sent home, to the hospital or may not even come into school. When the child misses a lot of school it dramatically affects their academic performance. All these factors come into play; if one of those factors isn't taken care of, the child can't focus on education.

Within CS55X, over 98% of the students receive free lunch. Luis states, that from his experience, he has learned that the 2% are students who's parents either haven't filled out the form properly or are afraid to fill it out from fear of immigration agencies.

The goal is to teach the children the legal stuff early before they begin to think the illegal stuff is normal.

-Luis Torres

As an elementary school in a poverty stricken community, CS55X is in competition with the negative environment around the school. Luis explains that the school races to teach the kids the legal stuff before they learn the illegal stuff. CS55X is an elementary school for kids in kindergarten through fifth grade but the issues that arise are issues usually seen in middle and high schools. The children in this community are forced to grow up much faster and are exposed to life much earlier.

Luis gave me a few examples of challenges he has had to work through with children in CS55X. He has children, as young as five years old, talking about sex acts. Three or four years ago, a little boy tried repeatedly to touch his teacher in her genital area. She elevated the situation to the principal. The principal brought the father in for a conference. The father said, "Yeah, I'm teaching him to be a man." The father continued to explain that he would have his girlfriends act as subjects for his son to practice on. The principal had to contact the proper authorities, which could get specialist involved to take the appropriate actions. Luis explained, sexual incidents are much more severe and much earlier than schools in wealthier areas.

The school also deals with many emotional problems that students don't usually have until they are in middle or high school. Luis explains that recently he had a suicidal four year-old. The student told his teacher about his plan to go to the 19th floor where I live and jump out the window. The school staff had to instantly move into action to help the boy. The school had a counselor speak to the boy until he was taken to a hospital for the help he needed.

Challenges that arise at an elementary school in Claremont Village are much more extreme than one might expect to hear. I was astonished to learn that children, of ages four to eleven, were confronted with such obstacles. My mind quickly began to think of ways that we could help the children in this community preserve their innocence.

Funding for Success

The assumption that one would make is that a school with such deep needs receives extra funding so that they can provide successful programs to help the students. That assumption is only half correct. A school's needs are measured by

test scores; they receive extra funding when test scores are low. However, as soon as the test scores increase, the funding is taken away. When the funding is taken away so is the program that made the school successful.

CS55X has needs much different than that of an elementary school in a wealthier area. Luis explained that the school provides services and support that middle schools provide- girl groups/boy groups, counseling sessions, drugs and violence prevention. The school is provided funding for one guidance counselor and because that is what an elementary school has, but this school needs three. So, instead of a tutor that students also need, the greater need is the two other counselors. The principal must make decisions based on the needs of the school.

Making choices based on needs is a defensive maneuver. To become successful, in any aspect of life, a plan must be developed that addresses foreseen problems and obstacles that are specific to the subject. Funding a school in a poverty stricken neighborhood must be different than funding in a wealthier area.

Funding is decided at the government level. Many people believe that we should not use test scores as a gauge to measure a need for funding; others believe that the problem is the administrators and teachers in the schools with low scores. The latter of the two views has grown into a plan to give students vouchers that contain funding for their education. The student would then go to a more successful school to receive their education.

While it is true that there are mundane and bad workers in every line of work, it was my experience was that administrators and teachers at CS55X care far beyond calling it a job. Leading for the educators at CS55X is a passion and life mission. They come in on their days off, volunteer to fill jobs that the school can not pay for, and even use the money from their own paychecks to provide resources for the students to use in class. From these findings, I conclude that bad teachers need to be held accountable on an individual basis.

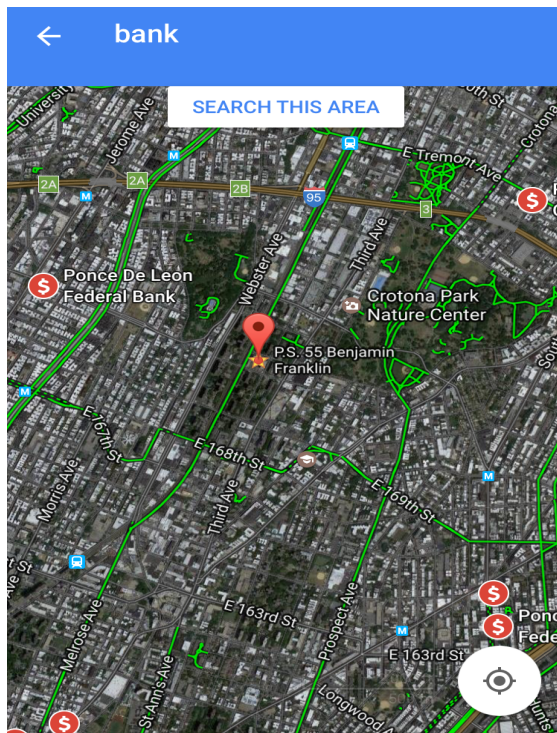
Several questions, beyond developing presumptions, came to my mind quickly when I heard about this proposed idea. The greatest oversight is that the problem is still not being addressed. It is well documented that poverty has adverse affects on children; these children still need extra attention regardless of the school the child is in.

It didn't take long before I asked Luis why the school doesn't have support when the need it so great. His reply surprised me. There are a lot of people who rely on this community for business. When crime is high, the drug dealers, police officers, lawyers, and jails all profit.

All of the businesses that a community needs to thrive are not in Claremont Village. Luis explained that there are also a lot of people who don't see the value in helping because there is no benefit for them. A business is not interested in truly

investing in a community where they cannot generate enough business to make money. The business might donate money here and there but they aren't going to invest because there isn't business coming from it. It is the same reason there isn't a bank in the community; the residents don't have money to contribute.

I did my own research to look for a bank. The closest bank to the school that Google Maps found is a 16-19 minute walk. This is compared to my neighborhood in Harlem where the closest bank is 5 minutes away from my home in any direction.



So how can a school confront the four obstacles so that you can educate children? Luis explained that he had to figure out how to satisfy those four basic factors so the children coming in could focus on education. Luis and his team have assembled what is called a community school. A community school looks for all the things that are lacking in the community and tries to provide those resources within the school. They seek targeted resources. This means that they ask for a specific need to be filled by an organization. For example, if coats are needed, the school asks companies and organizations to do a coat drive instead of asking for funds.

The school also has a handful of funders for projects they are interested in. For the holidays Project Santa- Stamford Ct adopted the school and sent four trucks of toys. A soccer program that is funded by US Soccer; If the school didn't have that free soccer program there wouldn't be one. The councilwoman, Vanessa Gibson,

funds the arts program. The Bronx Borough President, Rubin Diaz funded the playground.

For the largest projects, Luis has developed relationships with organizations that are interested in a long-term partnership with the school. The school teamed up with Montefiore hospitals to put a full clinic in the school. The clinic has a nurse, dentist, psychologist; they do full dental and full checkups for the community. The school also teamed up with an organization called Green Bronx Machine. They have opened a Health & Wellness Center and several gardens in and outside the school.

The impact that Green Bronx Machine has had on the neighborhood is profound. Food has changed everything.

Food

Empty stomachs breed panic and desperation, while extremist groups...use food to advance their violent missions while undercutting security.

Samuel R. Berger, Hunger Breed Violence

Food is a pillar of human life and if used right can be a powerful tool to grow outstanding citizens in our community. It is well documented that food has been used adversely to control or sway entire societies. However, if used properly, can food be used as a tool to teach kids? It can be used to teach health and sustainability skills while using science, technology, engineering, art and math- subjects collectively known as STEAM.

Throughout history, all over the world, food has been leveraged to control people. When someone is hungry it affects their body, causing them to ache, not think straight, and have horrible headaches. Eventually lack of proper nutrition can lead to many health problems including death. In an article from the LA Times named Hunger Breeds Violence, Samuel R. Berger explains to the readers that “empty stomachs breed panic and desperation” which leaves them vulnerable to people who “use food to advance their violent mission while undercutting security.” This could be a gang on the street or an extremist group looking to find recruits who will advance their violent agenda. This has also been the reason many people were enslaved or did not escape their capture when given an opportunity to. Under this vulnerability, the negative group is able to easily influence the hungry person and continue to do so by promising more food.

Hunger incites humans to go back to their primal roots and do whatever they can to survive. We have learned that “hunger and conflict go hand in hand.” (Violence) If you go into a community that has a large food gap, you will find more violence than if you walk into a community where food is not a struggle for most. It

is a crucial element to fighting conflict in poor countries is to ensure adequate food, proper nutrition and access to education. (Violence) Just food is not enough; people need healthy food that provides them with the vitamins they need to prosper and education to feed their minds.

I have seen how wide spread hunger affects a community when I was living in Detroit. As more and more people were laid off from the car companies, the poverty numbers rose extremely quickly. Along with the increase in poverty numbers and lack of a solid food source, the violence grew to such levels that the city's own police force referred to it as a third world country. This changed a beautiful thriving city into a place where someone could be robbed or killed for no reason other than for food. This changed the way people interacted with one another and the social dynamic of the city.

I recall a story about a poor family in Detroit. They did not ever say if the family was homeless but I actually never thought they were. Many people in Detroit utilize hot food missions and non-perishable food banks because there is no money left after paying their bills. The mother took her two children to a food mission and waited two hours in line to get breakfast. The children were anxious and couldn't understand why they had to stand in the long line when they were so hungry. Eventually the family made it to the front of the line, ready to receive their food, when they were told that they had run out of food; But for them to return to lunch to get food then. The family returned for lunch but came three hours early this time. As the family approached the front of the line, they were told that again the mission was out of food. I couldn't help but wonder what the mother would have done to feed her children who had not eaten in twenty-four hours. Would this situation alone drive the mother to rob or steal, to get violent with someone who had food, or to submit to someone asking her to do something she doesn't want to do in exchange for food. Ultimately one can conclude that at this point the hunger and survival mode that this mother is in would cause her to go against her morals and values to provide for herself and her family. She is desperate.

I have always had an idea that hunger has a strong influence on people. However after hearing this story the increase in violence and severe change I had seen in the city made a lot more sense. I always struggled to understand how so many people in Detroit abandoned their values and became violent so quickly. Good people were doing horrible things, which they would never have thought about doing before, to secure food for their family.

So if hunger can initiate violence, can feeding these people create healing, growth, and development? Berger notes that a "crucial element to fighting conflict" in poor communities "is to ensure adequate food, proper nutrition and access to education." (Violence) Berger concludes by saying that "ensuring that no child goes to school hungry is the single greatest investment we can make in building prosperous, healthy and stable societies." (Violence) I challenge Berger's statement.

What if we teach those children how to grow food in school to ensure those stable societies; so that they will have food more than once. The children will be empowered to take care of their community and give back. There is an old saying that says if you give a man a fish he will eat for a day but if you teach him how to fish he will eat for a lifetime. We need to teach our children how to grow food so that they can feed themselves for their lifetime. Teaching children to grow food is something that can easily become part of a school curriculum, using STEAM.

STEAM, which stands for science, technology, engineering, art and math, is a very popular strategy for education right now. Green Education is the perfect way to bring all of these subjects to life and show how they can compliment one another. This is exactly what Stephen Ritz is doing through Green Bronx Machine.

In the *Journal of Education for Students Placed at Risk*, Erlbaum explains, "What students learn in school should be relevant to their lives and future goals. (McPartlant) Rather than acquiring knowledge in abstract and piecemeal terms (Rogoff), knowledge and understanding should be thematically connected among various subjects and disciplines, and connected to the world of school in practical and meaningful ways so that education is centered proactively in children's lived experiences. Thus the knowledge, skills, and understanding gained can eventually be put to constructive use to benefit students, their families, communities, and society at large."(p.13) The more we allow youth to connect the dots of education, to be used in life, the more successful they will be. Green education helps children connect the dots.

Why help?

Not everyone agrees that there is a problem in the South Bronx. Mr. X says, "There is not a problem in the South Bronx. That is just how people have decided to live. If they want to eat fried chicken and hot fries instead of vegetables and organic meat for dinner, who are you to tell us how to live? The last Mayor tried to tell us the same thing trying to regulate our juice and soda. This isn't a problem to be fixed it is just the way people want to live."

Although Mr. X had very strong beliefs about his community, he asked for his identity to be hidden in this document. Mr. X makes a good point that preference has a lot to do with diet and life choices. However, it is well known that access to better food has an overwhelming influence on the diet and life choices people make. Do food deserts have more of an influence on food and diet decisions than choice?

While doing research I am reminded of a powerful song I have recently heard called *The Sound Of Silence* written by Paul Simon. It is one of those songs that you want to listen to over and over again because the message is so powerful. It touches you to the core and the words come alive, as you understand their meaning. The words of the song are meant to be heard with the music because as the poetry

unravels the music becomes stronger and more aggressive. Simon compares silence to cancer that grows, will overtake your body and eventually kill you.

**Fools, said I, you do not know
Silence like a cancer grows
Hear my words that I might teach you
Take my arms that I might reach you
But my words, like silent raindrops fell
And echoed in the well of silence**

If we are silent about the affects of food deserts, the problem will grow and create more problems that will corrupt our community. Simon explains that we must speak about the problem so that we can teach. Then we must physically reach out to these food deserts and make a difference. If our words fall like silent raindrops we must try another way. We cannot allow the food deserts to corrupt our communities and destroy the precious lives in them. The mission may seem like an impossible task and we are afraid of making mistakes along the way; but we must be courageous. A motivational speaker named Tom Krause said, "Courage is the discovery that you may not win, and trying when you know you can lose." We must try although we are fully aware that we may lose at first but we will eventually win and make our community a better place.

I believe that when we are moved so deeply that we don't allow social norms or expectations to stop us, we are moved to leadership that enlists others and inspires greatness, far beyond our own means. This is powerful. This power is unstoppable. I have seen this many times in people like Martin Luther King Jr., Henry Ford, Nelson Mandela, and Bono.

"The power of human empathy, leading to collective action, saves lives and frees prisoners. Ordinary people, whose personal well-being and security are assured, join together in huge numbers to save people they do not know, and will never meet...Unlike any other creature on this planet, humans can learn and understand, without having experienced. They can think themselves into other people's places.. We do not need magic to change the world, we carry all the power we need inside ourselves already: we have the power to imagine better."

- J.K. Rowling

People can think themselves into other people's places; That is a very thought provoking statement made by J.K. Rowling. This thought is what drives compassion. An example that comes to mind is when I have seen people who have donated millions of dollars, clothes, and food to victims of natural disasters, although many have never been in one themselves. I have witnessed people, literally, start sweating or getting goose- bumps when hearing about another person's situation; both involuntary reactions that indicate stress or fear. This leads me to ask; why some people act more than others? How can someone be moved so much that their body physically responds to what they are hearing but then they do not do as much as others?

We, as a community, need to do everything we can to advance our youth because it is the right thing to do. This is the message that Tom Ervin, the CEO of a new tech company called e-Agree, repeated over and over when I interviewed him. I asked him if his company would be interested in taking stake in our youth by hiring or financing them to do green jobs. Ervin said, "Business owners shouldn't look for a return for giving to youth. My return would be to know that I was helping them. Business owners should not give out of expecting for something, they should do it because it is the right thing to do." I am reminded of a poem, by Margaret Sangster, that tells us if we don't do those things to show each other compassion, it will haunt us at night. Compassion is having concern for others- warmth, love and charity.

**Those little act of kindness
So easily out of mind
Those chances to be angels
Which we poor immortals find-
They come in night and silence,
Each sad, reproachful wraith,
When hope is faint and flagging
And a chill had fallen on faith
For life is all too short, dear,
And sorrow is all too great.
To suffer our slow compassion
That tarries until too late;
And it isn't the thing you do, dear
It's the thing you leave undone
Which gives you a bit of heartache
At the setting of the sun
-Margaret E. Sangster**

As Ervin and I spoke about how a company such as his could get involved, he had many ideas. Ervin said he would want the youth to come on as interns and that in addition to their responsibilities in horticulture, they could learn business. His vision is one where the program would be a development program to learn about both areas with a variety of options to develop the youth. Ervin added that he

would get his employees involved. He said, “That is good for your company. That makes your employees feel good. That is the return on the investment.” Employee engagement is a wonderful return for any company that gets involved in supporting youth. When those employees see that compassion is an active part of their company’s values and core priorities, they work different and have a much more positive view of their company. The employees become proud of their employer.

Green Education

Teaching kids to count is cool but teaching them what counts is so much more critical. When we teach kids in urban areas about nature, we teach them to nurture. And when they learn to nurture, we as a society collectively embrace our better nature... Healthy students are at the heart of healthy schools, and healthy schools are at the heart of resilient communities. We can do this! We must do this. We are creating a recipe for success.

-Ritz

Stephen Ritz has a passion to feed hungry people but using it to leverage education to grow healthy citizens. He has an unparalleled dedication toward improving the quality of life for children in his community, the South Bronx. Six months ago in a TedX speech Ritz said that, regardless of their zip code, children should not have to leave their neighborhoods to live, learn, and earn remarkably in a better one.

The once average science teacher has developed a green education program that has changed the lives of many New York City youth. Ritz explains in his vibrant TEDX video that for so many, food is the problem, yet for all of us, food is the solution. This is referring to the growing number of hungry and/or unhealthy people living in a food desert in New York City, most of which are less than a few short miles away from those with an excess of food.

Ritz’s program has developed over several years. Make no mistake, it isn’t all just about the food. Ritz says without hesitation, “30,000 lbs. of vegetables later, my favorite crop is organically grown citizens, graduates, members of the middle class.” In 2015, Ritz opened the Green Bronx Machine: national health and wellness center at PS 55 in New York City. He states, our potential for transformational impact is broad and deep. In our inaugural year we saw a 45% school-wide increase in passing rates on New York State Science exams. This is only one of the many statistics the school has crushed since the opening of the wellness center.

To use twenty first century technology to generate food and to create these beautiful things they (kids) sit by and you can actually eat is game changing; it’s empowering. The plants are growing and they’re growing; they are responsible for them and they know they can grow their own. They really

start changing the way they see their relationship to the world and their place in it. – Stephen Ritz

The wellness center uses technology paired with science as part of its STEAM model of education. The students learn about these various subjects through the process of growing their very own vegetables in their classroom from seeds to their plate. Students have even been known to get up during class to grab a piece of lettuce to munch on.

To say the kids are engaged in this program is an understatement. Ritz has seen attendance rise from 40% to a staggering 93%. Not only has attendance risen, the students come early to class and leave much after classes are over. They want to come back afterschool to help. The students also want to share their knowledge and have with students in other communities. So Steve has reached out and welcomed opportunities for the students to connect with other students in cities across America, like St. Louis, along with youth internationally in the Dominican Republic and Dubai. The program is growing momentum and growing at an astounding rate.

Ritz calls on everyone to stand up and get involved. He quotes an American urban revitalization strategist and public radio host from the South Bronx area of New York City, Majora Carter saying, “ We have everything to gain and nothing to lose.”

I had an opportunity to speak with Stephen Ritz one-on-one to ask him about his program. Green Bronx Machine inspires youth through plant-based education. When asked, Ritz will tell you that he grows healthy citizens by moving kids to a sphere of personal and academic success they have never imagined. “I believe we are only limited by our own imaginations; we are all Amer-I-Cans!” Ritz says.

Mission

Green Bronx Machine builds healthy, equitable, and resilient communities through inspired education, local food systems, and 21st Century workforce development. Dedicated to cultivating minds and harvesting hope, our school-based model using urban agriculture aligned to key school performance indicators grows healthy students and healthy schools to transform communities that are fragmented and marginalized into neighborhoods that are inclusive and thriving.

Vision

We believe that healthy students help drive healthy schools, and that healthy schools are at the heart of healthy communities. We envision growing healthy communities where those who are "apart from" will become "part of" new solutions that benefit 100% of society; a world where people do not have to leave their

community to live, learn and earn in a better one. Together, we can grow something greater! Ready, set, GROW!

Currently Green Bronx Machine is running a National Health, Wellness and Learning Center at CS55 in the South Bronx, where we inherited a 60x25 ft. old library in a hundred old school building. It is very cool. Ritz has integrated plant-based teaching with core school curriculum. Green Bronx Machine also has a Summer Camp, Learning Garden at CS55, and Food for Others Garden.

pictures from www.greenbronxmachine.org



- **Indoor Teaching Farm, with seven Tower Garden systems that keep crops growing fresh regardless of the weather outside. The kids use cutting edge technology to grow vegetables**



- **A Traditional Grow Light System**



- **A Seedling Development System- the kids grow the plants from seeds.**



- **Electricity-Generating Bicycles- these bikes can power the blenders!**



- **The Outdoor Learning Garden with raised garden beds and self-irrigation system- here the kids use a traditional**

gardening system. They love digging in the dirt.



- **The Green Bronx Machine Mobile Classroom Kitchen-
Here the kids learn to cook the vegetables they grew**





Ritz and his wife are volunteers who are at the school every Monday and Thursday. They seek outside funding to run the program. Most recently from Newman's Own Foundation but it isn't enough to support the program. When I asked Ritz why he does it, he responded "It works." And he has taken it a step further to help educators all over the world.

Ritz developed a plant-based program that goes along with a core curriculum. Schools in the United States and Internationally; in Canada, Dubai, Korea, Australia, and Egypt have used it. The program engages students with inter-disciplinary, hands-on, project-based learning.

Ritz has also written a book called *The Power of a Plant*. It tells the story of how he figured out how to use plants to catch the attention of students to teach them. It all started when a flower broke up a brawl among burly teenagers at a tough South Bronx high school, and he saw a teachable moment to connect students with nature. He witnessed a transformation. Since then, through many ups and downs, he has figured out how to use that concept to teach kids.

I asked Ritz how it would change the organization if it had consistent financing. He replied that it would allow him and his wife to take salaries so they could focus on the programs instead of using that time to seek out funding. It would also allow them to hire others so that the two are not spread as thin. It would elevate the organization and take it to the next level.

Other gardens Green Bronx Machine has around town



Speaking with Stephen Ritz was very eye opening. His wife and him have devoted their whole life to this project; even their daughter Michaela is very involved. The project has had a huge success over several years in various different schools and age groups. It has attracted the attention of many people from educators to many media outlets. Yet, the Green Bronx Machine struggles to receive the support needed to run regular operations.

We have everything to gain and nothing to lose.
-Majora Carter

Students affected by poverty can learn when the education programs go beyond the standard core curriculum and budget that is used in the New York City School District. Children who have been affected by prolonged poverty, that influences their psychosocial health, can learn common core only once health, nutrition, housing and safety are not a concern.

Food has a great influence on three of the four most important primal concerns of a child affected by poverty. Programs using Green Education have been very successful in engaging children affected by poverty as well as children who have not. This breakthrough in education needs to be embraced by the world so that we can empower our youth regardless of their wealth, social status, or many of the other challenges that come their way.

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