

Focus on Inquiry

I was anxiously awaiting my second year of teaching fifth grade when, shortly before school began, *surprise!* My assignment was changed. I would be teaching fourth grade and, I was told, would have a unique group. The majority of the children had moved together as a class since kindergarten and had a reputation as an energetic and challenging group.

I had already heard stories about the group and their years together: who got along with whom, which students should be separated from the first day. Despite the fact that I'd made great strides the year before in valuing independence and creativity, I felt the need to establish control with this new group of students, so the children were greeted on their first day in my class with desks in neat rows and carefully developed seating assignments. I should have known that by the end of the day, the children would have redesigned the room.

In many ways, this class was far more ready to begin the year than other groups of students I'd encountered at the beginning of September. Since they'd been together for so long they already knew one another and had developed some sense of working relationships: they knew with whom they could work well and with whom they could not. It was up to me, then, to establish a plan, a framework, with which we'd progress.

I studied the city's fourth-grade curriculum and objectives, and noted that I could address most of the outcomes by focusing on the natural environment. It was interesting and real, and it would not cost much money.

Children Observing

We began the year by talking about signs of fall. I hoped that the children would talk about what they were noticing: changes in the trees, different types of weather. But their observations centered on man-made events and objects: broken windows, cars parked on the street. The children seemed cut off from the environment: they rarely noticed the trees, the clouds, the birds. Clearly, they needed to develop their observation skills.

This is where science begins. Students must be able to recognize what exists and happens in the world around them, first identifying what is normally in place, or growing, or occurring in their world, then making note of what is changing. Once patterns emerge, they become surprised with the unexpected. Questions arise. Investigations ensue.

I had to think of something that would help the students build these skills and decided to introduce observation journals to the class. Standing at a window that faced west onto Stricker Street, one student at a time looked out from the safety of the classroom and recorded what he or she noticed.

After five full minutes at the window, the first child wrote, "A man sitting on the steps." That's all—just "A man sitting on the steps."

I asked him for more and he replied, "That's all that's out there."

Well, okay. That was a start.

Now we would work on looking for details to add to their observation journals. If they noticed a tree, I'd ask them, "Tall? Short? Leaves? What color?" Soon the descriptions became longer, more interesting. They saw what was the same every time they looked out the window and they saw what was new and different.

By October, they noticed that the leaves on some trees were changing color while the pine trees remained green. It was hard to believe that they had never recognized this before, but suddenly they did and wanted to learn more. "What's up with those leaves changing color?" "How can we find out what the name of that tree is?"

I brought a variety of field guides to school, including an urban guide that listed birds, insects, even roaches. The students' observations became more and more detailed. The more details they noticed, the more questions they generated. Their questions drove them to the books and back to the windows. Suddenly, they started making connections. One child said while reading about trees in a field guide, "Wow, we have the same kind of tree here that they have in a forest in Europe."

First Steps to Community Awareness

We could practice observation skills from our window, but we needed to go outside to learn about nature. So, whenever our school schedule allowed, we took walking trips around the neighborhood. The only requirement I made of the children was that they record observations of everything they found interesting that day. While some students' observations focused on the shapes, colors, and composition of the buildings (we'd also been taking weekly trips to the Baltimore Museum of Art), others noticed the pieces of nature pushing into their urban environment.

Tavon became the classroom naturalist. Taking a walk with him was like going on an urban safari. He always looked past the neighborhood blight: the needles, the trash, the broken windows. He noticed the grass pushing up through the sidewalk, the leaves turning color on the trees, a pigeon feasting on sidewalk delights. He made lists of everything he saw, and if he didn't know the real name of something he found, he'd give it one. Newly discovered bugs became the Six-Legged Mosher Street Mosquito or the Calhoun Street Spider. He'd then rush back to the classroom, anxious to check our field guides for the real names and more information.

We stayed close to the school that fall, rarely going more than a couple of blocks away. Even so, our excursions were expanding the children's sense of place and neighborhood. Few of these children ever traveled outside of Baltimore. They rarely wandered—or wondered—much beyond Harlem Park. But these early walks helped ground them in the community, enabling them to see the school, their homes, and their churches within the context of nature.

A Fresh Approach

I enjoyed my work at Harlem Park, but by that winter I felt I needed a new outlet. So I began working with the Baltimore's Parks and People Foundation and soon became part of a group called the Tree Tribe, a grassroots project aimed at urban greening. This was a perfect match, one that allowed me to get back to my roots as a conservation biologist, learn a little about urban forestry, meet some adults with whom I held common interests, and still take something back to the Harlem Park community.

Members of the Tree Tribe were challenged to initiate an urban greening project, no matter how small—plant one tree on a sidewalk, clean up

a school ground, work in a park. I started thinking. What could I do that would benefit the project, the school, the neighborhood, and—most importantly—the kids?

Several ideas sprang to mind, but I believed that, if I were going to involve the students in a long-term community-based project, the idea must originate, at least in part, from the neighborhood children themselves. It was not my place to drive into Harlem Park and say, “Hey, you guys should clean this up and you should plant a tree here and you should grow something there.”

Even so, I did have an idea. Across the street from the school was an abandoned lot where a church had burned. The building had been razed, but several feet of foundation remained, poking out from the earth. The lot was a repository for old appliances and trash and was often strewn with drug paraphernalia. I was chomping at the bit to take it over and make it into something different, something green.

Could I, should I, push the kids to take on a cleanup project with the lot? If so, how could I inspire them to action?

The solution fell into my lap in the form of a grant project targeted at Baltimore City youth. The Baltimore Community Foundation was looking for proposals from children who wanted to address a community problem. I brought copies of the “Youth as Resources” grant into the class and challenged the students to come up with ideas. We batted various suggestions around for several days and listed a number of viable ideas. Several students proposed school-based projects such as an academic competition or book fair, but the class as a whole wanted to do something more substantive, more community oriented.

Finally, one sunny March afternoon when we were outdoors playing kick ball, three or four students ran up to me and said, “Hey, Mr. Rest, some of us have been talking and we were thinking—see that lot across the street on Calhoun Street?”

“Where? Point it out to me,” I said, knowing full well exactly where they meant.

“We have to walk past there every day on the way back from school. Can we do something with that?”

Eureka! For one moment, life was complete.

Making Plans

We had to move quickly. The grant was due on April 1, and we needed to get together a plan of action and write the nine-page proposal. The

students had to identify a problem and then draw up a plan, a budget, and an evaluative strategy. The deadline was tight, and I was tempted to rush through the process, but we really needed time to prepare.

The first step was to identify a problem. Was the lot a health hazard, a haven for criminal activity, or simply an eyesore? Then, once we provided some documentation of the problem, we'd need to come up with a solution. What did we want in place of the trash in the lot? Why?

I asked the children to make drawings and models of how the lot looked now. I was taken aback by the results (and wouldn't attempt to analyze what they revealed about the kids and their perceptions of the community). They drew hypodermic needles, though none were visible from the sidewalk; and, even though we'd never seen a firearm on the property, a number of students included guns. This project symbolized more to these students than just fixing up an abandoned lot.

Next, they recorded how they wanted the lot to look after the project was completed. They started with basketball courts. *Domed* basketball courts. And swimming pools—*large, in-ground* swimming pools. I was surprised by their assumptions of what we could do with \$3,000! But with these ideas we at least had a place to start discussing what we really wanted, what the neighborhood needed, and what was feasible in that location with the funds we were applying for. So we revisited the original problem and reflected on our emerging understanding about neighborhood and nature.

What was it that we really wanted? Well, we wanted something that would erase the ugliness and unhealthiness of the lot as it was now. We decided to start with something small and aesthetically pleasing: a simple garden in a small piece of the city.

We were finally ready to write the grant.

In response to the line "Describe the community problem you want to solve," students wrote the following:

... trash, rocks, stick, boodles [sic], broken boodles, and other things. People put drug needles, stach drugs. Use it for a bathroom dogs and people have no respect for it. People sleep and it stinks and makes the community look worse. They put guns in the lots and rats are in there.

... trash, glass, dust, drugs, homeless people, rats, homeless people sleep there, rats, people dump furniture and you see dead animals and people use the bathroom there and that makes the lot smell very bad.

These lots are to not throw things that people do not want. I think that people should not put things in the lot like drugs, trash and people sleep there . . .

In answer to the question “What is your project idea?” they wrote:

Our project is to make the lot a community garden for everyone to spend some time and cool out and watch the sun and everyone can have a good time.

Our project is to adopt, design, and create a community garden and learning lot on the vacant lot on Calhoun Street across from the Rec Center.

We submitted the grant, but rather than sit back and wait for the foundation’s approval, we decided to begin our work immediately. We were going to do this project whether or not we were funded.

I didn’t want the children in the lot until it was relatively free of hazardous trash, so several adults joined me in an initial cleanup. The mess that awaited us exceeded our wildest expectations: several hot-water heaters and other large appliances, traffic cones and barrels, tires, innumerable bags of trash, bricks, bottles, broken glass, needles, and condoms.

We finished our first round of cleanup just about the time the foundation announced its first round of cuts. We weren’t surprised to hear that we were still in the running. We were surprised to learn that the next step in the process required the children to deliver a formal presentation to the funders.

We went downtown together, but only the children were allowed to talk to the committee. Nervous, but fully prepared, the children presented the history of the project, the revised models they’d made of their proposed lot renovations, and their budget. They had divided up the responsibilities in advance, so each child was an expert on one area of the project. Although their presentation went nothing like we’d prepared, the children exuded an air of confidence as they explained every detail and answered every question.

There was plenty to keep us busy while we awaited the foundation’s final decision. The Division of Forestry donated—and delivered—railroad ties and twelve loads of dirt. A fencer from the neighborhood provided chain-link fence. We spread the dirt, sunk the ties, dug holes for the fence. And we made plans.

Every task provided real-life problems to resolve in the classroom. We needed fencing, so we wrote letters of persuasion. Fencing was offered; so we wrote thank-you letters. How much fencing did we need? We calculated the perimeter of the lot. What should we plant? We read gardening books and talked to experts. When is the best time to plant? Back to the books.

Time passed productively; then, finally, the wait was over.

Growing as Scientists

It was late May when we got word that just 13 of the 120 proposals would be funded. Only a few received their full request, and Students on the Move—the name my students had chosen for our group—was one of them. What a marvelous way to end the school year! We had a check for \$3,000. We had a clean lot. We had a fence and dirt and railroad ties. And we had the goodwill of the community and the commitment of students, neighbors, community workers, and friends to work throughout the summer and beyond. Best of all, there were wonderful adventures to look forward to, since my fourth graders and I would travel to fifth grade together.

But who could wait for September? The lot was ready and we were building momentum; a number of us decided to work all summer. I averaged about 35 hours a week, accompanied by a core group of ten or so children from my class, several of their siblings, a few middle schoolers, and a number of adults from the neighborhood.

We established a grassy area in the lot as our outdoor classroom. We bought a few deciduous trees so that there would be some color changes in autumn. We laid out a garden and planted a number of late-season vegetables. We tilled and weeded and watched our first crops grow and bloom. Best of all, we were establishing a comfortable place for children and adults to gather and work, or stop by and chat.

By the time school opened in September, we had a harvest of cucumbers, tomatoes, peppers, and green beans. We couldn't eat them all, so the children sold their vegetables to neighbors and teachers. We continued to visit the lot after school and on weekends, some children weeding or harvesting, others just "chilling" with friends or doing their homework.

Our first classroom-based project that fall was to build a composting site for the weeds and cafeteria garbage. This was a multistep process. First we had to identify the best site within the lot: a shady location where litter and trash wouldn't blow in. Then we built up the sides of the compost area, using reinforced lattice covered with heavy, opaque plastic. We gathered unusable garden vegetables and an assortment of school garbage, and mixed in leaf mold.

It would have been a great compost site if we hadn't continually disturbed it to see what was happening. The process was so interesting that

we dug it up over and over and over again, checking out the decomposition of the material and the evolution of insect and worm life.

Our formal visits to the lot during the school year occurred less frequently than I'd hoped. Multiple demands on school time and a spate of neighborhood shootings kept us inside more often than not. But we did make time to get out when we could, and many of the students continued to join me at the lot outside of school hours. It wasn't long before we saw the effects of our experience permeating the entire school day.

As the children discussed what they were doing and seeing in the lot, I couldn't help thinking back to the previous year with these same children, when a typical observation yielded such comments as "A man sitting on the steps." Now they were asking questions like "Did you notice that the trees in the front of the lot are dropping their leaves faster than the trees in the back of the lot?" I also saw them begin to make connections beyond their immediate neighborhood. "I saw a tree in Lafayette Square [up the street] like we have in the lot. I wonder if it's the same kind."

The children's growth and development as scientists continued over the year. The project branched out in many directions, each more exciting than the one before. The students became fascinated with storms, and books about weather became staples on the classroom library shelves. We took several field trips, including a weekend camping trip to the state park. We wrote additional grants and got involved in streamside rehab at a local greenway.

Real-World Inquiry

One of the most intriguing activities came in the form of our own authentic environmental mystery. The children had been interested in trees since their early observations out the classroom window, and around April they decided that they wanted to raise and sell Christmas trees. But the foresters we talked with convinced the children that those trees would not grow well in our soil. So instead we purchased 200 seedlings, about forty each of five tree varieties. We planned a tree-planting party for an upcoming Saturday and awaited the arrival of the trees.

The seedlings arrived in three-gallon pots, all of them looking very scrawny except for the pines. The children were concerned about the health of the deciduous trees, but we all were confident that the pines would survive because they looked so green and strong. To our surprise, however, we saw buds on the deciduous trees within two weeks. Soon they were all blooming and thriving, but every single pine tree died.

Disappointed and excited at the same time, the children now had a mystery to investigate. Theories abounded: maybe the pine trees had a disease; maybe they had experienced temperature shock (they had been in cold storage and arrived very, very cold to the touch); maybe they were as sensitive to soil changes as the Christmas trees we'd been advised not to plant.

Conversations about pH, about how acid or alkaline the soil might be, evolved into action. The children dug up some of the dirt around the healthy pines that grew near the school and compared it with the soil in which their young pines were planted. Although we were unable to conduct a chemical analysis, they noted several differences in the soil samples. The new soil was darker, with more intact organic material in it. The soil around the older, thriving trees was more granular. Perhaps it provided better drainage.

We were not able to decide on an explanation for the pine tree deaths, but neither were the foresters who visited. The professionals agreed with the students, though, that the culprit was most likely the soil. Children are often led to believe that adults, especially scientists, have all the answers. It was empowering for this group of children to see that like them, professionals do not have all the answers either.

Moving On

The end of the year approached, and with it graduation. We dedicated the lot about a week before the end of school on a hot June day, the perfect kind of day for a small party in a garden. Students and adults had a chance to share their thoughts about the project. Student Sierra Warren wrote a verse in honor of the group:

*Students on the Move,
Works real smooth.
They works when it's hot,
And work when it's not.*

*The 4th grade students,
in Harlem Park,
Decided to work,
They were real real smart.*

*They saw drug needles,
They saw weed packs.
So they decided,
To get rid of that.*

*The lot looked terrible,
The lot looked a mess.
The students saw this
They were upressed.*

*They cleaned out the lot,
It looks real clean
The lot looks dandy,
The lot look lean.*

The children talked about moving on to middle school, and I shared my plans about teaching in Asia for a year.

As we headed off in our different directions, I saw the lot as emblematic of our two-year experience. The children had come up with three words to describe their project: pride, unity, and commitment. Indeed, the lot unified us as a group; it provided a lab in which we worked together collegially for two years, and I think it will continue to connect us for many more, as the trees grow and we mature.

The lot provided a focal point for authentic learning for both the children and me. We learned about science. We read, we wrote, we calculated real numbers for real purposes. We learned about working together and working through problems. We learned to value community and gained a sense of stewardship for one small, neglected patch of earth.

I turned control of the lot over to the students, and as I headed off for Korea, I did not know whether I'd be involved in its future. But I did know that the memory of working there would always be a part of me.

Epilogue

I returned to Baltimore after my year in southeast Asia and accepted a sixth grade assignment at Harlem Park Middle School, a large building immediately adjacent to the elementary school where I began my teaching career. My new classroom windows look directly out over the lot.

Maintained by the community—primarily the family that lives next door and a number of the original Students on the Move—the lot is thriving. It is full and lush and filled with flowers, vegetables, and trees. Better yet, it has become a green place for people to gather: to garden, eat lunch, or, in the words of one of the original-grant writers, “cool out and watch the sun and . . . have a good time.”

I frequently see the students who wrote the grant, cleaned up the lot, and planted the original gardens and nursery. Several of them have been

bugging me lately. “There’s a big lot up the street, Mr. Rest. Wouldn’t that make a great garden?”