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Critical EE at OSBG: a case study in addressing environmental action through critical education

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**CRITICAL EE AT OSBG:
A CASE STUDY IN ADDRESSING ENVIRONMENTAL ACTION
THROUGH CRITICAL EDUCATION**

A Thesis

**Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
In partial fulfillment of the
Requirements for the degree of
Master of Arts**

in

The Department of Sociology

**by
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Abstract

Within environmental education the promotion of environmental activism is still considered contentious despite being a major goal since its inception. While some argue on simply raising awareness a growing number believe an action component is necessary to produce citizens capable of addressing environmental issues. Critical environmental education (Critical EE) is one method of integrating action into an educational program that teaches students to better understand the social and natural environment through an integrative participatory teaching-learning culture which allows students to construct contextual value-laden knowledge. This study uses data gathered from six months of participant observation at Our School at Blair Grocery, an urban farming school which teaches from an environmental justice perspective, to examine how critical education promotes student action. Results indicate that critical reflection and action within an egalitarian, youth-centered community located in a disadvantaged neighborhood produces students who are more enlightened and empowered to create change. However, concerns around funding and safety led staff to not adhere to maintaining an egalitarian ethic, undermining the individualism and unpredictability that critical EE thrives upon and producing “disconnects” in student’s education.

Introduction

It's Monday morning, the second week of May. The sun has barely risen, but it's hot nonetheless, and I'm starting to sweat as I drive across the Clairborne Avenue Bridge which separates the French Quarter/Bywater area from the Lower Ninth Ward (L9). Prior to Hurricane Katrina in 2005 the L9 was a suburb-like, lower-middle income African-American neighborhood with rows of houses, cars in driveways, manicured lawns, and kids playing outside. Little of that exists today. During Katrina, a barge broke through the levee wall holding back the Mississippi River, flooding the neighborhood and much of the city. Most of the remaining older houses have been abandoned and are rotting away. Five years since Katrina, empty lots abound- some with trimmed grass, many overrun with tall weeds- giving the L9 the feel of a rural area. The educational and financial difficulties of accessing funds for rebuilding have resulted in few residents choosing to stay and rebuild. Those that have stayed find themselves in a neighborhood severely lacking in resources. Crossing the bridge feels so jarring that arriving in the L9 momentarily gives one the feeling of being transported to another planet, or entering the ruins of an ancient civilization. I learned later from talking to students that this feeling is the adjustment one makes transitioning from the "first world" to the "third world".

Situated in the L9 is Our School at Blair Grocery (OSBG). OSBG is a non-profit urban farming school started in 2009 by Nate Turner (Turner). Today, Turner is taking his student's and me on an environmental racism bus tour around the L9. Starting with the spot where the barge broke through the levee, we hear stories of heroic neighborhood residents (some of whom are ordinarily known as local crackheads) who saved lives after the hurricane. Next, we visit a saltwater marsh that has been destroyed by chemical refineries, then an abandoned community garden overrun with weeds. Finally, we end up on top of an embankment where Turner gives an analysis of how the focus on New Orleans tourism and the French Quarter (the hotels of which loom splendidly over the impoverished L9) traps local residents into a service-oriented secondary job market with little ability to build economic or social capital. He then asks his students, many of whom have come specifically to the city for post-disaster rebuilding in addition to environmental concerns, if these problems exist in their hometowns. The students momentarily look perplexed, but after a few seconds of thought they all say yes. Turner then proposes urban farming as a means to rebuilding the L9 and teaching these students skills which they can use to repair similar problems in their home communities. As I listen to this, I ask, "Can such an education really bring about such a momentous change?"

In this paper, I draw on a six months of data collected from interviews and participant observation at OSBG to examine how a critical approach to environmental education (EE) promotes student environmental action. While some EE scholars argue for an "interpretative" approach of "education, not advocacy" (Huckle 1993; Hug 1977; NAAEE n.d., 2010a), others contend that a more critical approach of "action, not just education" would make EE more capable of addressing the world's ecological problems (Gough and Robottom 1993; Percy-Smith 2010; Simmons 1991:19). Critical environmental education (critical EE) teaches students by motivating critical reflexive thinking about and action in their local environment (Kyburz Graber 1999; OECD-CERI 1991). However, critical EE has its own challenges in terms of addressing student action and the use of negative "ecological crisis" language (Kyburz Graber 1999;

Mueller 2009). The results of this study indicate that critical reflection and action within an egalitarian, youth-centered community located in a disadvantaged neighborhood produces students who are more enlightened and empowered to create change. However, concerns around funding and safety led staff to not adhere to maintaining an egalitarian ethic, undermining the individualism and unpredictability that critical EE thrives upon and producing “disconnects” in student’s education. I conclude that action is a crucial but problematic part of the educational process for both interpretative and critical models and that methods used at OSBG are instructive for how others can address student action within EE.

Literature Review

Environmental Action

Encouraging environmental action has been a goal of EE since its inception (Stapp et al. 1969; UNESCO/UNEP 1978). Environmental action is typically listed as the fourth (technically fifth) level among the goals for EE curriculum development and is defined as:

"those skills necessary for receivers to take positive environmental action for the purpose of achieving and/or maintaining a dynamic equilibrium between quality of life and the quality of the environment" (Hungerford, Peyton, and Wilke 1980:108; Hungerford and Volk 1990).

While this definition is relatively simple, and there is wide agreement with the other four levels of curriculum development¹, EE educators and researchers have continuously considered the promotion of action to be contentious (Childress 1978:10; Hug 1977; NAAEE 2010, n.d.; Simmons 1991). Educators using the "hermeneutic or interpretive" approach employ a model centered on raising awareness and changing behavior (see Culen 2005: 38-9; Huckle 1993; Kraus 1995; Robottom and Hart 1995). Others believe adding an action component to socially critical thinking is essential to producing the "superordinate" goal of citizens capable of addressing environmental issues (Breiting and Mogensen 1999; Gough and Robottom 1993; Jensen and Schnack 2006; Short 2010). One method for accomplishing this is to incorporate critical theory into environmental education (Fien 1993; Palmer 1998; Robottom and Hart 1993; Sterling 2004).

Critical Environmental Education (Critical EE)

The origins of EE are rooted in "interpretive" nature study and environmental science studies that focus on the natural environment at the expense of discussion about the social environment and its problems (Kyburz Graber 1999; Stapp et al. 1969; Stevenson 2007). In contrast, critical EE teaches students to question the current social order and envision a world more in tune with their values. This process involves a commitment to *praxis*, or developing a continual process of critique, reflection, and action (Huckle and Sterling 1999; Kearins and Springett 2003). Developing praxis allows students to critique ideology (particularly capitalist ideology) - which is considered distorted knowledge- in order to achieve enlightenment, or self-conscious awareness of knowledge distortion². This process enables students to achieve greater individual freedom and self-determination (Huckle 1993).

¹ Which are ecological foundations, conceptual awareness of issues and values, issue investigation and evaluation, and the "superordinate goal" of environmental citizenship.

² For a better understanding of enlightenment see Horkheimer and Adorno (1944-2002; 1-34).

Critical EE is informed by critical theory, based on the philosophy of Karl Marx (1844/1988), the Frankfurt school of thought (notably Horkheimer, Adorno, Habermas, and Marcuse), the liberating educational work of Paolo Friere, and the work of postmodernists/poststructuralists such as Michel Foucault (Gruenewald 2004; Kincheloe and McLaren 2002). Educational approaches based on critical theory, or critical pedagogy (Giroux 1981, 1988), teach students that reality operates on three levels: (1) experience, (2) interactions and events, and (3) structures and processes. Students are taught to take their everyday experiences and connect them to broader social-structural reality by questioning the values, perceptions, conditions, and opinions that shape people's actions (Huckle 1993). Going further than simply raising awareness or disseminating facts-- which some argue results in the continued reproduction of inequality (Gruenewald 2004; Stevenson 2007), critical pedagogy aims to empower students and teachers and change reality by developing a dialectical discourse within an egalitarian relationship where knowledge is deconstructed, one's relationship to the larger culture is questioned, and solutions for achieving greater freedom are conceived and enacted (Giroux 1981:82; Kincheloe 1991). This process requires students to engage in and reflect on action using action research. Action research gives students "a challenge for initiative, independence, and responsible action" by having them "experience their environment as a sphere of personal influence" and giving them "opportunities to shape it in socially significant ways" (Kyburz Graber 1999; 13).

While this method is cited as a more holistic approach that teaches students to engage in action intelligently and strategically (Chawla and Cushing 2007; Sterling 2004), critical EE is not without its critics. Some argue that action-oriented critical education is antithetical to the liberal-progressive ideas that brought about modern education, and that these ideas weaken critical EE's transformative power when institutionalized within the school system (Gruenewald 2004; Stevenson 2007). Other critics argue that action research is so difficult to implement that "student action" should be defined as simply changing students' values (Walker 1995, 1997). Some question the teaching practices of critical EE because questioning norms may make students experience disturbing, unpleasant emotions and that using negative "ecological crisis" language may deter youth and marginalized groups from taking an interest in environmentalism (Moore 2005; Mueller 2009). Additionally, the earliest studies of critical EE found the practice difficult to implement due to a lack of previous framework and the creation of a long list of requirements (OECD-CERI 1995; 1991; Walker 1997).

To simplify matters, Kyburz Graber (1999), reflecting upon her investigation of five senior high schools, offers two constitutive aspects that frame a critical EE learning culture: a participatory teaching-learning culture and constructing contextual value-laden knowledge. A participatory teaching-learning culture treats learning as a transactional egalitarian process. Students and teachers are both engaged in learning and teaching, examining their experiences and beliefs, and critiquing democratic processes in our society. This is an unpredictable process where teachers must adapt their teaching so that meaningful learning can be connected with students' pre-existing knowledge (Walker 1997). This meaningful learning, or constructing contextual value-laden knowledge, links the process of critical reflection to a commitment to action. Students are taught to create knowledge that is deeply connected to the local environment, both social and natural, by developing an in-depth understanding of human actions

(including purposes, conditions, and reasons for acting) and the effect they have had on the local environment. Students then learn the power of their own ability to act by using their knowledge to engage in and develop local solutions to environmental problems. By focusing on a concrete problem, students connect their critical reflection to genuinely addressing social issues, teaching them to learn with a sense of self-responsibility.

Within the contexts of the L9, critical EE at OSBG aims first to make students aware of how the social and natural worlds, and their problems, are interconnected. As Turner described, residents struggling with low wages and poor education have a difficult time organizing to stop environmental destruction in their community. They must live in the areas most prone to ecological damage, and they are the least able to recover when a disaster occurs. This "environmental racism" (Bullard 1990; Roberts and Toffolon-Weiss 2001:9; see also Wright 2005) is especially striking regarding issues of securing food. The L9 is considered a "food desert" because of lack of access to healthy food (Wekerle 2004). The only stores, called corner stores, offer convenience store items such as snacks and liquor, but rarely fruits and vegetables. They are also owned by people who are not local to the L9 and have little interest in rebuilding the community there. Secondly, OSBG's critical education aims to engage in action to empower the local community by repairing the environment. This is the reason why they teach urban farming- an activity that scholars argue connects environmentalism to the everyday concerns of urban residents such as lost-cost healthy food and improved social relations, neighborhood attachment, and sense of self (Anderson 2004; Chitov 2006; Comstock et al. 2010; Kingsley and Townsend 2006; McClintock 2010; Whitehead 2009). Connecting the self, social, environmental, and financial divide is a key mantra for OSBG. Turner's goal is to improve the L9 community by making OSBG into a local organization that hires local people to grow food locally that is bought and eaten by local residents (Bildner 2010; Wilson 2011). As an educational vehicle, urban gardening encourages youth to appreciate nature by actively engaging with the environment, dissolving the duality between doing and knowing, creating opportunities for learning that emerge from the experience (Rahm 2002). For this reason, OSBG currently focuses on bringing college students from around the county to the L9 to have a significant experience with both the social and natural environment by using urban farming as a way to address environmental racism.

While some of the aforementioned research into urban farming is critical, little research exists that examines the success of urban farming education from a critical EE perspective. Thus an examination of the important elements which structure the participatory learning culture and construction of value-laden knowledge of a critical urban farming program will allow researchers to understand the key elements behind successful student environmental action. By examining the success or failure of actions undertaken by this OSBG model, and its constituent elements of praxis, scholars can offer EE and urban farming programs a greater ability to truly address social/environmental problems as well as address the objections some scholars hold against critical EE.

According to Turner, OSBG exists to "showcase what the very best equity driven, youth based, participatory social justice education looks like." Their mission statement, written large across a chalkboard downstairs is "*we're here to engage in and build upon a model of urban*

farming and community organizing that can combat systemic and internal oppression both here and at home for all humanity." This statement places OSBG clearly within a critical perspective: there is a clear focus on critiquing social inequalities and engaging in local action that extends learning beyond simple awareness. The school is also a non-profit organization. Free from institutionalization, they are free to create innovative programs as they see fit. These factors make OSBG well suited for this study's research purposes.

Methods

This paper uses ethnographic and interviewing approaches to understand how the educational culture of a critical EE program affects student action. Ethnography involves observing and participating in the daily routines of a group of people to gain insight into their lives within that social context (Esterberg 2002). Ethnographers have shown how useful their methods are for experiential education and service learning in particular, which makes the method well suited for this study (Emerson Fretz and Shaw 1995). Combining ethnography with group interviews helped corroborate field observations and add depth and nuance to students' experiences and their constructions of social/environmental phenomena. In total, I completed five group interviews and approximately 128 hours of observations.

This project began after a brief meeting with the school's founder at a local environmental conference. After interviewing Turner and touring the school during the Christmas holidays when there were no students present, I agreed to volunteer alongside student groups when they returned in January. From January until the end of May 2010, I conducted participant observation every weekend at OSBG. I engaged in farm work with students by day: shoveling and sifting compost, feeding chickens, and organizing tools. At night, I sat through student meetings (where I also conducted group interviews) as well as ate and slept alongside other OSBG members on cots provided by the school. This allowed me to completely immerse myself into the school's culture and capture both the student and teacher experience. Fieldnotes were collected as voice recordings during breaks or before bed and were transcribed on weekdays when I was away from the school.

Five adults were on the school staff: founder Nate Turner (Turner), his assistant, and three teachers who instructed and worked alongside students. Occasionally student chaperones attended and worked with students as well. Students came to OSBG in groups of about 10-20 and stayed an average of a few weeks, but some continued for up to four months. They were college and high school students from all areas of the country, but many came from New York City, where Turner was formerly employed. Student groups typically ranged in age from 16-21. Approximately half were women, half men. About half of the students were white. The rest came from a mix of many different ethnic backgrounds including black (African American and Caribbean American), Latino/a (from North, Central, and South America), and Asian (primarily Chinese). A few identified as mixed race. Three adults and five young children (all African-American) from the local L9 area also participated in OSBG during the study, but infrequently enough that my notes only mention them briefly. Only Turner's name and the name of his organization are used³. All other staff and students were given pseudonyms.

Group interviews were conducted during afternoon group discussions or nightly wrap-up meetings that OSBG students arrange to discuss important topics or events of the day. Roughly 10-20 students sat in a circle facing each other and I moved from student to student with my recorder to collect data. Interviews were structured along four topics: 1) initial motivations for coming to OSBG and New Orleans, 2) what they had learned at OSBG that they did not know

³ Turner was given multiple copies of this paper to review my depiction of him and give his consent.

before and what effect did working at OSBG have on them, 3) any connections they perceive between the environment and the social world, including an understanding of democratic rights or citizenship, and 4) their perception and feelings about ecological crisis concerns. Students were free to discuss whatever issues were important to them. This allowed me to gather specific student experiences and opinions that could be linked to observational data.

Analysis was guided by analytic ethnographic coding (Emerson, Fretz and Shaw 1995). First, open coding was done to all data to identify any ideas or themes. This yielded important codes such as “work”, “stress”, “utilizing agency”, “judging the (food) system”, and “experiencing environmental injustice”. Second, a more focused coding procedure was conducted after creating the literature review on critical EE and environmental action. Significant material, such as “constructing contextual value-laden knowledge” and “learning as a transactional process”, were linked to relevant data. This then generated new content-based codes, such as “youth centered culture” and “bubble effect”. This process continued until all relevant data has been categorized.

While the combination of interview and ethnographic data successfully provided triangulation on the subject of the learning culture at OSBG and its relationship to engaging in environmental action, this focus has its limitations. First, it should be noted that student’s voices are somewhat limited in this report. Their statements were recorded only during interviews and, while used to demonstrate significant findings, are largely absent in the ethnographic storytelling process. Secondly, critical EE can take many different forms, and can include things beyond the participatory teaching-learning culture and constructing contextual value-laden knowledge that is this study’s focus. Additionally, while this paper examines the elements that constitute a critical EE program, much of the ethnographic work was descriptive, not critical. Although this paper did critically examine the issue of age inequality, it is important that future research into critical EE approach the subject from a more critical perspective itself. Third, this focus may have limited the gathering of richer contextual data to situate OSBG and the L9. Because of the infrequent visitation of local residents, I have largely focused on the thoughts and opinions of the non-local OSBG students and their experiences interacting within the school and neighborhood. These students did not experience Hurricane Katrina or have to live with its aftermath. This means that while enough contextual markers are available to give a perception of what these OSBG members experienced, much of the story of the L9 was minimized so that focus could be paid to the learning experience of the students and their engagement in action. This methodological consideration was also aided by the insular nature of the OSBG community for the reasons explained in the findings below.

Findings and Discussion

Learning Culture of OSBG

The participatory teaching-learning culture of OSBG aims to give students as much ability to organize and manage themselves as possible. Student groups at OSBG are considered “student-led” and must plan events, organize budgets, and coordinate their own work schedules. On a typical day at OSBG, students get up around 9AM, shower, eat, and then meet outside to discuss the day’s specific tasks and goals. Goals differed for each group depending on their particular skills. While all groups made and sifted compost, pulled weeds, and planted seeds, more specialized groups did things like build an aquaponic system or organize a food accessibility survey. Students and teachers work and talk together all day, taking a break for lunch at noon. In the afternoon, students meet downstairs for a group discussion. Group discussions center on different topics such as "Gender at OSBG", "What is Environmental Justice (and why do we care)?" and "The Importance of Building Community Partnerships". Following group discussions, work resumes until dinner, after which students shower again and convene downstairs for their nightly wrap-up meeting. At that meeting, the day's events and everyone's feelings and thoughts are discussed, and plans for the next day are made. Students go to bed around 10PM, but often stay up late talking or watching videos together on their computers.

Youth Centered Culture

In such an environment, with 10-20 students and only 4-5 adults, the norms of youth culture form an important context for learning. Students’ discussions with teachers and each other during work were consistently value laden and contained a wide range of shifting topics, which allowed students to incorporate new learning into preexisting personal knowledge. For example, one morning while pulling weeds students were discussing their favorite TV shows and making jokes. Then, one of the black students used the words “bitch” and “nigger” while talking to others. This led to a short serious discussion about using offensive words, after which students returned to talking about TV and making jokes. After this parley, the young black men were silent until one of them pulled what he thought was a weed and discovered it was a turnip. This energized everyone to pull up more weeds and led to discussions about vegetables in addition to the previous topics. This unfocused learning environment meant that teachers and adults must accept and adapt to the flow of conversation set by youth, and that youth are capable of being critically reflective on their own. Students must be talked *with*, not talked *at*. When I tried to expand serious conversations while working with students, they often stopped chatting, lowered their heads (as if in a boring classroom setting), and quickly changed topics to continue conversational flow.

The significance of youth culture at OSBG allowed student's to discuss issues that were central to their concerns. While the focus on environmental inequality lead to discussions about race, class, and gender, it was particularly age discrimination against youth that students were most sensitive about. In group discussions, students reflected critically on previous experiences in college and other youth organizations and compared them to their time at OSBG. They often reported that their concerns are often not addressed:

Gayle: I think in a lot of these youth organizations there's a disconnect between the youth and the adults in that often they'll focus on the youth, but the youth won't be encouraged necessarily. I know that just from talking with the adults here I learned just as much as I learned from other youth. So I think building inner connections between youth and adults that focus on helping youth explore their full potential is really important.

This conflict of interests between student's ideas and goals and those of adults and/or organizations, produces a "disconnect" that separates them from accomplishing their own desires. Students felt that type of educational environment was "like, two separate schools working on one piece of land; totally doesn't make sense." In contrast, teachers and students at OSBG are "building inner connections" by working together on issues of mutual concern related to improving the L9.

A "Community of Practice"

The egalitarian relationship which fosters this teaching-learning culture is guided by what students call a "community of practice" ethic. Students describe a community of practice as a "tight knit group of people working together with a shared goal", allowing members to "really understand each other through the shared experience." An important part of the community of practice is its egalitarian nature, where "no one person is authoritative or a leader, so you function as equal members in a community." Decisions (such as what assignments will be worked on that day) are made by reaching consensus, and the community is designated as a "safe space" where "people should feel completely comfortable expressing themselves both negatively and positively." Coincidentally, I observed how the community of practice was supported and learned its definition at the same time when I turned on my recorder in a discussion group and someone felt uneasy about it. Being recorded didn't bother that student personally, but he asked if anyone else had a problem with it. Students then went one by one around the room and voted whether I was allowed to record. I was allowed to vote as well, and after a unanimous yes, was told by another student:

Kofi: We're reaching a consensus; we are all coming to agreement. That's why we went around like that. If someone would have said no then we would have had to talk about it until a resolution was made.

This community of practice ethic meant that students expected a group consensus to be reached before giving their consent and they were prepared to challenge adult authority if it violated this ethic. This ethic was an important reason why student's felt engaged during their time at OSBG, it gave all students the ability to take on the role of teacher in informing other students and adults, creating learning experiences for both groups. However, as I will explain next, discrepancies between this ethic and reality, particularly around student action, was a key factor that hindered the ability of students to engage in a successful praxis.

Addressing Student Action

Many students reported being eager about coming to OSBG because of the action component of their educational model, which students felt was essential for creating solutions that genuinely address social/environmental problems. As one student explained:

Marcos: Well, I knew quite a bit about the assignment before I came here, but the school has given me the opportunity to put a lot of that knowledge into practice and deal with trial and error and figure what works best by actually doing it, not just reading about it.

While student action is essential for linking critical thought to action in order to create a successful praxis, the unpredictability that teachers much lend to their students is a central reason why teachers limit student action. Ironically, at OSBG, the community of practice ethic, while fostering a strong culture of critical thought, was the main avenue through which student action was curbed. The actual practice of this ethic revealed instead a hierarchal nature of control and interests. These interests were aided by other concerns, such as the stress related to funding and working in a dangerous neighborhood, which also curbed student action, and created a disconnect (called the "bubble effect") in student's praxis.

Rhetoric vs. Reality

While the community of practice ethic was strong in terms of student-teacher discussions, it was clear that an antithetical hierarchal process organized the work done at OSBG. While students discussed ideas in an egalitarian fashion, one person designated as the group leader would meet with teachers and staff who then decided what would be best for OSBG. Students also felt the work they did was not commensurate to the work of adults. This became all the more clear as the weather became progressively hotter and students (and I) spent all day shoveling compost in the sun while Turner created an "inner circle" staff that either stayed inside or traveled for funding purposes. Youth and teachers worked together every day, but teachers and older adults often stopped much sooner than youth, leaving them to do the bulk of the work. Youth were very sensitive to this climate and perceived it as a form of age inequality that they called an "adult's disrespect of youth" or a "violation of youth's rights by adults." Being aware of this, and afraid I may be labeled a disrespectful adult and restricted from personal conversations, I made a constant effort to work as long as students. As we worked together, student repeatedly told me they were eager to do hard work, but only if everyone was doing their fair share. This excerpt from one morning when I arrived and was asked by students to shovel compost with them- while many adults were standing around and drinking coffee- demonstrates this sensitivity:

Author: So I asked the kids if they were tired or exhausted and everyone said no, everyone seemed kinda surprised that I would even ask that. And so I wouldn't just be standing around they said very quickly "Do you want to help us?"... So at some point someone made a comment about being tired and everyone turned and looked at me, but about ten minutes later everyone started complaining. The girls are complaining that the guys are not doing any work. People feel like everyone is not doing their fair share. It's creating all this tension in the group. They have a very interesting way of dealing with all of this. They all sort of yell at each other, they make a lot of jokes, they curse a good bit, and they are not

very polite. Even when someone says excuse me it's in a very rude tone, and they rarely apologize to each other.

This shows the four ways in which students addressed this inequitable climate: 1) they found ways to focus on their work such as quickly asking for help from newcomers, 2) they segregated themselves and their conversations from adults by changing topics or lowering their voices when adults (including myself) were around, 3) they denied their feelings when asked, or 4) they became irritable or idle and caused friction amongst each other. Students' frustrations are a result of the "disconnect" in OSBG's community of practice. While students were comfortable with informing adults during discussions, they were quite reluctant to challenge authority when it involved work at OSBG. The many coping mechanisms indicate that youth inequality occurs quite regularly, making it easier to be submissive when a discrepancy occurred between OSBG's egalitarian rhetoric and its living practice. Also, students repeatedly said they will only be there for a relatively short time compared to adults so they focused on completing their tasks and learning skills that could be applied to a more personal situation when they return home.

This hierarchy, and the reluctance to challenge it, stemmed largely from the stress over the school's lack of funds. Turner, who created the school in order to work with kids on his own terms, spent most of his time either away, on his phone, or in meetings for the purpose of securing funding opportunities. Lack of funds to fully repair the OSBG building also fueled tension amongst everyone. Giving up the basic privileges and comfort of American life, such as beds, heating, and air conditioning, clearly put people's emotions and their health on the edge, as Turner described in my first meeting with him:

Turner: I'm pretty stressed out right now, pretty tired. You spent one night in our building and you look like hell, this is home for me. It's definitely taking a toll on me, aging me considerably from when I was a vegan living in NYC making \$95,000 a year with a nice warm apartment and eating fresh great produce all the time, but I'm doing the best I can.

This constant stress left Turner very bitter and short tempered, and receptive only to actions that were lucrative to OSBG, such as the simple physical tasks required to maintain the school such as composting and gardening. This lack of funds was addressed through the community of practice ethic. Because the school cannot afford to raise wages or hire a larger staff, student labor was seen as necessary to maintain the school and farm. The community of practice ethic encouraged everyone, but especially students, to work by ethical conviction- by doing these basic, simple tasks you are contributing to improving the school and (by proxy) the L9. Thus, ironically, it had the effect of greatly limiting the range of actions students could engage in, and acting as a silencer on student's concerns- they genuinely wanted to be helpful but were too afraid to voice their complaints out of fear of Turner's reaction and being labeled as unsupportive or unproductive.

The Dangers of the L9

While the contradiction in the community of practice ethic was primarily responsible for limiting student action, this contradiction was constantly buffered by safety fears of working in a

dangerous neighborhood. Situating the school in the L9 significantly shaped student learning and action, but the dangers of the local area led teachers to confine students within the OSBG grounds. This had a significant effect on student critical reflection and action, creating a “bubble effect” that is reflected in students’ statements.

Seeing the daily reality of a poor black community strongly impacted students, who described the neighborhood as "disturbing" and "third world". These comments demonstrate the importance of this context:

Gina: Before I came here I saw environmentalism as like "save the earth, save the pandas", but I didn't really realize that what I bought was directly affected people along racial and class lines.

Pamela: Being here has made me both socially and environmentally conscious, or more so than before I came, mostly because we see everything first hand. Also, just seeing the people around here kind of adds an emotional touch to what we’re learning about. So like, from now on I want to think about where my food is coming from.

Because their education has a local “racial and class” context, student learning went beyond abstract environmental concepts to a deeper, more personal "emotional", learning. This strengthened their desire to work together and act for social justice. Unfortunately, despite this benefit, the danger associated with the area led teachers to restrict activities to the OSBG campus. Among the things I observed during my time there were local youth regularly fighting and later stealing from the school and teachers, a drug addict in the neighborhood (who refused to be a part of the community of practice or engage in any work) invited himself over for meals despite being asked not to return, and gunshots took place a few blocks away one night, resulting in a murder. Few educators (or for that matter EE researchers) would argue that this is the most appropriate setting for a youth educational program. However, observing these events clearly gave environmentalism an entirely more practical reality in shaping student thought.

The “Bubble Effect”

Limiting action to the OSBG campus kept students safe and maintained their focus on doing work that was in the best interest of OSBG, but it also impacted the full potential of their critical education. Students, who had demonstrated great practice in critical thought and discussion, often experienced "long pauses, thought evoking hums, and nervous laughter" when adults made comments connecting discussion topics to the concerns of local residents, demonstrating an unfamiliarity or discomfort with these ideas.

This pattern points to another "disconnect" which hindered student praxis. Sequestered to OSBG grounds and unable to integrate their new knowledge within the L9 itself, student's felt, as one young man put it, "in a bubble". This "bubble effect" is evident in many students’ statements. For example, the previous student describes an "emotional touch" to her learning that was clearly meaningful, but she doesn't mention a particular person or neighborhood concern, it's "the people here" that she reflects upon. While she has "see[n] everything first hand", her statement indicates she has not actually built a relationship with local residents. The young man

who referred to OSBG as a bubble had many ideas about how to improve OSBG, but few ideas about improving the local L9 community or an awareness of their central concerns. Because of the constant focus on work at the school (and work that is not individualized to student interests) students are left with little time for truly investigating the concerns of the very people whose lives they aimed to improve, fostering an additional "disconnect" in their experiences at OSBG. These disconnects have a common source: a failure to fully live according to the egalitarian and participatory ethic of the school which would have lend greater control to students as they pursued a critical education. When this ethic was violated, decisions were made to constrain students against their desires. And, while they reluctantly accepted this situation (as youth often must) and still had a significant learning experience, it also produced outcomes that were evidence of a hindered praxis, which will be discussed below.

Action Outcomes at OSBG

Students' determination to use their knowledge to create change resulted in many actions being undertaken in pursuit of that goal. Limiting student action primarily to OSBG grounds led students to channel most of these efforts at the school. However, some of the most meaningful projects undertaken by students were those few that involved learning about and actively working around the L9. While the bubble effect may have actually helped students to enact successful projects within OSBG, it also clearly hindered the projects that involved the L9, both in terms of number of projects and effectiveness.

Action within OSBG

Within the confines of OSBG, students managed to accomplish a great deal. In the 6 months of observation, their 4x4 compost pile grew four times in size, two greenhouses and an aquaponic and rain catchment system were built, and they expanded from one garden plot to four on separate pieces of land- including a large space in a nearby city. The reason why student's felt they were able to accomplish so much is that the community of practice ethic and the eagerness to engage in action created an egalitarian community that inspired and encouraged them to act and learn. Most importantly, it gave them the opportunity to teach each other. As one student put it, it was this community of practice that made the difference between this and other types of schooling:

Angela: It's not just the school that teaches us, it's really that we teach each other and the school provides a basis for us to do things and act, whether it's just doing the task around the farm or helping out. The school really just provides a safe space for us all to come together and teach each other and not be taught by an authoritative teaching figure. So I've learned a lot from the people here. I'm really thankful for that.

Her thankfulness is indicative of the respect and empowerment that such an environment confers onto youth. Youth returned this favor by taking their education seriously, making even minimal tasks a learning opportunity. From this work student's learned many basic skills such as how to handle a handsaw and recognizing edible plants. They also learned the skill of teaching and organizing themselves and others. To the degree that the community of practice ethic was upheld, students were genuinely thankful for what they learned from OSBG.

Action within the L9

In terms of actions that involve interacting with the L9 community, only two projects were taken up during the research period: a farmer's market and a food accessibility survey. Students created a farmer's market outside of a local church that would operate after Sunday services. This was a great example of the ideas produced in a dialectical discourse- residents don't have access to healthy food, they grow healthy food but residents take little interest, so OSBG will bring healthy food directly to where resident will often gather. While churchgoers were supportive of the initiatives of the school, and even applauded students during a service I attended, because of spotty attendance and inappropriate attire (wearing used or dirty work clothes to an event where people wear their best suits and dresses), they were asked not to return. The failure to do these simple things demonstrates the bubble effect on student praxis. Being focused solely on food and largely restricted to the OSBG campus, they neglected the interests of residents, creating a disconnect which hampered their ability to translate their learning into a successful action.

While the farmer's market may not have been successful, the food accessibility survey was repeatedly mentioned as influential to students' learning. This involved them canvassing local food stores and recording what kinds of food they sold to determine resident's access to healthy options. They found the area has no grocery stores, only convenience stores. Stores sold only five types of vegetables, but a hundred different types of liquor. Additionally the vegetables were wilted, indicating they were rarely purchased and non-local. This survey was given to community organizations and placed pressure on local stores to sell better produce, giving student a chance to shape their local environment in a significant way. Creating this knowledge also had a significant effect on student's thinking about the local area. They considered this type of food environment as a form of discrimination and the inability to obtain healthy food as a failure of resident's democratic rights as citizens. Students felt that teaching this community to farm "is so imperative for this community because what they've been given, the garbage they are putting in their system, is insane." One student eloquently explained his new awareness:

Cameron: The grocery stores here are not going to keep the community growing. We've learned to think about it in terms of a system. People are caught up in a system where the food that's available to them here is actually killing them, both because what they put into their bodies is unhealthy for them but also because it has corn syrup which requires oil, but for the oil to get here they have to drain out the wetlands which protects them from hurricanes. So when a hurricane comes it destroys their neighborhood, makes them poor, and they have to eat this shitty food which starts the whole cycle again. So it's all really connected, what hurts the land, hurts people, hurts communities, hurts everything, hurts your stomach, hurts your heart, hurts your life.

Students connected eating unhealthy food to creating poor neighborhoods which stems from and results in environmental destruction. They show a deep integration of these issues by not only connecting it to the structure of "the system", but also by relating it to a cyclical process. However, while statements like Cameron's demonstrate the effectiveness of local action for critical reflection, note that they mention nothing about how these residents can genuinely

address these social/environmental problems apart from the education in urban farming they learned at OSBG. While this certainly can be one part of a solution, these statements demonstrate the disconnect between students and the local neighborhood that resulted from the bubble effect of learning at OSBG. Student's environmental knowledge is not well contextualized to the actual everyday concerns of local residents. Also, this prevented local residents from seeing OSBG as a place to address their concerns (which, from speaking with residents, was jobs, crime, and neighborhood appearance) so they saw little need to get involved themselves.

Addressing Critical EE Concerns

Finally, many of the concerns scholars have surrounding critical EE were addressed by students in group interviews. When asked about ecological crisis and changes in proenvironmental behavior, students reflected on their time at OSBG and reported feeling empowered and determined to make the world a better place, both ecologically and socially. This greater awareness could be described as experiencing enlightenment as a result of spending time at the school.

Ecological Crisis

Despite the disconnects around the community of practice ethic and the bubble effect, the combination of working within the OSBG community and engaging in action to address local specific environmental issues created an environment where students developed a greater awareness of their ability to enact proenvironmental decisions themselves or with others. This reason allowed for discussions of "ecological crisis", which students acknowledged made them "scared", "worried", "troubled", or "terrified", to be converted into "hopeful" and "optimistic" feelings because they felt capable of finding solutions to these problems, as the following comment describes:

Angela: I feel hopeful because I do realize how much trouble we're in and where everything could be headed, but, largely because of what we've learned and done at Blair Grocery, I'm still hopeful because I know that we ourselves can act to change it. We don't have to rely on some great system to affect those changes; we are able to go out and address these problems ourselves which ensures that what I want done, and what we want done, will get done.

Changes in Proenvironmental Behavior

This greater awareness of their ability to enact decisions themselves led many students to enact greater proenvironmental behaviors once they left OSBG. Students themselves did not consider simply changing behavior as a type of action- the focus on work at the school led students to define action in much more physical terms. However, these changes could easily be defined as a type of action (for those who feel student action is too difficult, i.e Walker 1995, 1997) as the following comments demonstrate:

Marcel: Before coming here my vegetarian diet was reliant upon soy products. Now I've learned that you vote with what you buy and by buying soy I was supporting the monoculture of American agriculture and I've got to stop doing that.

Jennifer: After being here the first time, I stopped buying a lot of stuff; I bought a lot less in general. I was more conscious of how what I buy was personally affecting people's neighborhoods.

Experiencing Enlightenment

These statements indicate a deconstruction of previous (capitalist) ideology that has created an awareness that extends beyond individual behavior to include larger structural processes and concern for others. Students have attained a greater "self-conscious awareness of knowledge distortion" which is critical theory's definition of enlightenment. Many of the comments student's made about their time at OSBG demonstrated an experience of enlightenment, or at least signs of individual freedom and self-determination, as these final comments demonstrate:

Pamela: Being here has made me more both socially and environmentally conscious, mostly because we see everything first hand. That adds an emotional touch to what we're learning about. So from now on I want to think about where my food is coming from in terms of how it's made, how it's produced, and where the ingredients come from.

Jennifer: This trip has made everything, like whatever I've read or I've learned about, real and tangible. I don't think I can ever go back to not thinking about where my food comes from. It would just be impossible after the experiences we've had and after talking to the people here. I feel like I would be betraying all the knowledge I've learned here, and myself, by doing that.

These students show that a deep structural change in the thoughts and actions that shape their ontology and identity has occurred. By testing out their knowledge, they have a more concrete understanding of what works, making abstract knowledge "real", and forming the basis for future direction. These students have constructed a stronger sense of their own agency which has strengthened their commitment to environmental social justice ideals about fighting inequality. While these results indicate that teachers and students could go farther in terms of critical engagement, it is clear nonetheless that a meaningful learning experience has taken place.

Conclusion

This paper demonstrates the challenges and constraints of promoting student environmental action through critical EE. Consistent with previous research on critical EE (Huckle and Sterling 1999; Kyburz Graber 1999), the strengths of the OSBG model are its egalitarian teaching-learning culture where one learns by engaging with others and its focus on creating local, contextual value-laden knowledge so that students connect learning to real-world environmental/social problems. This method of urban farming education is successful in offering students greater agency and critical reflectiveness in challenging current ideology, transforming uncomfortable feelings surrounding “ecological crisis”, and producing in many a sense of enlightenment (Moore 2005; Mueller 2009). While OSBG’s approach may be considered more radical than what traditional EE scholars might have envisioned (i.e. Hungerford and Volk 1990), the constitutive elements of critical EE produce exactly the type of environmental citizens that EE educators have longed for-informed students who are learning to engage in the most strategic actions to defend the environment (Chawla and Cushing 2007; Hungerford, Peyton, and Wilke 1980; UNESCO/UNEP 1978).

The weaknesses of the OSBG model center around the concerns of student action (Short 2010), which are accepting unpredictability, lending more control to students, individuating student praxis, and maintaining an egalitarian ethic. These concerns appear to remain regardless of the model an EE educator advocates or uses. This is because, as critical education points out, the classroom is a contested space (Giroux 1988; Kincheloe and McLaren 2002) where the power dynamics between teacher and student can easily be manipulated to advantage the former, with the latter reluctant or unable to challenge authority. In exchange for this inequality, students’ critical praxis is weakened. If this model is to remain successful, teachers involved in critical paradigms must engage in greater reflexivity about their own methods (Walker 1997) and be more willing to embrace a true egalitarian ethic. This reflection will provide insight into how teachers can address student action within other EE paradigms.

Incorporating this type of critical EE into the educational system may be difficult ideologically (Stevenson 2007), but this research has demonstrated some benefits as well as limitations for an institutional critical EE. The focus on urban farming and doing what is in the best interests of the school, as well as running ideas through channels of greater authority, may limit the range of ideas that youth can propose, but this will make it easier for teachers to handle giving more control to their students. Additionally, the funding provided by an institutionalized critical EE program would greatly reduce the stress among staff at OSBG, allowing them to put greater effort into their educational practices. While many of these factors may have limited the full potential of their educational experience, students still clearly describe experiences of enlightenment and a strong determination to engage in action to create change. Future research is needed to determine if this result can be maintained in a more institutional setting.

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Vita

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