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To cite this article: Andrew Jon Schneller, Griffin Lacy, Scott Kellogg, Stacy M. Pettigrew, Cait Denny & Isaac Bardin (2023): Transformative ecojustice pedagogies: Outcomes of sociology students mentoring high school service learners, *The Journal of Environmental Education*, DOI: [10.1080/00958964.2023.2249419](https://doi.org/10.1080/00958964.2023.2249419)

To link to this article: <https://doi.org/10.1080/00958964.2023.2249419>



Published online: 28 Aug 2023.



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RESEARCH ARTICLE



Transformative ecojustice pedagogies: Outcomes of sociology students mentoring high school service learners

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ABSTRACT

This case study investigated the transformative learning outcomes for undergraduate students enrolled in two sociology courses taught by The State University of New York at Albany, at an urban ecoliteracy environmental justice center. Authors conducted participant observation and gathered data from surveys, semi-structured interviews, and focus groups with university student, high school, and community stakeholders. In the short-term, sociology students exhibited an increased interest in civic engagement, an heightened awareness of community and environmental issues, and committed to adopting pro-environmental behaviors. Transformative learning outcomes were documented in relation to affirming/changes in longer-term academic, life, and career paths. This research contributes to the fields of urban environmental education and environmental sociology that advocate for a better understanding of the outcomes of programs that facilitate youth mentoring and experiential ecojustice pedagogies that emphasize social justice development, issues of power and justice, and the enhancement of civic engagement, action competencies, and critical consciousness.

KEYWORDS

environmental justice;
civic engagement;
ecojustice pedagogy;
place-based learning;
youth mentoring

Introduction

The framework of transformative learning (TL) can be incorporated into courses taught by university sociology instructors to complement the desired outcomes of experiential ecojustice pedagogies and service learning, which are in and of themselves forms of TL (Knollenberg et al., 2014). According to Weimer (2015, p. 1) TL “Happens when we learn something that not only changes how we think, but also changes what we do; indeed, who we are. It’s been known to happen in all types of courses and with all types of students.” Research on ecojustice and service learning programs has shown the capacity to be supportive of TL outcomes as they provide opportunities to incorporate transformative pedagogies for learners, including experiential environmental education, engagement with environmental justice (EJ), group discussions, critical reflection (journaling), youth mentoring, group problem solving, Community Based Participatory Research (CBPR), social action and action competencies, and intercultural experiences (Mezirow, 1997; Reis et al., 2015; Schneller & Coburn, 2018; Schneller et al., 2022; Schusler & Krasny, 2010; Taylor, 2008).

While prior research has documented the TL outcomes of experiential environmental education, ecojustice pedagogies, and service learning in informal settings for high school service learners and the

communities they serve in the United States and developing nations (Schneller & Coburn, 2018; Schneller et al., 2022), there is sparse evaluation of the participant outcomes within university environmental sociology courses. This qualitative evaluative case study research worked to document the outcomes for undergraduate students enrolled in two environmental sociology courses to better understand the extent to which experiential ecojustice pedagogies have the potential to be transformative and meaningful for university students mentoring urban high school service learners from (and in) a marginalized community. These intersectional experiences present potentially uncomfortable and complex areas of engagement for professors, university students, and youth (Klein, 2014), including educators working to navigate complex discussions (and critiques) of sustainability issues, injustices, and inequities in cities where students and their families are economically connected to employers and industries responsible for environmental and/or social ills (Arenas et al., 2015). However, such approaches might deeply resonate with participants, representing spaces for growth, ultimately contributing to the advancement of innovative teaching within other environmental sociology courses that work to facilitate experiential ecojustice pedagogies in similar social settings.

The place-based program we investigated was unique in content, context, and theoretical design. It represented an ongoing collaboration between the Radix Ecological Sustainability Center, university professors, and undergraduate sociology students enrolled in two courses offered by The State University of New York at Albany (UAlbany). Here we note the pedagogical foundations for the courses: “place-based education” (sometimes referred to as “critical pedagogy of place”) and the pedagogy’s reputation for being instrumental in developing student enthusiasm, and for fostering critical consciousness (Delia & Krasny, 2017; Gruenewald & Smith, 2008; Sobel, 2004). Place-based education relates where one *is* to how one “got there,” and incorporates immediate surroundings to contextualize relationships. The courses also incorporated “service learning,” the objectives of which include working to increase participant awareness of social problems as well as promoting community civic engagement (Bordelon & Phillips, 2006). This service learning incorporated youth mentoring, urban agriculture, and community-youth driven plans of action that promoted sustainability solutions to food apartheid - impoverished neighborhoods lacking food access due to human-created segregation and structural racism (Brones, 2018; Reese, 2019).

While most ecojustice pedagogies include instruction and learning about the EJ Framework, the courses also incorporated “action competence” as an objective of environmental learning (Schusler & Krasny, 2010), as well as the concept of Urban Ecosystem Justice, merging “the fields of urban ecology, environmental justice, and urban environmental education, [and] promotes building fair, accessible, and mutually beneficial relationships between citizens and the soils, water, atmospheres, and biodiversity in their cities” (Kellogg, 2022, p. 1). The design and goals of these courses for both college and high school students worked to foster transformative self-actualization, exploring social justice development, issues of power and justice, and the enhancement of critical consciousness. These goals were furthered by students working with community members and civil society representatives.

Sociology departments worldwide offer courses that explore environmental social movements, critical pedagogy, civic engagement, and food, migrant, transportation, housing, border, and climate justice/just transitions. While there is a large body of literature addressing the teaching of environmental sociology, public sociology, service sociology, and community and urban sociology, there is very little published scholarship on the outcomes of teaching experiential ecojustice pedagogies for sociology undergraduates.

Toward an ecojustice pedagogy

Designing an ecojustice curriculum for an undergraduate sociology course could include the exploration of global and/or place-based content through the facilitation of theoretical lenses and experiential teaching methods both in the classroom, and off-campus coordination with community stakeholders; however, the foundation of an ecojustice philosophy (and critical pedagogy) emphasizes working to better understand oppression, the accumulation of power, its relationship to protection from environmental harms for certain segments of society, relationships between society and the natural environment, and the promotion of emancipatory pedagogies (Bowers, 2002; Cachelin & Nicolosi, 2022; Shor, 1992). Bradford & Shields wrote that “Ecojustice theorists call for a rethinking of what it means to be educated for

citizenship in a way that supports diverse, democratic, sustainable communities” (2017, p. 16). They further draw on the work of Martusewicz et al. (2014), who espoused that an ecojustice education should challenge the “deep cultural assumptions underlying modern thinking” that undermine “local and global ecosystems [that] are essential to all life” (p. 362), and that ecojustice educators should simultaneously advocate to move schools away from the Dominant Social Paradigm (DSP) that “dangerously overshoots the carrying capacity of the bio-systems depended upon for life” (p. 19). Glithero (2015, p. 40) adds that ecojustice pedagogies work to bridge western scientific knowledge with traditional ecological knowledge (TEK), with authors advocating for teaching that promotes healthy natural environments and diverse and democratic societies. And finally, McKenzie (2008, p. 366) called for an ecojustice pedagogy utilizing “out-of-classroom spaces and places; experiencing the knowledges of different cultures and cultural relationships to place; gaining a diversity of natural history knowledge; and developing community relationships and actions.”

Outcomes of ecojustice pedagogies

Unrelated to undergraduate sociology courses, published research on the outcomes of ecojustice pedagogies with college age learners includes Glithero (2015) who reported on 16 years of teaching ecojustice pedagogies to 2,500 university and high school learners. Instructors facilitated a diversity of methods within the *Students on Ice* program, an expedition learning trip to the Polar Region, and discussed TL outcomes that included students pursuing science-based careers and engaging in citizen science and environmental action initiatives.

Ng-A-Fook (2015) presented a Canadian case study where university pre-service teachers worked with Algonquin First Nations and partnered with public schools, community leaders, and NGOs to study the historical colonial politics of schooling, with outcomes that included the development of critically reflective teachers committed to eco-civic responsibilities *via* public education and curriculum development that included “international cooperative development, social justice, peace education, and environmental sustainability” (p. 47). TL outcomes included university students who reconsidered their “subjectivities as future teachers and to decolonize their pedagogical approaches for teaching science curriculum.”

Cacheline and Nicolosi (2022) reported outcomes from critical community-engaged projects/learning in the context of an environmental justice university course that examined political and economic structures responsible for environmental injustices, and to use this understanding to motivate students to participate in change-making activities and imagine sustainable solutions. Authors noted “the synthesis of critical approaches to place-based and community-engaged pedagogies are promising” (p. 503). Students developed a more nuanced understanding of EJ and a systems thinking approach between EJ and political and economic power, personal connections due to place and proximity (rather than abstract injustices), an understanding of privilege and agency, and took action in their communities.

In relation to student service learning cohorts, Mitchell and Rost-Banik (2020) examined 18 courses from three universities and found these “critical communities” to be transformative spaces providing opportunities for reflection, community building, and collective engagement in social justice work. Authors reported transformative outcomes associated with group belonging, shared purpose, and participants feeling a sense of agency and connectedness, while also addressing issues of power dynamics and privilege.

Public sociology, service sociology, and community and urban sociology courses have facilitated a diversity of methods in university courses, including engaging students in critical pedagogy *via* community-based learning (Braa & Callero, 2006; Wickersham et al., 2016); service learning and participatory action research (PAR) in partnership with community based organizations working to solve hunger and homelessness (Eyler & Giles, 1999; Hollis, 2002; Mobley, 2007; Rooks & Winkler, 2012); Community-Initiated Student-Engaged Research (CISER) in partnership with CBOs (Greenberg et al., 2020); community based research (CBR) and research service learning to bolster student research skills and engagement with STEM-based careers, poverty, food access issues, urban farming, and the Sociology of Sexualities (Bach & Weinzimmer, 2011; Mayer et al., 2019; Shostak et al., 2019); simulations to better understand hunger and resource inequality (Peterson et al., 2015); in-class exploration of EJ, institutions, and structures

(Simpson & Elias, 2011); improving university student self-efficacy through the incorporation of civic skill competencies (Johnson, 2005); experiments with poetic transcription (Romero, 2020); and off-campus exercises including *Hop on the Bus* and photography (Grauerholz & Settembrino, 2016).

Sparse literature explores the outcomes of pedagogies that incorporate mentoring by university students enrolled in a sociology course; however, positive outcomes were reported by Dallinger (2017) who evaluated a service learning course that paired sociology students with elementary immigrant children, in formal mentoring.¹ TL outcomes included students developing a new global mindset and perspective about immigrant issues with a reported reduction in levels of prejudice against immigrants. Hughes et al. (2009) research described formal mentoring within high-poverty high schools to improve outcomes for teens. TL outcomes showed university student increased awareness of poverty, decreased levels of stereotypes, increases in civic engagement, and long-lasting relationships with mentees. Authors reported that students *did not* believe they had learned strategies to address poverty in low-income schools. Also noteworthy, Vogelgesang and Astin (2000) reported that when conducted in concert, service-learning coupled with mentoring in mentees' own communities has the potential to enhance content learning, as well as enhance field-based mentoring for university students.



Figure 1. Aerial image of the Radix Ecological Sustainability Center in Albany, NY.

Our research contributes to the literature on teaching experiential ecojustice pedagogies that incorporate youth mentoring, by providing an evaluation of students engaged in a suite of place-based assignments designed to foster transformative self-actualization for both university and high school students. Building on the empirical research presented above, and gaps in the literature related to the multiplicity of outcomes of experiential ecojustice pedagogies, the research questions that guided our effort included:

1. To what extent are sociology courses that incorporate experiential ecojustice pedagogies transformative or meaningful in affecting university students' perceptions about themselves, and/or future academic and career interests?
2. To what extent can these sociology courses affect university students' awareness of environmental and community issues, awareness of social and environmental justice frameworks, commitment to civic engagement/volunteerism, and/or commitment to pro-environmental behaviors?

Background: teaching experiential ecojustice pedagogies in sociology courses off-campus at the Radix Ecological Sustainability Center in Albany, NY

Radix is an independent EE entity in Albany's South End, hosting five full-time staff and 12 seasonal Americorps service learners teaching EE, facilitating urban agriculture and food security initiatives, and bioremediation efforts. Radix (and its urban farm) is located on one-acre (Figure 1), and promotes a diversity of regenerative tools and intersectional activism around matters of equity, urban ecology, climate, and food (Radix Ecological Sustainability Center, 2023).

Process and major components

High school service learners participating in Radix's *Ecojustice Summer Youth Employment Program* collaborated with professors and university students enrolled in UAlbany's *Sociology in Action: Research with Youth on Urban Environments* (ASOC 399) and *Sociology in Action: Urban Environments and Ecosystem Justice* (ASOC 299). The two, six-week sociology courses ran concurrently, and were co-taught by professors and community organization co-instructors as a combined six credit class. University

Table 1. Overview of data collection.

| Source | Methods | Emphasis |
|---|--|--|
| – 11 University student mentors – Average age 21 – 2 Male – 8 Female – 1 non-binary *4 grew up in NY state identified EJ communities, three of which were located in Albany | – Pre and post-course semi-structured interviews and focus groups, – Debriefs & discussions – Participant observation | Transformative and meaningful course outcomes; former and newfound knowledge of community and EJ issues; former and intent to practice new pro-environmental behaviors; further interest in civic engagement, volunteering, education/advocacy, and education and career opportunities related to course content |
| – 14 High school service learners* – Average age 15 – 7 Male – 6 Female – 1 non-binary | – Pre-program online surveys – Post-program semi-structured interviews and focus group – Journaling – Debriefs & discussion, – Participant observation | Transformative and meaningful course outcomes; Former and newfound knowledge of community and EJ issues; former and newly adopted pro-environmental behaviors; further interest in civic engagement, volunteering, education, and career opportunities related to course content |
| 7 Community stakeholders representing organization that directly interacted with the EE center and their diversity of educators and service learners. | Semi-structured interviews | Nature of coordination with high school service learners and college students; opinions of service learners; community and environmental outcomes of service projects; desire to work with service learners in the future |

*Four of these service learners participated in the formal *Ecojustice Summer Youth Employment Program* prior to 2019, when most of the data for this research was gathered.

students completed pre-enrollment interviews, a two-week mentorship training course, and attended classes each day at Radix, working with high school service learners. Most, but not all of the high school service learners lived in EJ areas; the NYS DEC Office of Environmental Justice identified the neighborhood surrounding Radix as a *potential environmental justice area* in 2003, one where a minority and/or low-income community “may bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies” (NYSDEC, 2003, p. 1).

Methods

Qualitative data collection and analysis

Our case study worked to triangulate both the sources and methods (Table 1) to evaluate the outcomes for university student participants, teen service learners, the environment, and EJ community stakeholders (Creswell, 2013). All data collection was conducted by independent, trained social science researchers unaffiliated with Radix/UAlbany, who delivered neither the educational programming nor the service learning. We utilized purposeful sampling (Creswell, 2013), with all 11 university mentor respondents completing 45 min. pre-program semi-structured interviews, as well as post-program semi-structured interviews, and one 45 min. focus group. Seven semi-structured interviews were conducted with community stakeholder respondents who worked with the university students and service learners. High school service learners completed pre-program surveys or interviews, either in-person, online (Qualtrics), or on paper. At the completion of the summer programming all teens participated in a 45 min. semi-structured interview, one 45 min. focus group, and submitted their written program journal for analysis. This manuscript presents outcomes related to the university student mentors, with findings among high school service learners and community stakeholders published *via* Schneller et al. (2022).

Researchers incorporated participant observation into the data collection methods in order to better understand the program and evaluate the interactions between service learners, university mentors, facilitators, community members, and the natural environment (Creswell, 2013; Decrop, 2004). Data collection and analysis was based on the philosophical theory of interpretivism (Decrop, 2004), which suggests a co-operative and interactive relationship between the researchers and the objects of investigation. While the quantity of information gathered is important, quality and richness are paramount: “All aspects of observation are considered to be worthwhile: the interpretive inquirer watches, listens, feels, asks, records and examines” (Decrop, 2004, p. 157).

Pre and post-program semi-structured interview data were transcribed to word processing software from digital voice recorders, then coded for the identification of thematic trends (Creswell, 2013). Creswell’s (2013) approach organizes and prepares the data for analysis *via* reading transcriptions for meaning; data coding (identifying representative categories and thematic trends); presenting results using detailed discussion of several interconnected themes; and interpretation and analysis: “What were the lessons learned?” The findings below incorporate descriptive narratives and quote tables, both of which have proven useful as a low-inference data analysis technique for describing research findings (Schneller, 2008). Identifying deviant cases and discrepant information helped to validate findings (Creswell, 2013). “The prevalence or lack of discrepant information therefore allows for greater insights into the credibility of perceived patterns of phenomena identified” (Schneller, 2008, p. 297). Type 1 tabulations, as prescribed by Silverman (2006), are also presented.

Findings

While 73% (8/11) of the sociology students had previously mentored youth, and 64% (7/11) had prior agricultural experiences, it would be inaccurate to say that the university mentors provided high school service learners with new information about the EJ Framework and the history of environmental injustices in Albany’s South End. For instance, among university students, only 27% (3/11) had completed an environmental studies course and could accurately describe the EJ Framework during pre-course

interviews. Conversely, it would be more accurate to say that the funds of knowledge of high school service learners were valued - *via* the mentorship arrangement—thus creating a reciprocal learning experience instrumental in helping university mentors to better understand privilege, historic environmental injustices in Albany’s South End community, the environmental sciences, and how a lack of knowledge (and action) can contribute to environmental injustices. This *authentic* and experiential pedagogical process (coupled with civil society partnerships) was thus complementary to the more formal academic coursework, and provided contextualized opportunities for TL.

Challenges and areas for course improvement

Unique challenges arose when engaging university and high school students in an intensive urban agriculture program. Most of the high school students had never worked in agriculture, and four university students initially discussed a hesitancy to engage with dirt, insects, and livestock. Further, many of the high school participants also espoused a hesitancy to engage with dirt, as some were told (for years) “not to play with the urban dirt,” as some soil in Albany’s South End community is contaminated with lead, PCBs, and toxic incinerator ash. We also note that most university participants (including many of the high school service learners) had low overall expectations, related to their lack of experience working in environmental protection efforts: only one of the college mentors was majoring in an environmentally related field. An additional challenge included some university students having preconceived negative perceptions of Albany’s South End EJ community where many of the high school service learners lived. However, during post-program interviews, both groups described their experiences at Radix as mostly positive.

In terms of areas for improvement, during post-course interviews we found that sociology students wanted more time for mentoring:

I think we need to be together with our mentees more, and have more projects together, really talking more. I think that’s how you get more educated. When I was in high school I never had this, and we can make an impact on these kids.²

We also note that many of the university students held full or part-time jobs, with students mentioning that the travel logistics were difficult. In terms of time management within the course, students discussed the need for better balance between hands-on work, time spent with mentees, and time for more academic pursuits such as wanting more time allocated toward discussions of complex readings. Additionally, one student discussed that more attention should be dedicated to advocacy techniques working to address policies related to social justice, children, and communities, in addition to the environment.

Meaningful ecojustice course components

We found that 55% (6/11) of sociology students identified the mentoring of high school service learners as the *most meaningful* aspect of the courses. Table 2 also presents a diversity of descriptive narratives addressing meaningful course components, as well as TL, EJ, and outcomes related to environmental/community issues awareness. We also found that sociology students made substantial contributions toward the academic mentoring process, both during and after the courses; students were later invited back to Radix after they graduated. Radix’s Garden Coordinator (also an environmental educator) noted:

If I know I’m going to do a specific reading, I want to have college students also weighing in on what the text means. Because when you get to college-level text, literature reviews woven into the arguments it becomes really muddy for high school students. I like having the college students run the discussion, and during the summer, after the Soul Fire Farm visit, we had longer discussions about gender, spirituality, reciprocity, and that was something where we had college students who had taken five courses in these subjects weigh in personal communication, (2019).

In addition to life advice and encouraging high school students to pursue college degrees, mentors provided valuable career and internship information:



Table 2. University student/mentor outcomes – descriptive narratives.

| Transformative learning outcomes | Meaningful program components | Environmental justice awareness | Environmental and community issues awareness |
|--|--|--|--|
| <p>The most meaningful aspect of being here was visiting Soul Fire Farm. I could identify with it, being that it's a Black-owned upstate farm. When the farm first started, it was kind of hard for Black people to have farms, because of racial injustices and social problems. And the simple fact that it's there, and it's so big and advanced – that was really empowering. It made me want to get a farm. I definitely can see bringing my Dad there since he gardens. They have live-in internships? I should do that!</p> <p>I think the first day here I realized that I want to do something more about the environment, in my career, or just in life. I originally planned to do social work with LGBT youth, but now I want to do more with youth and agriculture, like this, being outside, helping young people foster connections to the Earth. Understanding the issues more leads me to want to work somewhere like this... this space helps make a difference in the community and the health of the environment.</p> <p>This experience made it clearer that what I was planning on doing is definitely what I want. I want to be a lawyer and promote social justice and work with youth, and help people post-incarceration, or getting put into prisons or juvenile centers. This class gave me more information about the background and reasonings that I'd never thought of. I thought "that's definitely what I want to do."</p> <p>I've always been interested in the environmental side of urban planning, and this course expanded on that and definitely made me want to do it more. I've never been involved in urban environmentalism, which is exactly what I'm learning here – urban planning plus environmentalism. So when I look at grad school I'll look into specific sectors of urban planning focused on environmentalism.</p> <p>I like being outside! [laughs]. I can be at the computer and write great things, but I'd rather be in the dirt. Maybe I would work on a farm. I was thinking maybe I could study more science, and be outdoors studying ecology, for grad school, or even for a job. But I was going to do study environmental law. And now I'm thinking I don't know if I want to. It's all <i>inside work</i>.</p> <p>I always wanted to work with kids, and now I definitely want to work with kids. And also, bringing other kids – other people, to be more aware more about their environment. I would love to take the kids at my job now, and bring them to Radix. So, I actually hope and plan on doing that.</p> <p>I think just me being more outgoing, interacting with the farm, touching the dirt, touching worms – I really did not expect myself to be like that at all. Before this you would never see me do any of that, but just learning about it made me more comfortable.</p> <p>My mentee and I didn't know about any of this, and we learned from Radix, and now can apply these skills. My mentee told me she wants to have a little farm, and I was like "me too!" And it's because of this, and being able to see it happen, and take care of Radix, it makes us want to do it ourselves. This program needs to continue forever.</p> | <p>Visiting Soul Fire Farm and learning about Black owned farms. Historically, 20% of people who owned farms were African-American, and now it's 2%. Learning about giving back, and understanding where everything comes from, that was really eye-opening to me.</p> <p>Building relationships with my mentees, because I didn't expect us all to get as close. I feel like the mentees really enjoyed the mentors as much as we enjoyed <i>them</i>.</p> <p>When we went kayaking and learned the history of the Hudson, and why it is so polluted. I've heard people say, "Oh, it's bad" but I would never pay attention to those things and I didn't know the history.</p> <p>I learned so much about the environment that was really eye-opening – sustainability, composting. Also, being directly involved in Albany, in the community, that was good, because I've always felt disconnected, and I didn't know how to get connected. This class was a good passage way to that. It was interesting to see what happens off-campus... it's such a bubble on campus.</p> <p>The community interviews! We went to the liquor store and what was interesting to me was <i>where</i> he was. Usually when you go into liquor stores there's no Black people <i>working</i> there, so I didn't expect the man to be Black. His perspective was really interesting. We asked him what the youth of Albany need the most, and he said "A father."</p> <p>The Most meaningful was definitely the knowledge I gained about the outdoors and the natural world, and working with the mentees. I've never had that sort of relationship with someone and we experienced all these new things together, and learned from one another. She taught me a lot about Radix that I wasn't aware of – the chickens, berry picking, and the greenhouse.</p> <p>I had the knowledge of the social and institutional inequity, but I never really was able to bridge the gap between that and environmental and housing injustices. This class really helped me bridge the gap between that.</p> <p>I was inspired by the way Soul Fire Farm grew the corn stalk, and the beans wrap around the corn stalk, and the squash protects the plants at the bottom. I was blown away. I didn't know that was practiced, and it's convenient and a good use of land.</p> | <p>I'd underline disproportionately. That one word, and its definition. And race, underline that too! Negative aspects of the environment really impact minority communities a lot more than white communities – air quality, water quality in Flint Michigan, Albany Air quality, with the former incinerator, and how highways are placed near African-American communities.</p> <p>There's institutional oppression especially with the social classes. When we were talking about the incinerators and the bomb trains, the government and the state chose to put them in low income areas like this, where there's poor housing situations, and where it's easy to blame people for their own health risks.</p> <p>Living here my whole life [in Albany] I never really paid attention to nature, the Hudson River, etc. There were other things going on, like violence, guns, that we worry about. So, I really didn't have too much information about EJ. And like I said, I'm still learning.</p> <p>Disadvantaged communities being harmfully affected by their environment, based off historically being targeted for their lower socio-economic status, or people of color. Those types of communities being targeted, and their health and environment being negatively impacted.</p> <p>EJ is being aware of the different places that people live, and how the environment affects them, and what are the issues here, and how they could be fixed, and why are those issues occurring. Is there more pollution in this area... and why?</p> <p>Environmental justice is bringing awareness to lower-income disadvantaged communities who don't have the advantages that higher-income neighborhoods have, as far as what their buildings look like, food resources, air in urban areas, there's more pollution.</p> <p>Disproportionate negative things that affect communities, that would be EJ. Some communities have all these environmental issues, while some communities do not, and it's solely based on socioeconomic status, race, being a minority, and location – where people place these harmful things that hurt the environment at these places.</p> | <p>Unhealthy foods are just cheaper, and that's why people in low-income areas buy them, but I never really realized it was because healthy food is unavailable. During community interviews people told me there's barely any bus routes in the South End. So even if you want to get to a supermarket, you might not even be able to. And you might not have a car, so your only choice is poor quality food.</p> <p>I didn't know anything about the bee [colony] collapses. I heard how bees were not doing good, but I didn't realize that the collapsing of hives was that prevalent in America. Mites attach to the bees, climate is changing drastically, and the bees can't adapt in time... and pesticides are harming them.</p> <p>Climate change, yeah, that was new to me. We don't really notice how it's affecting us. We just go about our day because we're stuck in society. We don't really pay attention to stuff like that. We should be paying attention.</p> <p>I never paid attention to the number of abandoned buildings. I asked about it when we did the mapping project. It allowed me to see where I live... there were probably four houses that were livable and the rest were all vacant. The block is a ghost town. That issue needs to be solved.</p> <p>I think I'll go out of my way now to learn more about things that are harming the places that I live – I think it sparked more curiosity about what's happening, what can I change, what are the resources there, in place, and what can I do with my time to help.</p> <p>Pesticides and contamination and the bad food we're buying over here in the South End, it's a food desert, the closest store is Walgreens... why is that the closest place to buy food? Why isn't there a grocery store nearby? Why do we have to travel? I would say that's a big problem.</p> |

I told my mentee ‘You can achieve anything,’ and told her about my political background with non-profit organizations, which made her say ‘Wow, you can do that at your age?’ She was interested because she’s a *Youth in Government* student at the YMCA. And I told her about advocacy and how I worked for an Assemblymember. I also told her about the importance of the letters [we wrote] to elected officials, because we do read them...constituent relations is important.³

In addition to mentoring, during post-course interviews, students also described other meaningful course components, including learning about invasive species, community immersive mapping exercises, kayaking to bald eagle nesting sites, learning about the importance of pollinators, and visiting Soul Fire Farm. Students who discussed Soul Fire Farm described their appreciation for the farm’s conscious efforts to address food apartheid and their deep connections to their land:

I like what they’re about, talking about history and connecting everything to food, food apartheid, and racial injustice. I really appreciated the honoring of ancestors. I liked that they implemented farming techniques from indigenous and African peoples, and intentionally honored the land.⁴

Increased awareness of the environmental justice framework and environmental and community issues

During post-course interviews 91% (10/11) of sociology students could accurately describe the EJ Framework, evidence that most of the students were understanding the foundational content. While [Table 2](#) includes student descriptive narratives related to the EJ Framework, the quote below highlights the perceptions of one student who grew up in an EJ area and had never heard of the EJ Framework:

I feel like I learned about EJ...period. And no matter where you go, there’s always neighborhoods that are just like Albany’s South End, in different areas of America. I feel like EJ opened my eyes to how important our environment really is. I feel like everybody should know about this, no matter where you’re from.

Additionally, students also discussed the extent to which the formal course readings and community-based hands-on projects were helpful in familiarizing them with the EJ Framework and its relationship to Sociological field-based research methods.

The readings enlightened me on what environmental injustice is, and how it affects youth. And with the readings, I could see Radix, and the readings talked about the research held in Boston with a youth group...they were doing the same exact things we’re doing, taking pictures of their communities, photo mapping, and talking about what their community means to them.

During pre-course interviews sociology students exhibited a limited understanding of the EJ, environmental, and community issues facing Albany’s South End. Most accurately discussed the prevalence of abandoned buildings, blight, lack of trash cans (and visible trash), and crime. During post-course interviews students were able to discuss detailed water quality threats to the Hudson River from invasive species, PCBs, and combined sewage overflow/nutrient overloading; threats to Endangered Species; prevalence of childhood asthma in public housing units and related threats to air quality from incinerators, diesel trucks, and highways; gentrification; lack of green space; threats to pollinators; food apartheid; and global climate change (see [Table 2](#)). Students explained that the immersive place-based nature of the courses, taught off-campus every day, was of benefit to their understanding of EJ, community, and environmental issues.

INTERVIEWER: When we conducted the pre-course interview you were upset that you didn’t know about the environmental issues faced by this community. Do you have a greater understanding now?

STUDENT: Definitely. I just needed to get into the community and experience it, and talk to the people here, and that also made me more comfortable learning about it.

Transformative learning (TL)

[Table 2](#) provides evidence describing to the extent to which the courses led to TL outcomes; however, we first note here that not every sociology student had an experience that reaffirmed their preexisting

interest in conducting Sociological CBPR. For instance, one sociology student, despite the usefulness of the formal course readings, described how their experiences conducting social science research lead them to change their direction:

We read about photo mapping, and we discussed it, then we actually did the photo mapping. I understood what it was and the theory. But actually...doing the interviews and the transcriptions - something I always really wanted to do was some sociology research!...so getting into that made me really notice that *I don't want to do that* [laughs]. I thought it was tedious.

Identity as an environmentalist

During pre and post-course interviews sociology students were asked to describe the term “environmentalist,” and then state whether they perceived themselves as such. While their descriptions varied slightly, most students described an environmentalist as someone who cares about the planet, is engaged with environmental issues, and concurrently practices personal pro-environmental behaviors and/or engages more broadly in community and/or political actions to help solve environmental problems. Before the course began only 27% (3/11) of sociology students considered themselves environmentalists. After the course ended, 91% (10/11) considered themselves environmentalists. The exchange below highlights the experiences of one student who grew up in a state identified EJ community, their perceptions, and transformation:

INTERVIEWER: What does the word “environmentalist” mean to you?

STUDENT: An environmentalist is someone who cares about the wellbeing of the environment and their community, and communities that are affected by the environment. It doesn't have to be where they actually live, it can be other places, and care about the wellbeing of our Earth. Factors that might affect the environment in a bad way, and in a good way. Going around and teaching people about the environment, as an educator.

INTERVIEWER: Did you consider yourself an environmentalist before you started this course?

STUDENT: No, I did not, and had never heard the term before.

INTERVIEWER: What about now?

STUDENT: I would consider myself an environmentalist now because I'm more educated about the environment, what affects the environment, and how to make our environment better. I know about EJ, I know how important plants, insects, and animals are in general, and how important they are to our environment. So, I would say now if I see something that's wrong, I can educate people around me. And I definitely could see myself now volunteering on different farms, it's something I want to do. I would like to go to events in the community about the environment.

INTERVIEWER: Like...Earth Day?

STUDENT: Yeah, all of that stuff now. Before, probably not. But now I definitely want to go. I see why Environmental Studies Majors are really passionate...and I understand why now, because it's bigger than picking up trash. And I feel like EJ sparks a conversation not just about the environment, but also about racial injustices and social problems as well. So it's not only about the environment, it's much bigger.

Intent to practice pro-environmental behaviors

Post-course interviews showed that 82% (9/11) of sociology students stated an intent to begin practicing new personal pro-environmental behaviors. Those who would not commit to additional immediate behavior changes cited that they were already practicing to the extent of their abilities (a ceiling effect), or difficulties implementing new behaviors due to lack of services in their urban apartments, with another stating: “I live with my grandparents. When I get my own place, it'll be easier for me to do things differently, and really implement new sustainable ways I can live. I want to start composting.” Among students committing to practice new pro-environmental behaviors (as a result of taking the two courses), they included: composting; growing their own food/gardening; stop killing insects; buying sustainably grown produce and meats/changes in consumerism; educating others (environmental advocacy); recycling; and driving less.

Intent to pursue volunteerism/civic engagement

We found during pre-course interviews that sociology students were already predisposed to volunteerism and civic engagement (82% (9/11)); however, most explained an inability to expand upon the time already spent volunteering. Students who could not volunteer more time explained work, school, and familial constraints: “I go straight to work at 11 o’clock at night. I get off work, I’m tired—and I come back to Radix, then back to work at 11 pm.” Students did however explain an intent to change *where and how* they volunteered, to now include community, agricultural, and environmental pursuits:

INTERVIEWER: Is there a new environmental issue that you could see yourself getting involved in, as a result of this course?

STUDENT: I think I’d like to start volunteering for the DEC invasive species outreach program, that would be my forte. Talking about environmental sciences, justice, and animals...that is most interesting to me. Figuring out what invasive species impact where I live, and how to get rid of them.⁵

Additionally, students who committed to becoming more civically engaged within the environmental/community arena described their intent to commit volunteer hours to local politics, Soul Fire Farm, Radix, environmental education (EE), food banks, Albany Alliance (support for post-incarceration and refugees), and Capital Roots (urban farms).⁶

Unexpected findings

During post-course interviews 73% (8/11) of sociology students discussed their attempts at intergenerational learning and EE with their family members and friends, with whom they promoted pro-environmental behaviors, including more self-reliance on homegrown food, composting, eating healthier foods, not littering, and not killing pollinators. Out of the eight who promoted sustainability initiatives/pro-environmental behaviors to their family members, the two students below were most successful in instigating action:

I talk to my parents almost every day about being self-sufficient and composting, and they are trying to start composting. I sent my Mom a picture of the pond at Radix, and she said ‘We have so much more land, we can get a pond.’ And then she said if we’re going to get a pond, we might as well get a garden, and we might as well grow our own fruits and vegetables. My parents are totally in, and they want to come to Radix to see everything they can plant. She would love to have a garden or a farm and chickens!

I talked to my dad who bought a lot in Albany across from our house about two years ago, and I told him that he should grow his own crops and get chickens. He started laughing because he thought I was joking, because we live in the hood....but I was really serious. I think maybe if I bring him to Soul Fire Farm or to Radix he would do it.

The intergenerational learning aspects of the course also worked in the opposite direction. For example, when sociology students and high school service learners conducted the photo mapping and community interview exercises, one team included an interview with a parent of a sociology student who lived in Albany’s South End for decades. As discussed earlier, sociology students who grew up in Albany were tangentially aware of the extent of social and environmental issues faced by the community, and the organizational efforts working to solve such problems.

The student explained:

My mentee got to meet my father who is from the South End. That was special. And when we decided to do our community interview with him it surprised us how much my father knew about environmental justice and the problems facing the South End. He talked about EJ, food justice, and how a lot of people think that the South End needs reform because there’s a lot of abandoned buildings. I feel like I’m dumb for not thinking that he would know that! But it was mind-boggling that he said the same exact things that we were learning in class...things that I never knew about before taking the courses.

Another unexpected finding among sociology students related to the hands-on and more contextualized nature of the learning experiences at Radix, and the benefit to students with learning disabilities. While the more formal course components included reading scholarly journal articles, group discussions, and writing, there were a diversity of experiential course components. One student explained: “I’m more

hands-on, but I liked the readings with images. The articles we read were awesome. Diagrams and numbers help me to remember things and understand—it's not just an assumption. But hands-on, being outside, was just perfect for me, personally.” Another sociology student explained:

As someone with a learning disability, I think it helped me pay attention more. Because there was more interest, because I'm actually looking at what I'm learning about, and I can eat what I'm learning about, and touch it, and I can see the cycles that it goes through, and the way it grows. It's so much more of a heartfelt, soulful experience than sitting in a room. It creates this kind of dichotomy between being in a classroom, where it just feels like words. And then in the outside world, it's so different, and you're actually doing hands-on stuff, you're connecting with what you're learning, and you actually understand and see it through yourself.

One student also discussed the extent to which the courses helped them to overcome phobias related to insects, dirt, and the outdoors, noting:

STUDENT: I think the beekeeping aspect was meaningful...I didn't know anything about that, and now I'm way more curious to learn about bees. I liked that interaction, getting the honey and just how important they are.

INTERVIEWER: Do you think you overcame some of your fear of bees after that experience?

STUDENT: Definitely. I've never done hands-on courses, ever - and I think that's the reason why I signed up for these courses. I liked how hands-on the courses were, because it really got me out of my shell when it comes to nature - it really changed how I view stuff. Because even when I'm home and I see insects, I don't think “Oh, I have to kill it!” Now I just let things be. It kind of got rid of all that fear I had of such small things, that are so useful.

Discussion and conclusion

The purpose of our evaluative case study research included working to better understand the outcomes of field-based university sociology courses that incorporated ecojustice and TL pedagogies. We described a diversity of place-based experiences whose outcomes pointed to meaningful TL for university students, similar to those described by Mezirow (1997) and Shor (1992). TL outcomes were evinced by an ability to overcome challenges, such as an initial hesitancy to engage with environmental problems, dirt, livestock, and insects. As students became more skilled in performing hands-on civic engagement and experienced how their work positively affected urban ecologies, they also gained a better understanding of sustainable agriculture, food apartheid, and EJ (with hands-on components especially meaningful for students with learning disabilities). Among some respondents we documented positive shifts in personal perceptions, such as newfound identities as environmentalists, the nature and outcomes of their privilege, how their lack of knowledge (and action) contributed to environmental injustices, and a bolstered sense of self-efficacy in terms of action competencies, including the promotion of pro-environmental behaviors and an ethic of sustainability to peers, family members, and high school mentees. Our findings were dissimilar to those of Hughes et al. (2009) who reported their students *did not* believe they had learned strategies to address poverty in low-income areas. While we found a ceiling effect related to time spent volunteering, students explained an intent to change *where and how* they volunteered, to now include community, agricultural, and environmental pursuits.

Coupled with our prior findings from high school service learners (Schneller et al., 2022), we now have a more holistic understanding of the ecojustice learning processes that might contribute to broader socio-ecological change (McKenzie, 2008; Orr, 2004). For instance, students explained being particularly moved by their visit to Soul Fire Farm and witnessing innovative agricultural practices, and were inspired by the facet of ecojustice pedagogies that work to bridge scientific knowledge with TEK (Glithero, 2015; Ng-A-Fook, 2015). The two courses were successful in moving beyond merely heightening student content knowledge and pro-environmental behaviors, as students developed action competencies and a critical consciousness that could potentially be applied beyond university life to enhance social capital, and for solving issues related to social and environmental

injustices, similar to ecojustice pedagogy ideas espoused by Bradford and Shields (2017) and Schusler and Krasny (2010).

Finally, similar to the research on university aged mentors (Dallinger, 2017; Hughes et al., 2009), students described their role as formal mentors to the high school service learners as meaningful, as they also developed a new perspective about EJ areas and a heightened awareness of community social and environmental issues, *via* their mentees (the mentors in our study did not however develop long-lasting relationships with mentees). As described by Hughes et al. (2009) and Vogelgesang and Astin (2000), conducting mentoring activities in mentees' environments has shown potential to enhance content learning as well as field-based mentoring experiences. One of the broader lessons we learned in relation to experiential field-based sociology courses is that contextualized educational adventures have the potential to support learners as whole beings—as people residing in communities that carry with them environmental attitudes, but also (very real) physical, social, and structural burdens related to where they live. For university and high school students living amongst environmental injustices (sometimes also rural in nature), educators who consciously incorporate students' surroundings and facilitate a more attuned place-based pedagogy, could provide avenues for an enhanced student critical consciousness, enthusiasm, and interest in civic engagement.

As mentioned earlier, mentors did not establish longer-term relationships with mentees, with only two returning to Radix to volunteer after the courses ended. Potential reasons for this challenge include the COVID-19 pandemic that resulted in the closure of university housing, coupled with the fact that most of the sociology students graduated and moved away from Albany and/or pursued full time employment. Despite these limitations the findings of this case study research could inform future sociology course design efforts for instructors wishing to incorporate these pedagogies for use in other social settings within (or beyond) the urban environment.

Notes

1. “Natural mentoring relationships differ from formal mentoring relationships in that these relationships develop organically between a youth and an adult from that youth's pre-existing social network” (Sánchez et al., 2018, p. 2).
2. During post-program semi-structured interviews and focus groups the majority of high school service learners explained that they would have liked to have spent more time working with their university mentors, and further discussed their appreciation for working daily with an ethnically diverse group of university students, especially in relation to providing youth with a better understanding of the college experience and life transitions.
3. This sociology student later volunteered at Radix, worked for a NY State Senator, became a youth trail leader and environmental educator for AmeriCorps, and is now pursuing a graduate degree in environmental planning.
4. During pre-course interviews this sociology student stated their intent to pursue social work with LGBT youth upon graduation. During post-course interviews, as a result of taking the courses, this student stated a change of future plans to work with youth, agriculture, and education. In 2021 and 2022 this student worked as both a youth farm educator and wildlife rehabilitation EE specialist.
5. This student later returned to the ecology center to volunteer.
6. Post Summer 2019 we found that 64 percent (9/14) of the high school service learners returned to either volunteer or work at Radix at a later date for an entire summer or entire academic school year (but not during the Spring 2020 COVID-19 shutdown). See Schneller et al. (2022) for a detailed description of outcomes among high school service learners and community stakeholders participating in Radix's Ecojustice Summer Youth Employment Program.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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