THE JOURNAL OF ENVIRONMENTAL EDUCATION, *41*(4), 208–223, 2010

ISSN: 0095-8964
DOI: 10.1080/00958960903479803

Routledge
Taylor & Francis Group

Environmental Action as Context for Youth Development

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This study explored the practices of teachers, nonformal science educators, community organizers, youth program managers, and other educators facilitating youth participation in local environmental action, as well as the experiences of some of the youth involved. We conducted narrative interviews with 33 educators facilitating youth environmental action in communities throughout the United States and group interviews with 46 youth participating in nine environmental action programs in New York State. Through interpretation of educators' stories and youths' reflections, we discovered strong parallels with theory and empirical research in the youth development literature suggesting environmental action is a valuable context for positive youth development.

Keywords *educator practice, environmental action, narrative, positive youth development*

Environmental action involves deliberate decisions, planning, implementation, and reflection by an individual or group intended to achieve a specific environmental outcome (Emmons, 1997). Examples of environmental action include persuading local government officials to implement erosion control along a stream bank in response to water quality testing revealing high levels of sediment (Tompkins, 2005), or reclaiming a city lot for a vegetable garden and growing produce for a local community kitchen in response to a community survey documenting limited local access to fresh produce (Figueroa, 2003). As an educational approach, environmental action aims not to modify specific behaviors like recycling or saving water, but rather engages youth in planning and taking action on environmental issues they find relevant. In addition to improving natural and built environments, these experiences can help youth grow as citizens because they involve authentic participation in community issues (Hart, 1997; Jensen & Schnack, 1997; McClaren & Hammond, 2005; Stapp, Wals, & Stankorb, 1996).

Often reports of environmental action projects focus on youth accomplishments and impacts on their communities, but the roles of educators in facilitating such outcomes are invisible. This article focuses on the little-explored question of *how* educators facilitate youth environmental action. It draws from a broader study inquiring how educators engaging youth in local environmental action in the United States understand and experience that work (Schusler, 2007). We aspired to learn from what Forester (2006, p. 574) calls the "friction of actual practice"—to learn from the stories of reflective, experienced practitioners who "confront in messy detail" the opportunities,

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struggles, rewards, and complexities of partnering with youth to create positive environmental and social change.

In the broader study, we sought insights into: (1) purposes and goals motivating educators to engage youth in environmental action (see Schusler, Krasny, Peters, & Decker, 2009) and (2) practices educators used to facilitate youth environmental action. We initially situated this inquiry within theory of environmental action (e.g., Bishop and Scott, 1998; Jensen and Schnack, 1997) and youth participation (e.g., Driskell, 2002; Hart, 1997). However, through an interpretive research process, we discovered striking similarities between our results and theory and empirical research on positive youth development (PYD) and came to understand environmental action as an important context for young people's personal growth. Thus, in this article, we develop nine practice themes from educators' stories and then compare those themes with attributes of settings that promote PYD (Eccles & Gootman, 2002; Lewis-Charp, Cao Yu, Soukamneuth, & Lacoe, 2003). We also analyze data from group interviews with young people about their experiences participating in environmental action from the perspective of PYD outcomes (Eccles & Gootman, 2002).

ENVIRONMENTAL ACTION AND YOUTH DEVELOPMENT

Jensen and Schnack (1997) distinguished environmental action from environmental behavior and activity. Unlike behavior, action is intentional, or consciously undertaken with reference to motives and reasons. Unlike activity, action is targeted at the solutions to the root causes of a problem. Environmental action can contribute directly to solving the problem at hand (people-environment relations) or indirectly influence others to contribute to solving the problem in question (people-to-people relations) (Jensen and Schnack, 1997). Environmental action typically requires ecological and/or social inquiry to inform and evaluate action in an iterative, cyclical process (Bishop & Scott, 1998; Hart, 1997; McClaren & Hammond, 2005; Stapp et al., 1996). While definitions of environmental action emphasize intentionally working toward solutions to environmental problems, scholars contend that its educational aim is developing learners' capabilities to participate as citizens in democratic society (Driskell, 2002; Emmons, 1997; Hart, 1997; Jensen & Schnack, 1997; McClaren & Hammond, 2005).

In fostering decision-making and citizenship skills, environmental action can be considered as one of a number of approaches to environmental education (EE) that promote a variety of outcomes not directly related to environmentally responsible behaviors. For example, environmental educators have adopted approaches from the "children and nature" movement, which promotes children spending unstructured time in nature, in spite of the fact that outcomes of the children and nature research focus on cognitive, emotional, and physical benefits rather than environmentally-responsible behaviors (Kuo, 2001; Taylor, Kuo, & Sullivan, 2002; Wells & Evans, 2003). Wilson and Monroe (2005) have focused on the role of EE in school achievement, and others have suggested that some forms of EE could have impacts on community level variables such as social-ecological system resilience (Krasny & Tidball, 2009). In short, in addition to impacts on environmental attitudes, knowledge, skills, and behaviors, various approaches to EE may be linked to other outcomes valued by society.

One such potential outcome of EE programs is PYD, which focuses on promoting youth's physical, intellectual, psychological, and social well-being. In the youth development literature, the specific ages by which people define "youth" vary, but the term generally refers to adolescents,

those in the period of life moving from childhood to adulthood (Eccles & Gootman, 2002). A paradigm shift in the youth development field has occurred in recent decades from a problem-reduction orientation to a broader concept of PYD. Whereas the problem-reduction approach viewed youth as recipients of services intended to decrease problems like alcohol use, violence, or unintended pregnancy, PYD takes an assets-based approach that values young people's strengths and future potential in recognition that "problem-free" does not mean well prepared for adulthood (Eccles & Gootman, 2002; MacDonald & Valdivieso, 2000; Pittman, Irby, & Ferber, 2000). Concurrent with this paradigm shift has been a movement from a silo approach viewing youth development in independent contexts, such as schools or youth programs, to consideration of developmental experiences occurring in young people's interactions with family, non-familial adults, and peers throughout their everyday lives (Benson & Saito, 2000).

In terms of PYD outcomes for youth, a variety of personal assets contributing to an individual's well-being have been identified. Frameworks describing these developmental assets (e.g., Search Institute, 2005) vary in their categorization of specific items but demonstrate general consistency in content. We include here assets identified by the National Research Council and Institute of Medicine's Committee on Community-Level Programs for Youth (Eccles & Gootman, 2002) because it offers one of the most comprehensive reviews conducted to date.[1] Eccles and Gootman (2002) organized key assets that promote an individual's well-being in four categories:

- Physical development (e.g., health habits and risk management skills);
- Intellectual development (e.g., critical thinking and decision-making skills);
- Psychological and emotional development (e.g., emotional self-regulation, coping, and conflict resolution skills; confidence in one's personal efficacy); and
- Social development (e.g., trust with others; sense of social place/integration).

The exact manifestations of assets vary in different cultures (Eccles & Gootman, 2002).

Several studies suggest that environmental action programs have outcomes consistent with PYD. For example, Hawaiian students working together to select, investigate, and act on a local environmental issue improved their critical thinking skills; reading, writing, and oral communication skills; familiarity with technology; self-confidence; and citizenship competence (Volk & Cheak, 2003). Evaluation of the national environmental action program Earth Force documented that participants learned to collaborate, conduct research, and express their views, and developed increased confidence, efficacy, and understanding of diverse viewpoints (Melchior & Bailis, 2004).

Whereas research on environmental action programs has demonstrated outcomes consistent with PYD, knowledge of how such PYD outcomes are fostered, including the role of the educator, is lacking. This study enhances understanding of how educators create opportunities for young people's physical, intellectual, emotional, and social growth through environmental action. Recognition that environmental action promotes PYD can be useful for engaging youth development organizations in EE, for example in after-school and summer youth programs, thereby expanding EE's reach while advancing youth development organizations' goals. It can also help environmental educators to expand their impacts with youth by incorporating PYD principles in program planning, implementation, and evaluation.

METHODOLOGY

Educator Interviews

In semi-structured, open-ended interviews, we asked educators, including youth program managers, community organizers, teachers, and nonformal science educators, to describe and reflect on their practice. We purposefully selected (Patton, 1990) individuals identified through peer referrals or national award programs whose practice shared criteria central to the study's focus—environmental action and shared decision-making with youth.[2] Thirty-three educators working in 28 different organizations were interviewed in person or by telephone with interviews typically lasting one hour. These educators worked with youth in varied community settings (rural, suburban, urban; poor, affluent; predominantly African American, Latino, or white). Twenty-four worked in nonformal education and nine as teachers. Educators guided youth in one or, more typically, multiple forms of environmental action among the following:

- physical environmental improvements (e.g., transforming vacant lot into community garden, restoring native prairie habitat);
- community education (e.g., organizing community information fairs, leading environmental camps for younger children);
- inquiry (e.g., community surveys; ecological experiments);
- public issue analysis and advocacy for policy change (e.g., researching environmental impacts of regulations and presenting policy recommendations to legislators); and
- products or services contributing to community development (e.g., sustainably growing food for sale at a neighborhood farmers market).

Every educator shared some degree of decision making with youth; however, who initiated an action project, how it evolved, and the interactions through the course of each project among youth, the educator, and other adult community members varied (see Schusler, 2007).

The lead author served as the interviewer. She adapted a general guide (see Schusler, 2007) in the context of the actual interview (Patton, 1990); thus, interviews became co-constructed conversations. A central component was the *narrative* detailing of a specific environmental action project. In its use of narrative, this study joins a growing body of research in education, psychology, anthropology, sociology, and other disciplines. The body of scholarship described as "narrative" includes multiple epistemological stances and diverse methods; however, common across narrative inquiry are researchers' interest in understanding lived experience and belief in the centrality of stories to human understanding and communication (Clandinin & Connelly, 2000; Clandinin & Rosiek, 2007; Lieblich, Tuval-Mashiach, & Zilber, 1998). Some researchers study narrative as the phenomena itself, attending to narrative structure and form, while others use narrative as a means for the study of another question. This study took the latter approach.

Narrative has been used to explore practice in planning, public administration, education, organizational management, and other professions. As Ospina and Dodge (2005) explain,

> . . . stories contain within them knowledge that is different from what we might tap into when we do surveys, collect and analyze statistics, or even draw on interview data that do not explicitly elicit stories with characters, a plot, and development toward a resolution. (Ospina & Dodge, 2005, p. 143)

Narratives allow access to professional craft and experiential knowledge otherwise invisible to those outside the occupation (Morgan-Fleming, 2007). Dodge, Ospina, & Foldy (2005) have described three approaches to narrative inquiry reflecting different foundational assumptions:

1. narrative as language (highlighting the role of narrative as a medium of expression);
2. narrative as metaphor (focusing on the symbolic role of narrative to suggest deeper structures and social relations that are unseen at first glance); and
3. narrative as knowledge (emphasizing narrative as a way of knowing).

This study falls squarely within the narrative as knowledge approach in recognition of stories' potential to generate understanding and contribute to practical learning. In the field of EE, Paul Hart (2003) has demonstrated the value of narrative in exploring the relationship between teachers' personal practical theories and educational practices. His approach reflects a relatively new appreciation within educational research of educators' experiential knowledge as a legitimate foundation for theorizing (Hart, 2003).

Narrative interviewing is unique from other approaches to qualitative interviewing. Forester, who has pioneered the use of practice stories in the field of urban planning, provides several points of guidance (Forester, 2006). Among these, he advises not to ask what someone thinks of an abstract concept, like environmental action or youth development, but rather to ask *how* the narrator approached, handled, or responded to a relevant, practical situation. Asking what someone thinks of a topic will result in their views, intent, or espoused theories; asking how someone acted in a specific situation is far more likely to result in an instructive story of practice that illuminates not only general beliefs but also practical considerations, opportunities, challenges, supports, barriers, conflict, complexity, and passion (Forester, 2006).

Because narrative offers a powerful way for understanding the meaning and significance of an experience and for illuminating tacit knowledge and theories-in-use (Dodge et al., 2005; Forester, 1999, 2006; Hart, 2003; Ospina & Dodge, 2005), the lead author encouraged the educator to the tell story of a particular action project. Included in this story were how the project came about and at whose initiative; what youth, the educator, and others did; how those involved arrived at decisions; barriers that arose and how they were handled; and surprises along the way and what was learned from them. Throughout, the interviewer probed for specific examples and details. She then encouraged the educator to reflect on her or his role, skills required, challenges experienced, and lessons learned. The narratives produced rich data integrating practitioners' descriptions of experience with their reflections on its meaning.

All interviews but one (where detailed notes were taken) were audio recorded and transcribed verbatim. The primary author reviewed transcripts for accuracy with the original recordings; the transcribed text became the data used for analysis and interpretation. Reviewing each transcript in its entirety, the lead author first documented her impressions of central practice themes (e.g., building relationships) emphasized by each educator and inventoried specific strategies and techniques described for working with youth (e.g., focusing on youth before focusing on project activities). Typically, two to three central themes were manifest in a given story. She then assembled themes across interviews into a collective set and, with this set of themes in mind, again reviewed each transcript for further evidence supporting or refuting each theme. For example, if an educator explicitly emphasized themes A and B, she searched for other themes evident or implied to a lesser degree in her or his story and assessed whether any strategies and techniques described in the story countered specific themes. Through several iterations working back and

forth across interviews and discussions with co-researchers, she refined the collective set into nine overarching themes related to *how* educators facilitated youth environmental action.

Youth Interviews

The geographic proximity of some programs to our institution enabled us to make site visits during which we also conducted group interviews with participating youth. The lead author and a co-researcher (J. Simon) conducted group interviews with a total of 46 youth participating in nine programs in New York State (Table 1). Our conversations with youth confirmed adult perceptions that educators selected for the study were indeed successful engaging youth in environmental action. The youth interviews also provided insights into youths' perspectives on their environmental action experiences.

Each group interview included 3–7 youth (with varying durations of program participation) selected by the educator. These youth often were those most actively engaged in program activities; thus, the data do not reflect the full diversity of experiences among participating youth. While each interview varied depending on the flow of conversation and participants' time constraints, the interaction generally followed a similar format (see Schusler, 2007). The interviewer inquired about how each young person became involved; likes and dislikes with respect to their participation in environmental action; their specific activities, roles, and interactions with adults; descriptions of their overall experience; and ways in which youth felt they learned through the experience. Like a talking stick in Native American cultures, youth often passed around the recording device as they spoke. At other times, youth spoke out of order, jumping in and building on prior comments. The interviewer asked for additional input from less vocal youth to encourage everyone's participation.

Group interviews with youth typically lasted a half hour. All but one (where detailed notes were taken) were digitally recorded and transcribed verbatim. The lead author analyzed youth interview data across programs. She coarsely coded transcripts by general categories, such as "activities," "describe experience," "learning," and "how learned." A finer, thorough review of data within each of these categories led to the specific interpretations presented within.

FINDINGS

How do educators facilitating youth environmental action create opportunity for young people's personal growth? We begin with educators' practice stories before turning to young people's perspectives on their environmental action experiences.

Educators' Practice Stories

Forester suggests that in fields of practical activity like education, "... we are likely to learn less from recipes or general rules for all times and places, and more from vivid examples of real work" (Forester, 2006, p. 573). As a vivid example of real work, each educator's practice story in this study was uniquely instructive and illuminating for understanding how educators facilitate youth environmental action. From these 33 examples of real work, we distilled nine practice themes: *creating safe spaces, providing structure, building relationships, bridging differences, setting*

TABLE 1
Contexts in Which Youth Interviewed Participated in Environmental Action (46 Youth, 9 Programs)[1]. As in This Subset, All Programs Included in the Study Addressed a Variety of Environmental Issues and Took Place in Different Educational Settings, but With a Larger Portion Occurring in Non-Formal Educational Contexts (75%) and Urban Locations (64%).

Program description[2]	*# Youth interviewed*	*Educational setting*	*Location*	*Focus of action*
Program A—Community program in which youth maintained a community garden plot and contributed data to a citizen science program on urban weed management.	7	Non-formal	Urban	Community gardening
East New York Farms!—Community program in which youth employed as interns participated in agricultural learning and leadership training, growing food for the community, managing a neighborhood farmers' market, and educating residents about healthy food.	3	Non-formal	Urban	Food systems
Growing Green—Community program in which youth employed during the growing season built, planted, maintained, and harvested gardens and marketed and sold their produce. Youth were also involved in business planning and community outreach.	3	Non-formal	Urban	Food systems
TRUCE Nutrition and Fitness Center—Community program in which youth employed by the program documented through a neighborhood survey the lack of availability of fresh fruits and vegetables. To fill this need, youth reclaimed an abandoned, city-owned lot, where they developed a vegetable garden and donated produce they grew to a community kitchen.	4	Non-formal	Urban	Community gardening, open space preservation
Caroline Youth Services—Community program in which high school students employed through the program guided middle school students in organizing community events and service projects. In a community beautification project, youth designed and installed raised garden beds in front of the town hall.	3	Non-formal	Rural	Community beautification
Lansing Youth Services—Community program in which middle school students produced a "Green Homes" documentary featuring local residents.	5	Non-formal	Rural	Green building, media
Pine Bush Project, Farnsworth Middle School—Middle school science class in which students conducted scientific inquiry in conjunction with action to restore a local, globally rare ecosystem. After-school and summer program in which students managed a butterfly house (where they reared butterflies for introduction to the wild), gardens for native plant propagation, and public outreach programs, including tours and day camps for younger children.	5	Formal	Suburban	Habitat restoration, wildlife conservation
Sustainability Initiatives, Lehman Alternative Community School—High school ecology class in which students conducted individual and collective action projects in conjunction with their course work. Among many projects undertaken were advocating for the school district to install a solar electric system; designing and building a raised garden bed at a home for adults with disabilities; assessing the quality of woods adjacent to the school for wildlife habitat; and developing and teaching a sustainability curriculum to elementary school students.	10[3]	Formal	Small city	Multiple
Roof Garden Project, School of the Future—High school science class and after school club that designed and built a wheelchair accessible roof garden. At the time of this study, students were engaged in re-design of the space and scientific experiments around the effectiveness of green roof modules with varying design parameters (e.g., plant types, soil medium and depths) for controlling the building's temperature and reducing its stormwater runoff.	6	Formal	Urban	Roof garden, green roofs, sustainability

[1] T. Schusler conducted eight interviews with groups of youth in seven programs and J. Simon conducted two interviews with groups of youth in two programs.
[2] Based on program materials and interviews with teacher or program leader.
[3] Two groups of five youth each were interviewed at this site.

expectations, providing opportunities for meaningful contribution, supporting youth, connecting youth with their community, and *expanding horizons*. Rarely did a single story include all nine practice themes, but each educator described using multiple practices among them.

To illustrate, we share the story of a summer in an urban sustainable agriculture program as told by the program's youth coordinator. We chose this particular story because it concisely conveys several themes, which we highlight in italics in the text following the interview excerpts. During the summer program, youth participated in community gardening, micro-enterprise (e.g., developing value-added food products), and community outreach (e.g., organizing an educational festival rallying hundreds of people to the gardens). The youth coordinator began:

> So they come Monday through Thursday, they work 30–35 hours a week, depending on how much the City can give us to fund the employment aspect. And the day basically starts out with an informal kind of check-in question where everyone participates in some sort of question that will provoke thought and help us learn about each others' opinions and beliefs. We call it "check-in." An example of a question would be, "Did you see what [hip-hop artist] Kanye West said on national television last night? He made comments about racism and how that's connected to the George Bush administration. What do you feel about that? What is your opinion about that? And would you have done the same thing?" Or we'll ask really personal questions sometimes like, "Name the happiest moment of your life, or name one of the saddest moments of your life." So it really just breaks down those walls and helps us be more human with each other and understand each other instead of having so much behind the surface that we don't know about each other. Our goal with that check-in is to really break down those walls and be more personal with each other and be a team.

The story begins, as does a typical day, with a communication tool designed to foster open dialogue, learning, and trust. Note that the check-in does not focus on a traditional environmental topic but takes a broad conception including social dimensions relevant to young people's lives (Wals, 1994; Wals, Beringer, & Stapp, 1990). Check-in helps create a respectful, inclusive social environment—an emotionally *safe space*—where youth can express their experiences, feelings, and views while learning about and appreciating those of others. In this way, check-in helps *bridge differences* and *build relationships* among youth and between youth and adult program staff. The story continues:

> . . . and then after check-in we move into an activity or a game that can be similar. It will be a teamwork-building thing or an ice breaker so we get to know each other. We use the Food Project curriculum from Boston a lot and they have a lot of games and stuff like that. And they have a very extensive curriculum based on food security and food system development and food education. So then we get into the games and activities and then we usually come out and we work in the garden for a couple of hours and that can be anything from moving mulch, digging up new garden beds, planting, weeding, going and buying some perennials, there's always something to do, clean up the park that's nearby here in our neighborhood, go to the school garden that's a couple blocks away and help with their garden. We try to plan ahead but it doesn't always work that way because there's just so much to do and sometimes the days can be very chaotic with whatever comes about. And so we try to get a good three hours in the garden doing physical labor, plus in the hot sun it doesn't always work that well. We don't want to be out in the hot sun all day really working physically hard, so we try to break it up with indoor stimulating-the-mind type stuff and then the physical labor as well. We try to balance that. So it's a good balance of activities, ice breakers, personal discussions, and moments of education where they're watching a film or something like that.

The story moves from its emphasis on relationship building to how adult staff *provide structure* for youths' activities while being flexible and adapting that structure with changing needs. They also mix rigorous, physically demanding agricultural work with intellectual discussions, for instance of the film *Life and Debt*, which documents the impact of globalization on people's lives in Jamaica. Such activities help *expand youths' horizons* by connecting their local actions with global issues. This educator reflects further:

> We personally as a staff try to tap into the individuals in the group and see their roles and see their strengths and their abilities and then if we see a strong leader who's a hard worker physically then we ask sometimes if that person can supervise a certain group of people. Or if we see someone who has good facilitation skills then we try to work with that person in facilitating an activity that we're going to do. Then we try to figure out a balanced way of saying these people are the leaders, these youth are leaders and you have the opportunity to become a leader, it's based on your performance. And so we have reflection times where we reflect on each other's work and it's called Straight Talk. So the reflection times are really good for all of us, staff and the youth staff, to talk about our plusses and minuses and how we perform and how we work.

Here, we see how adult staff encourage greater youth participation in leadership roles. They carefully consider when to invite individual youth to take on greater responsibility and how to *support youth* in doing so. A specific technique called "straight talk" encourages youth and adults to reflect on how well they are meeting *expectations* in their individual and team performance. The story continues:

> That's usually what the summer consists of for a good two months at least. And a lot happens. We go on a lot of field trips to the farmers markets and stuff on the weekends. We go to an organic farm nearby so they get to learn and see how an organic farm operates. And we do sweat equity type work there where we work for them and weed for a couple hours and the youth really love that. That's some sarcasm. They like learning about the farm and seeing the animals and visiting and then after that we're like "okay we've got to weed," and they're like "man why do we have to weed?" They weeded carrots this year and I mean there's always room for learning [with] teenagers, we're weeding carrots and half of them are joking around and the other half are really taking it seriously and so then you really find out who the leaders are because they're like "come on you guys we need to get this done" and they're like "no, no." I mean it's always interesting when we go to the farm. There's always some sort of disciplinary action that has to take place. There's always some kid who just wants to cause a ruckus.

Another technique for expanding horizons, the field trip to the organic farm also *connects youth to the broader community* by both drawing on the resources of and contributing to the operations of the farm. The description of the farm visit reminds us this is not easy work; educators face disciplinary and other challenges. The story concludes emphasizing again the importance of relationships:

> The summer is just the core time in the program and it's the best time I think. It's exhausting but it's the best because it's extensive, it's like almost a retreat away, you spend so much time with each other, so many days and so much intense work and you get to see all the sides of everybody almost like this is your roommate. I really like the summer program.

These few paragraphs excerpted from a much longer interview transcript illustrate how multiple themes interwove through educators' practice stories. Not every story included every theme,

TABLE 2
Learning Reported by Young People Participating in Environmental Action and Categorized as PYD Assets Based on Eccles and Gootman (2002)

Physical development	Healthy habits (e.g., nutrition, fitness); health risk management (e.g., protecting self 'from the wrong')
Intellectual development	Content knowledge (e.g., energy efficiency, plant science, earth science, butterfly metamorphosis); job preparation, value of hard work; knowledge of vocational skills (e.g., video production, conducting scientific experiments, public speaking)
Psychological and emotional development	Mental health including positive self-regard (e.g., self-confidence, open-mindedness); emotional self-regulation (e.g., patience, persistence, paying attention); coping skills (e.g., adaptability); mastery and achievement motivation (e.g, initiative, intrinsic reward); confidence in personal efficacy (e.g., how to enact change); 'planfulness' (e.g., vision, thinking ahead); sense of personal autonomy and responsibility; optimism coupled with realism; good use of time (e.g., balancing work load)
Social development	Connectedness (e.g., teamwork); ability to navigate in multiple cultural contexts (e.g., when to 'talk street and talk correctly'); commitment to civic engagement

and individual educators stressed some more strongly than others. For example, a community organizer guiding youth in environmental action in an inner-city neighborhood emphasized building respectful, trusting relationships and creating a physically and psychologically safe space. A science teacher in a suburban school, on the other hand, emphasized connecting students with their community and providing opportunities for meaningful contribution beyond the school classroom.

Youth Perspectives

Assessing outcomes for youth was not a primary objective of this study focusing on educator practice; however, youths' reflections in the nine programs where we conducted group interviews provided additional evidence of PYD outcomes (Eccles & Gootman, 2002) (Table 2). In all nine programs, youth described learning that contributes to intellectual, psychological, and social development. Youth participating in action regarding community food systems, nutrition, and health also reported learning related to physical development. Below we share examples of youth learning within each developmental domain.

Many youth reported learning about the environment, which contributes to *intellectual development*.

> I learned that living an environmentally sound life doesn't always require more expensive stuff but also can help you save a lot of money. For example if you use a fluorescent light versus an incandescent light you save $100 in electrical bill . . . (School of the Future)

> I have learned some knowledge. I have learned that "green homes" doesn't mean that they're actually [the color] green. It means that they are environmentally friendly homes, it means that they're good to nature and that there are many different ways of making a green home, like [masonry] stoves and using different recycled material to build your house and stuff. (Lansing Youth Services)

In addition to environmental knowledge, youth also spoke of learning skills such as producing videos, conducting scientific experiments, and speaking publicly, which also contribute to intellectual development. For example, a middle school student said:

> I've done interviewing and processing the film and to me it's really interesting and I really realize how, why it takes like two years for someone to make a movie . . . The most important thing I learned is that there is a lot of hard work in doing this and it takes a long time, it does take a long time. I learned that just by experience. I've been working with the video and stuff for a little bit and it does take a lot, it really does. (Lansing Youth Services)

In the above quote, this youth recognizes the value of hard work, which also demonstrates emotional development. Many youth, when asked about the most important thing they learned through their participation in environmental action, cited learning related to *psychological and emotional development*.

> It teaches responsibility because . . . if you join this club you learn how to take care of plants and how to tend to a garden . . . (Pine Bush Project)

> The most important thing I learned in Growing Green is to have patience with other people . . . Like over the years, I've had problems with people and they taught me how to deal with it. (Growing Green)

> Learning how to balance a completely independent project. How to find time and balance it with a paper due tomorrow and not to get discouraged . . . (Lehman Alternative Community School)

> I've gained self-confidence and my self esteem is higher than what it used to be and I contribute my positive thinking and my constructive feedback. (TRUCE)

In some programs, youth also shared reflections that provided examples of *social development*, such as feeling connected with and valued by larger social networks and being committed to civic engagement.

> It changed me because I'm happy every time I walk down the street and I see one of Growing Green's gardens, I feel happy that I helped. (Growing Green)

> Before I would have thought being a good community member is just like staying out of trouble, but now I realize that is kind of expected. If you actually want to be a good, good community member you have to be proactive and find things that you need to address. (Caroline Youth Services)

Youth participating in action concerning community food systems, nutrition, and health also reported learning related to *physical development*.

> Okay, me personally, the most important thing that I've learned is how to eat healthy. Because before this McDonald's was my best friend and now I actually eat fruits and vegetables. And I've changed a lot in my life. (East New York Farms!)

DISCUSSION

In this study, we uncovered nine themes related to how educators facilitate youth environmental action, including: creating safe spaces, providing structure, building relationships, bridging differences, setting expectations, providing opportunities for meaningful contribution, supporting

TABLE 3
Comparison of Themes Emerging From Educators' Stories of Facilitating Youth Environmental Action and Features of PYD Settings

Practice themes and related strategies	Features of positive developmental settings[1] (Eccles & Gootman, 2002)
Creating safe spaces—Physical safety; calming environment of green space; inclusive, respectful social environments where youth can take risks and express themselves.	Physical and psychological safety
Providing structure—Process framework for youth decision-making; guiding youth in decision-making by helping youth consider options, assess feasibility; setting overall goals within which youth decide routes to achieve them.	Appropriate structure
Building respectful, trusting relationships—Focusing on youth first, then project activities; sensitivity to what youth are going through in other parts of their lives; mentoring; open communication; keeping confidences; honesty, transparency, authenticity; team building activities; hanging out, recreating, sharing meals, having fun together.	Supportive relationships
Bridging differences and creating opportunities for all learners to contribute—Involving diverse youth and community members who would not usually interact; matching youths' interests and talents with specific project tasks; encouraging youth to 'play their strengths.'	Opportunities to belong
Setting clear, rigorous expectations—Clarity about youth and adult roles; clear behavioral expectations; demanding quality and professionalism in products of youths' work; physically rigorous activity; individual learning plans; self-evaluation; de-briefing sessions, reflection on individual and group performance.	Positive social norms
Providing opportunities for meaningful contribution—Shared decision-making; encouraging youth ownership; making a real difference in communities; valuing youth as experts; recognizing accomplishments; providing nested leadership opportunities.	Support for efficacy and mattering
Supporting youth as they encounter new challenges—Responsibility granting; encouragement and guidance in rising to new challenges; formal and informal training; scaffolding; emotional regulation; conflict management.	Opportunities for skill building
Connecting youth with their community—Service learning; drawing on local experts; garnering community support; participation in public forums; media outreach; engaging community through the arts; intergenerational programming.	Integration of family, school, and community efforts
Expanding horizons through novel experiences—Exposing youth to new experiences and ways of thinking about the world and their relationship to it through field trips, conferences, films, workshops (e.g., identity, diversity, social movements); encouraging reflection through dialogue, journaling.	Support for identity formation (Lewis-Charp et al., 2003)

[1] See pp. 90–1 at http://www.nap.edu/openbook.php?isbn=0309072751 for the description of each feature.

youth, connecting youth with their community, and expanding horizons. Returning to the PYD literature, these themes correspond closely with "features of settings" that support PYD (Eccles & Gootman, 2002) (Table 3). Eccles and Gootman (2002) described these features as characteristics of an adolescent's *interaction* with the setting. In the "setting" of environmental action, educators facilitate young people's interactions with physical and social environments. Thus, one can view features of PYD settings as principles for practice realized through diverse tools and techniques adapted to educators' pedagogical styles and young people's capabilities.

An additional practice theme emerged from the educators' stories in this study that is not included in Eccles and Gootman's (2002) features of PYD settings. Some educators described using strategies (e.g., celebrations of culture and identity through art, workshops on issues of power and oppression), which we grouped within the theme *expanding horizons*. These strategies are similar to approaches used to support youth in identity formation, as documented in research conducted since the Eccles and Gootman (2002) edited volume. The Youth Leadership for Development Initiative (YLDI) investigated civic activism as an approach to PYD across a diverse set of 12 youth-serving organizations in the United States. They concluded that support for identity formation—"a key developmental task of adolescence, where youth seek to develop an autonomous and yet socially integrated and connected sense of self"—was an important characteristic of successful programs (Lewis-Charp et al., 2003, p. ES-5). Consistent with the YDLI findings, we include support for identity formation as an additional feature of PYD settings parallel to our practice theme *expanding horizons*.

To what outcomes might the practices in Table 3 contribute? Youth participating in environmental action in this study reported environmental learning and a host of other developmental benefits. The question arises of the relationship of PYD to the goals of EE, including awareness, knowledge, attitudes, and skills, as well as EE's emphasis on participation in environmental problem solving (UNESCO, 1978). The knowledge goal of EE is consistent with the intellectual dimension of PYD, and EE's goal of participation is consistent with personal efficacy, responsibility, civic engagement and other aspects of the psychological and social domains of PYD. But how complementary are EE and PYD? What are some of the tensions and challenges educators face in trying to integrate EE and PYD goals?

The broader study this article draws upon sought to understand purposes and goals motivating educators to engage youth in environmental action. Indeed, integration of environmental and youth development goals was evident in nearly all of the educators' descriptions of purpose. While the stream protected from erosion or vacant lot transformed into a community garden was undoubtedly a valued outcome, essential from a PYD perspective were the processes by which youth *participated* in creating positive environmental outcomes (Schusler et al., 2009). Many educators, however, spoke of experiencing tensions in encouraging young people's genuine participation, such as stepping back to let youth lead and stepping in to keep a project on track, balancing youth freedom with adult-provided structure, integrating youth interests with curriculum or organizational goals, managing power dynamics, and communicating openly and transparently (Schusler, 2007).

Managing such tensions is complex because youth are limited in their capabilities to initiate and carry out longer-term projects without appropriate guidance and support. When youth hold sole responsibility, their work can stall or become disorganized, which can undermine their motivation and the success of the project (Larson, Hansen, & Walker, 2005). This leaves educators with a paradox: taking over control diminishes youth participation but giving youth too much control can take a project off track and jeopardize its environmental benefits. Educators must find a middle ground between being too directive and too *laissez faire* (Douglas, 2006; Larson et al., 2005). Kyburz-Graber (1999) described this middle ground as a "participatory reflective" style of practice in which teaching and learning is a transactional, often unpredictable process involving educators and youth as partners. While participatory reflective educational practice might come more naturally to some educators than others, challenges and tensions are likely to arise for anyone aiming to integrate EE's environmental and participatory goals, as well as environmental and PYD outcomes.

Following Forester (1999), we intend the nine practice themes not as generalized conclusions but as thoughtful interpretations that might help environmental educators view their practice from a new perspective and inform new lines of theoretical inquiry. Some environmental educators might intuitively understand and use practices promoting PYD but appreciate their explicit articulation, while others might improve their practice by applying PYD principles. These practice principles also offer a basis for revision and refinement through further research. Our compilation of themes across the stories of educators working in a variety of educational and community settings suggests they are transferable to a wide range of contexts. Yet, it conceals the nuances of their application among diverse settings. Future researchers might address not only how specific EE practices translate into PYD outcomes and what synergies exist among them, but also how these processes vary among distinct settings (e.g., schools, community organizations) with different primary goals (e.g., science education, community development, youth development), including the tensions, contradictions, and challenges that arise.

CONCLUSION

Environmental action simultaneously improves environments while helping youth grow as citizens through authentic participation in community issues (Driskell, 2002; Emmons, 1997; Hart, 1997; Jensen & Schnack, 1997; McClaren & Hammond, 2005; Schusler et al., 2009). This study enhances understanding of *how* educators facilitating youth environmental action promote young people's intellectual, personal, and social growth. Each educator described using a variety of specific strategies to weave together multiple practices consistent with features of PYD settings (Table 3). Youths' reflections on participating in environmental action illustrate that this approach to EE contributes to environmental learning *and* to a wide range of other physical, intellectual, emotional, and social benefits. A conceptual framework founded in PYD offers a useful practical and analytic tool for understanding the power of EE to not only improve the environment but profoundly influence the lives and well-being of young people.

ACKNOWLEDGMENTS

Funding for this research was provided by the Cornell University Agricultural Experiment Station federal formula funds, Project No. NYC-147459, received from the Cooperative State Research, Education and Extension Service, U.S. Department of Agriculture. We thank Steve Hamilton, Scott Peters, Dan Decker, and Jamila Simon for valuable contributions to this study and two anonymous reviewers for improvements to this manuscript. We are greatly indebted to the practitioners and youth who shared their experiences and reflections on youth environmental action.

NOTES

1. We thank Dr. Stephen Hamilton and other colleagues in Cornell University's College of Human Ecology for guiding us in the youth development literature. The National Research Council and Institute of Medicine report, edited by Eccles and Gootman, was the product of a two-year project funded by a diverse group of public and private sponsors during which a 15-member committee "... evaluated and integrated the current science of adolescent health and development with research and findings related to program

design, implementation, and evaluation of community programs for youth" (Eccles & Gootman, 2002, p. ix). The complete report is available online at: http://www.nap.edu/openbook.php?isbn=0309072751.

2. Colleagues at Cornell University Cooperative Extension familiar with youth and/or environmental education programs referred 21 of the educators interviewed. Five educators facilitated youth projects receiving the President's Environmental Youth Award. Four educators facilitated youth projects receiving SeaWorld/Busch Gardens Environmental Excellence Awards. A staff member of Earth Force referred one educator. One educator was identified through a presentation on her work that the lead author attended at a national conference of the Association of Natural Resources Extension Professionals. One educator facilitated a youth project featured on the Web site What Kids Can Do. One additional educator was invited but declined to participate due to lack of time.

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