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Claiming the Promise of Place-Based Education

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& Susan Weseen

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Claiming the Promise of Place-Based Education



Introduction

Guest Editors Roberta Altman, Susan Stires, Susan Weseen

Bank Street College of Education has a long history of putting “place” front and center in all aspects of curriculum, from pre-school to graduate programs of teacher education. As educators steeped in this progressive tradition that privileges social studies and experiential learning, we (the editors of this issue) agree with those who understand place-based education as education grounded in the built and human (social, cultural, and economic) environment, as well as in the natural environment. The multiple dimensions of the term “environment” are a critical—and often overlooked—aspect of place-based approaches to education, and allow for a transformative notion of place that extends beyond its traditional environmental education borders.

Still, in conversations with colleagues about place-based education, some have asked us: Isn't place-based education just progressive education? Isn't it the kind of education that many of us champion in the face of the recent trends in K-12 education? Why does it need a special name, with an issue of the Occasional Paper Series devoted to it? In the interview that begins this issue, place-based education scholar David Greenwood suggests that a focus on place has much to offer in a time saturated with the denial of place.

Place-based education is resonant with all the wonderful examples of progressive education that precede it, but there is an urgency about this enterprise that is unique to our time. In a culture that is anything but mind-



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ful and present, place has never been so important. So many things—technology, social media, over-scheduled days, information overload, to name a few—pull us away from where we actually are. In classrooms particularly, teachers and students are distracted by the dictates of data-driven instruction, high stakes assessment, and standardized curriculum. The pressing need to attend to our disconnection from place leads Greenwood to frame place-based education as a teachers’ and students’ rights issue, essential to “survival, peace, and well-being.”

Across America, children are taught in classrooms that are judged increasingly by their adherence to common standards (in terms of appearance as well as content), by teachers who receive increasingly standardized training, and who are governed by imperatives that crowd out the possibility of paying attention to place. As Greenwood notes, “Whatever diversity and community might exist within classrooms, way more exists and thrives outside of them, in places, and kids know it” (emphasis added). Teachers know it, too, which may be part of the reason for the burgeoning “teacher dropout crisis.” This narrow, depleted classroom (a place in its own right) calls out for air—for opportunities, Greenwood says, “to decolonize and re-inhabit our own assumptions about the entire educational process.” It is our hope that this issue offers such an opportunity—an invitation to embrace all that the places both in and outside the classroom have to offer.

From New York City to streams in Hawaii, to the foothills of the Himalayas, to the literary landscapes in imaginative literature, to the state of Alaska, to economically challenged Lansing, Michigan, and to preschools in the Midwest and Northeast, the teachers and students described in this issue are engaged in the essential work of exploring the “diversity and community... that exists and thrives” outside the narrowly defined classroom. Rather than handing us a fully developed model of how to “do” place-based education, which is counter to the very premise of such practice, these examples invite us to claim our “right of access” to the full range of places we find ourselves in and to savor the depth and breadth of learning that results.

These places are found not only in the natural environment that many think of when they hear the term place-based education, but also in the social and built contexts in which teachers and students work. Taking into account that the full range of “place” is still a work in progress in place-based education, we are happy to include four essays that extend the traditional understanding of place. Sarah Fisher draws upon non-traditional environmental places in her examination of the need for aesthetic engagement with literary landscapes (i.e., imagined places) as part of the place-based education curriculum for elementary school children. Her research explores how children use imagination and play about reading to achieve “a lasting influence on the reader’s identity and connection to special childhood places.”

Three other papers draw upon urban environments in their use of place. Two of them, based in New York City, also have aesthetic, imaginative components. Chiara Di Lello describes how the Guggenheim Museum works with children on the autism spectrum by using the building’s architecture and contents as places of learning. The author highlights teaching techniques that result in positive learning outcomes for students, young and old, and reminds us of the social justice stance necessary to achieve educational inclusion. In their essay, Brian Andes and Peggy Mc-

Namara describe the integrated curricular study of Broadway theater, an important community resource within walking distance of their school. First-grade students are eager participants in this teacher-led design that clearly benefits learning in multiple ways and opens students' eyes to the wonders and hard work that it takes to make theater a reality.

Finally, in the fourth non-traditional, urban environment of Lansing, Michigan, Mark Kissling and Angela Calabrese Barton describe their work with a group of middle-school urban students participating in a science program on green energy technology at a Boys and Girls Club. They write about how a place-based approach led students to engage in complex thinking about the issues (e.g., jobs, money, standard of living, and environmental quality) and what was at stake for their city, their families, and the environment. Kissling and Barton and their students make strong connections between the social and ecological realms, showing that a focus on natural environment (or ecology) includes attention to the social and built dimensions of their community, and vice versa.

The explicit connections between the environmental and the social are also evident in Monimalika Day's paper with Doug Hernandez, a case study on Indian Balwadis (preschools) run by a non-governmental organization dedicated to environmental conservation through education. Part of a larger research project on the effects of early childhood education on primary education in India, this paper highlights Day's discovery of a remarkable teacher and her young students, and zooms in to show how place affects relationships, both social and physical. In the same way, Rebecca Kesler describes the development and execution of a curriculum unit on water—specifically streams and their origins—for her primary students in Hawaii. Going out into the field forms the core of her absorbing story. In her clear teacher voice, she provides a portrait of her students' evolving engagement and learning as well as a nuanced discussion of parental involvement.

The final two papers are concerned with the development of those who are entering school and those who are getting ready to teach, and both connect the environment with the social realm. Ken Finch and Patti Bailie describe various types of nature preschools and their value in early childhood education. The authors discuss how outdoor activities in nature support young children's brain development in terms of motor skills, cognition, and language. Along with forest kindergartens and their adaptations (as described by Hopeman and Sobel), these centers are providing new alternatives in education for the very young.

Although pre-service teachers are at the other end of the educational spectrum from pre-schoolers, their development is no less crucial. Amy Vinlove shows how she and her colleagues at the University of Alaska, Fairbanks, respond to the diversity of contexts in which their graduates may teach by examining the knowledge, skills, and dispositions needed for place-based education. Vinlove provides three compelling examples of experiential activities and assignments. Since Alaska is a rural state many of those contexts are in the natural world, but the preparation is applicable to teaching in urban centers as well.

Each of the papers in *Claiming the Promise of Place-based Education* offers a much-needed antidote to the forces that disconnect us from the places we teach, learn, and live in. Taken together, they provide an opportunity to reflect on the power of place in education. We invite you to enjoy the fresh air that the authors of this issue of *Occasional Papers* have brought with them to share with you.

In August 2014, Secretary of Education Arne Duncan observed that testing issues are “sucking the oxygen out of the room in many schools.” His solution: give states an additional year to transition into using test scores in teacher evaluations. We see another solution: open up the windows and let the “places” in! In an era of increasingly standardized curriculum and high-stakes testing this is easier said than done—yet more essential than ever.

Guests Editors



Roberta Altman is a member of the graduate faculty in the Museum Education program at Bank Street College of Education. She is also consultant to the American Museum of Natural History in the Higher Education Department. She designs and provides place-based education programs and helps educators implement them in their settings. She has worked with teachers and museum educators throughout the United States and internationally, most frequently in India, where she advises at several colleges of education as well as for the National Council for Educational Research and Training on the role of place-based education in the curriculum.



Until recently, **Susan Stires** taught writing, reading, language, and children's literature courses at Bank Street College of Education. She was also a lecturer at Teachers College, Columbia University, and a staff developer in New York City schools, following 30 years as an elementary school teacher. She is the author of numerous chapters and articles. In her retirement, she is providing literacy support at Juniper Hill School for Place-Based Education, which was founded by her daughter, Anne Stires, in 2011.



Susan Weseen is a librarian at a public elementary school in New York City, where she also works as the gardening and sustainability coordinator. Student engagement is a main focus of her work, and her favorite moments in the library and garden are those when students light up and stretch out—to the world and to each other. A PhD in social-personality psychology from the Graduate Center at the City University of New York informs her daily practice as a teacher and as a human being.

Reclaiming the Promise of Place: An Interview with David Greenwood

By Roberta Altman



Roberta Altman: One of the ways you have opened new perspectives for educators in their work with children and communities is through the concepts of reinhabitation and decolonization of the places where people reside. What are some of your thoughts and hopes for ways that educators can engage with local diversity in their teaching?

David Greenwood: Diversity is a slippery concept. I continue to regret all the ways that schools can conspire to create the opposite of diversity, even as school reform rhetoric often features diversity as a major pillar of inclusive transformation. The problem as I see it is that the standard “grammar of schooling” still pretty much takes the age and ability-grouped classroom for granted as the fundamental spatial unit of teaching and learning. When we start with that formula—that teaching and learning happen mainly in the classroom with kids mainly of the same age and ability and with teachers that received standardized training—it is very hard to allow for more expansive notions of diversity and community to enter our thinking. Whatever diversity and community might exist within classrooms, way more exists and thrives outside of them, in places, and kids know it.

So I think that as educators, we have to learn to decolonize and reinhabit our own assumptions about the entire educational process. Yes, this is big, but like climate change, necessary to address. I think that many of us are eager to do this, and that we mainly lack the opportunity to truly deliberate with ourselves and our colleagues. So we need to create those opportunities. We also need to reinhabit and decolonize our notion of the “classroom”—and the concepts of “place” and “place-based education” provide a vocabulary to rethink where learning happens and what learning is supposed to achieve.

I developed the concept of a “critical pedagogy of place” (Greenwood, 2013), with the hope of expanding the landscape of what matters in education to include all of the diverse social and ecological contexts of our lives. What makes this radical, in the sense of getting to the root of things, is the insistence that social and ecological realms are interconnected. Sadly, I think it is still true, to a large extent, that if educators are interested in contexts outside of classrooms and schools, they ally themselves either with social justice communities or with ecological communities. Place, however, is where social and ecological contexts converge. Place is a bridging construct, a meeting ground, and I use it to demonstrate the interconnectedness between social and ecological issues, between your experience of place and mine. Historically, ecological educators have said that we need to reinhabit our environments in order to live well with each other and take care of our places and our planet. Social justice educators have likewise been working for a kind of decolonization, where historical injustices need to be acknowledged and actively redressed. Reinhabitation and decolonization are each very complex constructs and aims of education. However, the point is that when you combine social and ecological thinking—as we absolutely need to do for the sake of survival, peace, and well-being—they are really two sides of the same coin.

So I think that to increase responsiveness to local diversity in the process of schooling, it would be very helpful if those primarily interested in social justice would also work to include related ecological issues in their work; and likewise, it would be very helpful if those primarily interested in the environment would work to include social justice issues. By focusing our attention on how our social and ecological worlds come together in the places where we live our lives, we can become more diverse thinkers and we can find new spaces, new communities, where we can imagine learning taking place.

Altman: Can you tell us about the ways you see the links among place-based pedagogy, local diversity, culture, and identity playing a role in the classroom?

Greenwood: These linkages are being made everywhere at every variety of scale and intensity. Yet one of the tensions I see in the place-based education literature, and I think this is also true in whatever transformational practice might be on the table, is that it is both intimidating and inspiring to see examples of fully realized place-based education in action. Some great examples are in Bob Gliner’s recent films, *Growing Up Green* and *Schools That Change Communities* (see <http://www.docmakeronline.com/>). I really recommend these films. In *Growing Up Green*, Gliner documents what appears to be a fully realized statewide place-based education initiative in Michigan, which is in part held together by the ENGO, the Great Lakes Stewardship Initiative

(see <http://www.glstewardship.org/Home.aspx>). This highly collaborative initiative is incredibly inspiring because it demonstrates social and ecological responsiveness to issues facing diverse people in both urban and rural communities of Michigan. It shows students, teachers, administrators, and community members and organizations working together to decolonize their places (e.g., by reducing pollution and invasive species) and reinhabiting their places by restoring salmon runs and gardening and improving energy efficiency in urban neighborhoods. The film shows how much can be achieved through a focus on place (in its diverse cultures and identities) and by connecting place-based learning to traditional classroom learning. There are many such examples in the literature (e.g., see Gruenewald & Smith, 2008 and Smith & Sobel, 2010).

However, I have always worried that focusing on inspiring exemplars, on stellar examples of the genre, we as educators run the risk of intimidating potential adopters and allies. When I witness something that obviously took a huge amount of time and effort to achieve, I sometimes feel like, “Man, I just don’t have the energy to do that right now.” And I think that with our incredibly busy lives, a lot of people feel that way.

What I try to do in my teaching is to challenge people to take whatever step is appropriate for them at the time to begin making linkages with diverse opportunities for place-based approaches to learning. I try to encourage fellow educators to begin developing practices of place in their own lives, and then bringing these practices into their curriculum. For me, it is never just about “the classroom” and it is always about how all of us live our lives—perhaps especially educators.

One of my favorite examples of taking a first step and developing a practice of place came from a teacher I worked with in Vancouver, BC. She was a bit skeptical of the social and ecological theory underlying my commitments to place-based education. But she was a walker. She walked many urban kilometers every day and I asked her to start paying attention to the places she experienced on these walks. She created a kind of photo essay for our seminar, and then months later she emailed me and told me that she had decided to take her grade three class for a walk every day, and to share together and investigate what they saw and experienced on these walks. This became a focal point for her entire curriculum. Can you imagine the richness of this simple yet profound commitment? Every single day taking the class outside the classroom to experience the world beyond its walls? I can’t think of a more radical educational act, and it came from a teacher who was intimidated by what we might call a fully realized and collaborative place-based education initiative such as those in Bob Gliner’s documentaries.

I’m interested in the big programs, the ones that get funding and media coverage and that get policymakers involved. But I think I might be even more interested in the small—but at the same time huge—changes we can make in our lives and the lives of our students when we begin to develop our own practices of place and bring them into our teaching.

Altman: Are there some specific examples of the connection between place-based learning and social justice actions that stand out for you?

Greenwood: To be honest, I can't really think of a place-based issue that is not inherently both a social and ecological issue. I just don't differentiate between the two realms. They are interconnected if you can make the connection. Thus, I think all place-based education is a kind of social justice activism, with big opportunities for making ecological connections. For example, what about the issue of simply getting outside? Is this a matter for ecological educators alone? Or is it also a children's and teachers' rights issue—as citizens have the right of access to spaces beyond school, and to see those spaces as legitimate contexts for learning and community participation?

I work with a principal in Thunder Bay, Ontario who is doing her doctorate on place-based education and related social justice issues. Her school is in one of the poorest areas in town. She is very committed to a place-based approach and since taking on the leadership of this school she has been working to collaborate with neighborhood organizations and families to create a vision of a school that is a meeting ground for people in the community, a school that is making a direct contribution to people's lives—kids and adults. She is helping to support some “typical” place-based curricula, such as greening the schoolyard, investigating community issues, and making art on campus. But her thinking about place is expansive.

She has established mindfulness practices as a core element of teachers' and students' experience. At this school, kids and teachers are meditating every day and the PA system is constantly playing through the whole building the kind of relaxing music you might hear when you go for a massage. The hallway of a school is also a kind of place, and these hallways have been transformed by music. I think this is a great example of place-based education that is also a kind of social activism. She is working to create a healing place for the kids and their teachers. This, it seems to me, is something we should all consider doing.

Once we start to explore place-based education, we begin to find connections to other educational and wisdom traditions, such as mindfulness and non-violence. If you keep asking questions about a place and people's relationship to it, it leads to holistic thinking. Holistic education is a parallel tradition that together with place-based education makes a great combination—connecting people and place in our wholeness, and not just for the sake of “curriculum.” (For a powerful documentary on teaching mindfulness to middle school students in San Francisco, see <http://roomtobreathefilm.com>.)

Altman: In an age of increasing technology and various forms of media impacting everyday life, what are some ways that educators can think critically about how this phenomenon fits in with place-based education?

Greenwood: I have three kids who would probably promise to do whatever I say for a year if I got them iPhones. So far I am successfully resisting this temptation.

Digital technologies are so new, so ubiquitous, and changing so rapidly—I honestly think that they are functioning to shape a new kind of species: homo technologicus. In terms of our ontological and epistemological experience (i.e., our way of being and our way of thinking), our gadgets are hugely influencing how people think about and practice teaching, learning, and living.

I tend to think that this revolution (and we are hardly giving it the attention it deserves) is not all good, and it's not all bad.

As far as the bad goes, I resonate with Wendell Berry, who in his poem “How to Be a Poet” puts it plainly: “Live a three-dimensional life[1] ;/stay away from screens./Stay away from anything/ that obscures the place it is in.”

Screen time dominates our attention so much of the time, and this worries me a lot. Personally, I get totally drained after working at my computer for a couple of hours. I know my body has suffered these last 15 years as the sheer amount of electronic work has grown like a cancer out of control. And this is still early years for the digital revolution. Few educators are talking seriously about its impact on our field, on ourselves, although some psychologists, such as Sherry Turkle, have written very convincingly about the kinds of changes the tech revolution is working on our ways of being and doing. Turkle's book *Alone Together* has a portentous subtitle: “Why We Expect More from Technology and Less from Each Other.” (See Turkle's Ted Talk at http://www.ted.com/talks/sherry_turkle_alone_together?language=en.) The more wired in we become, the less we have time to connect with other people and places through direct perceptual and sensory experience. Lots is lost here, which should be of great concern, but because we are all so busy on email and smartphones, few of us are talking about it as a serious educational issue.

I'm working on a technology project with a friend and colleague from the University of Wisconsin, Justin Hougham. Our basic thesis is that place-based educators need to mitigate and adapt the use of technology. To mitigate, we simply need to reduce our use of it and our dependence on it—to draw boundaries and establish limits. Not so simple, actually. We have been writing about and experimenting with the merits of “technofasting”—a concept inspired by the work of Ivan Illich. Yet technology is so embedded in the culture, it is really very hard to “stay away from screens.” While we are promoting establishing boundaries and limits, we are also looking at adaptation, or establishing a framework for “appropriate uses,” as well as field-testing cutting-edge technologies with teachers and students.

My own bias in this work is that old technologies—such as a compass and a hand lens—are probably superior in lots of ways to the new technologies of a GPS and a microscope that you can plug into your iPad. But we are interested in looking at these questions more closely. I do have a strong suspicion, however, that there is something almost sinister afoot with the continual expansion of gadgets in the hands and minds of all of us. The costs to direct experience could be huge and irrecoverable.

Altman: As your personal journey with place-based education evolves, what are some new meaningful experiences you could share?

Greenwood: Connecting on a deep level to a place takes time and attention. As an advocate of place-conscious mindfulness and learning, I have long been a promoter of developing intentional “practices of place.” For me, a practice of place is akin to a spiritual practice. It is something that one does with intention on a regular basis; there is an element of ritual around it; and over

time, the practice deepens, leading to surprising insights that were neither planned nor foreseen. This year, over the spring and summer seasons, and as part of my morning ritual, I committed to writing one haiku a day.

As a former English teacher, poetry and literature were pathways to my academic career, and they remain doorways to mindfulness and learning. Haiku is an accessible and deceptively simple form, one that is frequently taught to elementary school children, and it is also a profound, centuries-old practice of cultivating mindfulness. Haiku's origins go back over a thousand years in Japan, and in its relationship to Buddhism and ancient Chinese poetry, it represents a practice that may be three times that old.

Part of what I seek in my own haiku is the experience of what Patricia Donegan calls “haiku mind”—that heightened awareness and openness to the present moment. As I write the poems, and as I look back over a collection of over 100, I also see how much they are an exploration of, and commentary on, the relationship between my experience of the outer landscape and the landscape of my interior life.

In conceiving of my haiku in my mind's eye during morning walks, I seek to reconnect myself to the landscape, to my place, by opening to its details. Not all of my poems are good haiku, and the ones that I particularly like may only be good to me. I see them as expressions of shifting parts of my identity as someone seeking to connect to a place, to the human and more-than-human community, and to what really matters to me in my life. The poems offer me something for my continued learning. I'll share some with you, and ask that you read them slowly, pausing for a while within each poem, and pausing also between them. No need to rush.

all day long
red-eyed vireo sings
here I am, where are you?

morning skies clearing
first hints of yellow leaves—
today I let go

spider web in mist
tethered to spruce tips—
forecast calls for frost

last light gone now
ridgetop pines tall in shadows
blue stars burn the sky

that is where I'm going
now,
where the tall grass bends

Altman: Is there anything else you'd like to share about the impact of place-based education?

Greenwood: Looking back over these poems, it is clear to me that they mainly attempt to render my direct sensory experience with the natural world. Some people might think that this kind of practice somehow neglects difficult cultural and social justice issues. I'm sensitive to that critique. But I truly believe that we need to start with ourselves, and that most of us need to learn to heal the violent separation from nature that culture perpetrates on all of us through our institutions—including schools and universities. To reclaim and revitalize my connection to the more-than-human world—this is a justice issue for me. Call it eco-justice, social justice, or place-responsive learning, it something I can't live without and I don't think any of us can in the long run.

Playing in Literary Landscapes: Considering Children’s Need for Fantasy Literature in the Place-Based Classroom

by Sarah Fisher

While all of children’s lived experiences are essentially rooted in place, Louise Chawla (1992) has noted that children “need to be brought from rootedness to a sense of place through education, which creates enough separation between the self and its surroundings to allow conscious appreciation” (p. 83). The efforts of place-based educators have been grounded in this premise, as well as in the belief that an appreciation for place developed in childhood influences the way those children care for the places they dwell when they move into adulthood (Sobel, 1993, p. 78). Laurie Lane-Zucker, in her foreword to David Sobel’s book, *Place-based Education: Connecting Classrooms & Communities*, reminds us that imagination is necessary if we are to inspire “authentic renewal and revitalization of civic life” (2005, p. iii).

Place-based education often employs a process of re-storying, whereby students are asked to respond creatively to stories of their homeground so that in time, they are able to position themselves, imaginatively and actually, within the continuum of nature and culture in that place. (p. iii)

The importance of imagination in place-based curricula is a direct and obvious conclusion when we characterize abstract attributes of place, such as memory, to imagination. Memory requires creative cognitive processes. However, in my own practice of this philosophy as an elementary school teacher in a rural town in southwestern Pennsylvania, I often found myself conflicted over the issue of imagination in place-based education. This was particularly true in regard to the central role imaginative literature played in the life of my classroom and in the lives of my students.

The Local Watershed or Harry Potter?

In my third grade classroom a few years ago, nearly a third of my students were participating in the local baseball and softball leagues. Their games were hosted at a park near our school. A few of my students had noticed that the mud in the adjacent creek was tinted orange. As a class, we had been talking about the pollution of our local water sources from abandoned mines and the beehive coke ovens that lined the stream a hundred years ago. My students wondered if the orange coloration was a result of pollution or the minerals in the mud and were concerned about its impact on the wildlife that lived there. We decided to learn more about our local watershed and conduct some water testing. We stayed inspired with the project for a week or so until our Parent Teacher Organization held the annual book fair. In one period, my students went from asking “Can we please map the stream during recess?” to “Can we please have some time to read Harry Potter?”

My students became engrossed in their novels for the next few weeks, some writing their own Harry spin-offs and acting out the narrative on the playground. After several uninspired attempts

on my part to rally us back around the local pollution problem, I abandoned the project. I was despondent at having missed an authentic opportunity to connect classroom and community, and yet I suspected that the students' engagements with literary landscapes were contributing in some way to our connection to place, perhaps even directly.

Are the philosophies and pedagogical practices of literature-based classrooms congruent with place-based classrooms? In this paper, I argue that not only is imaginative literature compatible with place-based philosophies, but it can become a powerful centerpiece of a curriculum aimed at educating for a sense of place and inspiring life-long readers.

This discussion is informed by data collected as part of an ongoing research project in which I explore the ways aesthetic engagements with literature influence readers' experience of place. Acknowledging the tradition of place attachment studies, which often include adults' perspectives on the relationship between childhood places and identity construction, I draw from interview data from eight adult participants. I begin with a theoretical argument for the inclusion of imaginative literature in place-based curricula, followed by a discussion of a number of themes that emerged from participants' responses. I conclude with suggestions for carrying out these ideas in place-based and literature-based classrooms.

Realistic or Imaginative Literature?

Louise Rosenblatt, known for her contributions to reader-response theory, states, "In aesthetic reading, the reader's attention is centered directly on what he is living through during his relationship with that particular text" (1994, p. 25). In fantasy literature like the Harry Potter series that took over my classroom, this might mean being introduced to a world of alterity, a world that little resembles the dimensions of the place in which we live. Sometimes, reaching the conclusion of a fantasy book, or other imaginative literature, we are even left with a feeling of longing for the literary landscape we have left behind and a deep dissatisfaction for our own world.

In this discussion, I broaden my consideration from the distinctive genre of fantasy embodied by otherworldly texts like Harry Potter to the more inclusive term, imaginative literature. Imaginative literature emphasizes a reader's particular aesthetic response to a text rather than a genre categorization. In this sense, imaginative literature describes a work of fiction, or poetry, in which the literary landscape differs from a reader's lived experiences, and through aesthetic engagement, prompts the reader to envision the "storyworld" as an "alternative universe," distinct from her own and capable of inspiring wonder through alterity (Blackford, 2004, p. 33). For example, although I refer to Laura Ingalls Wilder's *Little House in the Big Woods* as historical fiction, to a reader in 2015 the literary landscape might be considered imaginative.

The notion that imaginative literature can nurture a local sense of place differs from a traditionally held assumption in literary theory that suggests child readers prefer literature that resembles their own experiences, or realistic literature. This belief, while not a completely invalid measure of anticipating reader-response, influences teachers' evaluation and selection of classroom literature (Blackford, 2004, p. 12), and the scholarship and resources available to educators for the inte-

gration of children's literature into place-based classrooms often reflects this same reductionist premise.

Nodelman and Reimer (2003) warn that when teachers use literature to promote a prescriptive instructional message or theme, they run the risk of discouraging their students from experiencing its pleasures. Ardent readers, people who are intrinsically motivated to read and do so often, are not expected to "parrot" the interpretations of other readers, including their teachers. Nodelman and Reimer write,

Ardent readers don't often read with a primary focus on absorbing a message as truth to live by. They don't think of the act of reading literature primarily as a form of self-administered therapy, in which they treat a story or poem as good advice about their own future behavior. Nor do they usually focus centrally on the information about geography or history that novels or poems convey. They tend to see their reading of literature as a source of questions to think about rather than answers to accept. (p. 36)

With place at the center of a reading curriculum, an intended aesthetic engagement with literature can easily become an exercise in efferent reading, in which children read specifically for information they might take away. This expected "take-away" might be implied through the structure of a lesson or the teacher's words and actions (Rosenblatt, 1994, p. 24). Efferent reading positions the child as a more passive consumer of textual messages, rather than as an active meaning-maker. Children's fantasy, such as the works of E. B. White and Dr. Seuss' *The Lorax*, both of which I used in my instruction, can be justifiably included in the place-based classroom when the content provides seemingly direct and convenient place-conscious "take-aways". However, these books often take the place of other works of imaginative literature that children love, like Maurice Sendak's *Where the Wild Things Are*, popular series books, and retellings of traditional fairytales. In my own efforts to reconcile critical pedagogies of place with a literature-based approach to instruction, I neglected the wider body of research on reader-response and often missed the broader place potential of engaging with imaginative literature, simply because I could not directly connect the content to my students' observable lived experiences.

Imaginative Literature's Hidden "Place" Curriculum

Included on many syllabi for children's literature courses for pre-service teachers around the country is the following quote by Charlotte Huck (1982):

Literature records the depths and heights of the human experience. It develops compassion by educating the heart as well as the mind. It helps children entertain new ideas, and develop insights they never had before. It can stretch the imagination, creating new experiences, and enriching old ones. Literature can develop a sense of what is true and just and beautiful. (p. 317)

Many children's literature scholars would argue that fantasy is quite possibly the most critical genre for instilling these values in elementary classrooms (Norton, 1999, p. 352). A type of imaginative literature, fantasy is a genre characterized by motifs that extend beyond the realm of what

is physically possible in our own lived experiences. While the very nature of this genre in particular may seem contrary to the goals of place-based education, fantasy is “a literature of possibilities” (Pierce, 1996, p. 180) that works to re-story a reader’s perspective within his or her place. Norton (1999) concludes, “Fantasy writing helps children expand their curiosity, become observers of life, learn to be sensitive to rules and variations within rules, and open their minds to new possibilities” (p. 352). Pierce (1996) agrees: “Fantasy creates hope and optimism in readers. It is the pure stuff of wonder, the kind that carries over into everyday life and colours the way readers perceive things around them” (p. 183).

By creating an alternate world governed by its own set of rules, fantasy writers incorporate ideology and social commentary into their literary landscapes. The genre presents seemingly unimportant characters as vital players in the plot and often uses magic to empower the powerless. While inviting the reader to question what it means to be human, fantasy “roots us in universals,” but also “speaks to us of our place in the world” (Egoff, 1988, p. 18).

Like the efforts of place-based education, fantasy authors employ literary elements that distance us from ourselves just enough to reflect and appreciate the landscape. By offering us a literary landscape that evokes the multidimensionality of places through language and form, fantasy writers construct other worlds that starkly contrast our lived experiences and force us to reference our own world for comparison. For children, this is an especially important exercise in separating from the milieu to appreciate their rootedness in place. Spencer (2003) reminds us: “It is impossible to keep thinking and imagination apart, especially in the ‘firstness’ of children’s early encounters with the world they have to learn to make sense of....They explain things to themselves in terms of sameness and difference” (p. 107).

More generally, Holly Virginia Blackford’s reader-response research (2004) suggests that it is the possibility of aesthetically engaging with difference, or alterity, that keeps children reading. In her efforts to explore young girls’ identification with female characters in literature, she realized that the assumption they would identify with female characters in the first place was her own imposed contrivance (p. 7). Her work not only supports the idea that our misguided methods can hinder children’s aesthetic engagement with literature, but reminds us that pedagogical insight into the role of literature in the lives of child place-makers should be explored through the experiences of readers themselves.

Embodiment of Imaginative Literary Landscapes through Play

Methods. Borrowing from place attachment studies that include adults’ retrospective interpretations of memories as data, I recruited adult participants in order to explore the congruency of imaginative literature with place-consciousness in their histories as readers. My goal was to gain insights into the design of a more authentic reading curriculum in place-based classrooms that sustains place-conscious habits of mind beyond childhood, but also honors an imaginative worldview as an important part of development. Survey and interview data were collected from eight participants for whom a literary self was a central part of childhood identity. These participants were women between the ages of 25 and 54, who were enrolled in a Fantasy Literature for Chil-

dren course I was instructing. Participants were asked to share memorable childhood experiences with literature that they felt left them with lasting positive connections to places or had influenced the way they see the world more generally.

Results. Overall, participants' personal responses reinforced the theoretical argument that children's aesthetic engagement with imaginative literature can inspire new ways of seeing and being in a place. However, their memories also highlighted the fluidity between children's intrinsically motivated engagement with imaginative literature, their need for play throughout childhood, and their developing identities as place-makers. Beyond new perspectives acquired during the act of reading, participants described three kinds of literary experiences that left them with enduring connections to childhood places: 1) special places where reading took place (e.g., inside a forsythia bush in the backyard); 2) ritualistic initiations into reading experiences (e.g., consistently following the same path through the public library to the shelf housing a favorite book); and 3) the embodiment of imaginative literary landscapes through play. In the following discussion, I limit my consideration to the third theme, as it is specific to imaginative literature and challenges us to construct a more inclusive repertoire of literature in place-based classrooms.

Out-of-school settings. While participants were not prompted to consider out-of-school experiences, all respondents enthusiastically described experiences in out-of-school settings. The current research encompassing children's responses to literature, as well as studies of children's special places, also privilege children's out-of-school experiences. Seen as more "authentic," these home and community contexts prompt learning and the construction of meaning that is intrinsically motivated, unbound by schools' physical limitations for movement, and less mediated by formal academic expectations that can narrow and isolate learning experiences (Gruenewald, 2003, p. 620).

Transforming real spaces into imagined ones. Leah shared that after reading *The Boxcar Children* by Gertrude Chandler Warner when she was around seven years old, she emptied her bedroom closet and inhabited it as if it were a long-forgotten boxcar, sheltering her from an impending storm as it did for the characters in the book. She would crack the sliding doors just enough to "let the smoke escape" as she cooked her food in the white plastic Easter basket she had excavated from the basement toy box.

Beginning when she was six years old, Anne remembers that she and her sister would play *Little House on the Prairie* in the large tractor shed on their grandfather's farm. The excess produce stored there and the large industrial produce scale were used as if they were part of the Oleson's general store.

When Rachel was ten years old, she built a fort in the woods behind her house with other neighborhood children to hoard found objects, like the Littles from the *John Peterson* novel.

In their childhood, Jenny and her sister would play "Little Red Riding Hood and the Big Bad Wolf," a game in which one girl would be the unsuspecting Little Red Riding Hood walking through the forest and the other would attack her in the persona of the wolf. The game was

played on the deserted playground equipment at their neighborhood school when school was not in session.

Multisensory ways of knowing. Participants' descriptions of the "real" places within which they inhabited imaginative storyworlds are characterized by multisensory ways of knowing that transformed the affordances of the physical landscape for play, as well as the meaning of the literary landscape. Three decades after playing *The Boxcar Children*, Leah describes the texture of the yellow shag carpet inside the dark space of her closet. She recalls the way she had to grip onto the recessed round metal knobs on the outside of the sliding closet doors and to handle them differently from the inside where there was nothing to grab onto to push or pull. Jenny recalls the place where she would play *Little Red Riding Hood*: "the play structure was under some eucalyptus trees and there were woodchips in the play area, so the smell of the trees and tanbark, along with the sound under our feet, is still palatable to me." Multisensory memories like these reinforce and extend children's cognitive understandings of the places they dwell.

Everyday objects in literary landscapes. Part of the "realness" of playing in these literary landscapes is the integration of everyday objects into the game. Everyday objects, with properties the children had come to know in a multisensory way within and outside the parameters of their play, were utilized to access the literary narratives, some validating book-inspired imaginings and some prompting extensions to the books' narratives (Walton, 1990, pp. 21-28). Physical objects became a kind of trans-textual artifact that bridged real and fictional environments through the child's assignment of meaning.

Using her hands to recall the dimensions of the basket she used as her boxcar cooking pot, Leah says, "There was a white plastic handle that had the holes on either end and the basket had the little buttons...t. And you could take them off and that's how I would be able to hook it over the bar and then have it hanging there." Like the characters in *The Littles*, Rachel and her neighbors would collect odds and ends to repurpose. They would create maps and leave notes for one another outlining special quests or supply lists. Once, Rachel and her friends were even inspired by the plot to attempt to use a pet dog as an animal courier.

Anne remembers braiding her hair and wearing dresses her mother had sewn for her to embody the literary Laura Ingalls Wilder. For participants, the literary landscapes became part of the mythic history of the objects they incorporated into their play even when the game was over (Unt, 2009, p. 386).

Readers as place-makers. Participants characterized their childhood experiences as some of their fondest memories in their histories as readers. Considering them from a place-conscious perspective, we can see that they are also about children as place-makers: they describe a transition from abstract space to a personally meaningful place, they connect to place through all of the senses, and they offer ownership and governance of a manageable space. These complex connections to places are made up of a layered narrative fabric that is woven with strands of "real" and fictional stories and meanings, a fluidity that changes focus as readers/place-makers move

between objects and relationships in real and imaginative storyworlds (Wilkie-Stibbs, 2005, p. 176). They emerged from intrinsically motivated aesthetic engagements with imaginative literature rather than a prescribed set of expected “take-aways.”

Implications for Place-based Curricula

While all of children’s performative imaginative play has the potential to nurture multisensory ways of knowing a place, imaginative literature has particular affordances for place-conscious educators. Children are intrinsically motivated to engage with imaginative literature. As argued above, research in reader-response and literacy development connect imaginative literature to children’s psychological development and their ability to construct meaning as place-makers. The centrality of alterity to the literary landscapes of imaginative literature requires child readers to see their own places anew and to envision how those places might acquire new meaning through their own repositioning. Furthermore, creating classroom conditions that encourage place-consciousness can positively influence children’s transactions with literature, better enabling academic goals to be met.

In the following sections, integrating place-conscious pedagogy and literature-based curricula, I seek to reconcile aesthetic experiences with imaginative literature with place-consciousness. Many of these ideas are already being carried out in place-based classrooms and literature-based classrooms, but I discuss them through a reframing of the classroom as place and a renegotiation of the perceived limitations of place-conscious project-based learning. The intention is not to de-center place from the curriculum, but to enrich children’s experience of it within and beyond the physical boundaries of the school. The aim is also to nurture cognitive and multisensory place-conscious habits of mind that will inspire children to love the places in which they dwell. The hidden place curriculum of imaginative literature is reframed through observable multimodal, multisensory experiences that emphasize multiple dimensions of place.

Reflect on the classroom as place. Patricia Tarr (2004), writing from a Reggio Emilia perspective on the classroom as place, critically examined the kinds of commercial materials primary teachers hang on the often cluttered walls of their classrooms. She challenges teachers to reconsider the ideological assumptions implied by the physical environment we create (p. 2). The general practice of critically reading our classroom space and the implicit messages we send our students about the kinds of knowledge we privilege becomes foundational when we realize how much environment influences their sense of place.

Create special reading areas that honor children’s desire for alterity. Recognizing a connection between the construction of place and aesthetic reading experiences, teachers have often organized classroom reading areas to mimic the home environment (Curtis & Carter, 2003), but adding imaginative elements from the literature students are reading prompts them to negotiate their position, socially and physically, within the narrative. The campfire displayed in Figure 1 was a temporary fixture in my classroom reading area when my class was studying oral storytelling traditions and picture-book variants of traditional folktales.

Display objects and artifacts that represent the narrative fabric of the place and the fluidity of children’s real and fictional environments. Pahl and Rowsell (2010), writing on what they term artifactual literacies, explore the narrative qualities of children’s everyday objects from a perspective of place-consciousness. Like the participants in my study, Pahl and Rowsell find that objects permeate the superficial boundaries of home/school/community and real/fictional environments and can significantly influence the meaning of a defined place. Their work with children focuses on integrating personal artifacts from home and community into literacy classrooms. They have found that everyday artifacts act as “sparks” for place-conscious activities and discussions that allow children to engage in literacy practices critically, creatively, and imaginatively.



Figure 1. A campfire placed in classroom reading area for the study of folktales.

Figure 2 shows a collection of trans-textual literary artifacts that emerged out of my third-graders’ experiences with imaginative literature. After each book we read as a class, we added an artifact to our collection that would serve as a souvenir from another “place” we had experienced together. Students created some of the artifacts (miniature crowns for Sendak’s *Where the Wild Things Are*); some were teacher-created (a little wooden raft for LaMarche’s *The Raft*); and some were found objects (a piece of iron pyrite after reading Levitin’s *Boom Town*).

Renegotiate the perceived limitations of place-conscious project-based learning. Place-based educators often advocate for project-based learning curricular models that integrate grade-level content from all disciplines around a central classroom inquiry or problem that usually connects the classroom with the community beyond. Sobel (1998; 2008) has written about a number of meaningful projects that integrate imaginative literature and play, such as mapping storyworlds and creating imaginative scavenger hunts outside; the following are a few additional ideas.



Figure 2. A collection of third-graders’ literary artifacts.

Organize opportunities to play in literary landscapes. Children’s ability to move through the classroom space is restricted by the physical space, authoritative expectations, and classroom routines (O’Donnell, et. al., 2010). In a literacy classroom, where the work is often seen as primarily cognitive, children may move from one center to another during a class or have the opportunity to find a spot in the room to read independently, but creating a space in which children are awake to place and simultaneously engaging in the interpretation of imaginative literature is rarely considered. This neglects the rootedness of much of children’s experiences with imaginative literature outside of the classroom.

Figures 3 and 4 show a literary landscape modeled after C. S. Lewis’ *The Lion, the Witch and the Wardrobe* which I constructed in my classroom using materials already available to me. Upon entering the classroom, students were asked to read a selection from the beginning of the novel in which the young protagonist, Lucy, enters the world of Narnia through a wardrobe. Students were asked to follow Lucy into Narnia, climbing and crawling through the wardrobe, as they entered class. Including students in the construction of landscapes as literary inquiries, either inside the school building or beyond, offers many opportunities for the practice of reading skills and authentic forms of assessment.



Left, figure 3. Entrance to the classroom’s Narnia wardrobe. Right, figure 4. Inside the wardrobe.

The work of Lindqvist, written about by Nilsson (2009), is built on the theories of Vygotsky and demonstrates one way we might re-conceptualize project-based learning to include imaginative literature. Lindqvist concept of the literary body in place is structured to nurture young children's social interactions specifically, but aims to create permeable borders between home and school. Her creative pedagogy of play is a specific kind of activity designed for early childhood education centers, which requires adults and children to “participate in a jointly created and shared world of fiction—a playworld” (Nilsson, 2009, p. 15). Nilsson describes the centrality of literature to this approach:

The idea is not to take a book and then perform it, but to let the book inspire creation of a play-world where children and adults can play together. The story in the book provides children and adults with a common experience to enable them understand each other more quickly and to be able to enter into the world of the story or the fairy tale. (pp. 18-19)

Supplement the study of imaginative literature with take-home place-conscious tasks.

When my undergraduate students and I were studying the motifs of traditional fantasy quest novels, I assigned them take-home tasks that I felt would promote place-conscious habits of mind, while also creating more permeable boundaries between course content and lived experiences at home and in the community. These included tasks such as, “Take at least four pictures of ‘fantastical’ places or objects around campus or town that you think could serve as the setting or portal for a fantasy novel. Come prepared to share your discoveries,” and “Read at least two chapters of your fantasy novel in a fantastically strange or unusual place that connects the inner world of the novel as you see it with the outer world in which you live. Take a picture and be prepared to share how the space influenced your reading.” Figure 5 pictures the obelisk on campus included as one of my students’ “fantastical” places. She noted that even before she was enrolled in my course, she had found the structure to be enchanting, as if it were out of a work of fantasy.



Figure 5. The Penn State Obelisk, one student's “fantastical place.”

promise of place-based education with the integration of imaginative literature into our classrooms. Although I focused here on the intersections of place and imaginative literature through play, interviewees also referred to special places where reading took place and ritualistic initia-

Conclusion

Supported by theories of reader-response and literacy development, we can claim the

tions into reading experiences as having left enduring influences on their identity as readers and their connection to place. These three kinds of literature-based experiences with place represent the ways child readers can become aware of place, either directly at a cognitive level or indirectly at the sensory level. The influence that places have on the quality and pleasure of their reading experiences can be brought about by imaginative literature. It is this rootedness of reading in the literary life-worlds of children that should be further explored (Kendall, 2008; Robison, 2011).

I agree with David Sobel (2008), when he says of place-based education, “our role as storytellers and world creators precedes our role as imparters of knowledge and cultural heritage” (p. 25). This perspective honors the role of imagination in shaping children’s lived experiences without diminishing the goals of place-based education, including as Louise Chawla (1992) described, to create “enough separation between the self and its surroundings to allow conscious appreciation” (p. 83). In these efforts, we should not have to choose between books about the local watershed or Harry Potter for inclusion in our classroom libraries. Both are important components of a child-centered place-conscious curricula: the former for our students to see the places they dwell with fresh vision and new understandings, and the latter for them to look within themselves and re-imagine what their roles in those places could be.

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Guggenheim for All: Museum Education for Students on the Spectrum

by Chiara Di Lello

In February 2014, a group of kindergarten students sat in a circle inside the large rotunda of the Solomon R. Guggenheim Museum in New York. Together, they pointed to the glass skylight many stories above them and traced, with fingers in the air, its snowflake or spider web-like lines. They closed their eyes and listened to a fountain playing nearby. As they got up and followed their educator up the museum's ramps, they kept a hand on the poured concrete parapet, feeling it gradually rise in a long continuous spiral farther and farther from the museum's ground floor.

These students were experiencing the Guggenheim Museum for the first time through Guggenheim for All, a three-part sequential program that harnesses the strengths and principles of place-based learning to foster positive learning outcomes for students on the autism spectrum.

Guggenheim for All (GFA) follows the principles of Universal Design for Learning (UDL) while incorporating established best practices for students on the autism spectrum. Because of its grounding in UDL and the focus of GFA on the built environment of the Guggenheim, it also overlaps in many ways with the practices of place-based learning. The aim of this paper is to articulate the strengths of GFA as a place-based learning experience and the ways it can benefit students on the spectrum. I review educator practices in light of both UDL principles and best practices for teaching students with autism spectrum disorders (ASDs) and draw on anecdotal data from teachers that support a view of GFA as place-based learning.

GFA implements practices recommended by research for students on the autism spectrum, including providing opportunities for making choices, using individual interest as motivation, and building social skills practice into the museum experience. I posit that place-based experiences like GFA can help children on the autism spectrum develop their autobiographical memory and sense of an "experiencing self." This is a cognitive stepping-stone toward developing theory of mind and future learning.

By connecting the structure and content of GFA to salient research, I hope to provide philosophical and practical grounding for the ongoing life of this program and others like it. I begin by

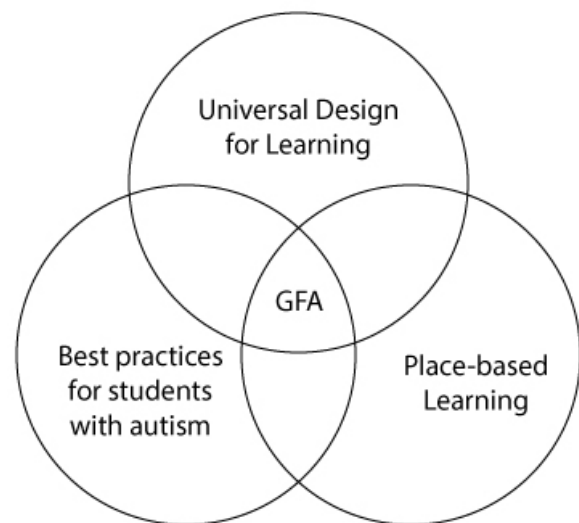


Figure 1.

exploring the intersection of museum access programs, place-based learning, and UDL, as shown in Figure 1, and consider two sample GFA programs with these frameworks in mind.

The Rise of Museum Access Programs

As part of a greater sea change and commitment to inclusion, many museums have structured new programs to improve accessibility and open their institutions to underserved audiences. Visitors on the autism spectrum are no exception and perhaps garner particular attention due to the rising incidence and diagnosis of autism spectrum disorder: the rate increased from one in 2,500 births in 1960 to one in 88 in 2012 (Solomon, 2012).

While accessibility has been legally mandated since 1991 with the passage of the Americans with Disabilities Act, many institutions are still in the early stages of practicing inclusion. Academic and clinical studies of museum programs for “access” audiences are just beginning to appear, and many programs for students and/or families of children with variations are less than 10 years old.

Program History. Guggenheim for All began as a grant-funded initiative that included a one-year partnership with Brooklyn Autism Center, a school for children with special needs. The grant also included two years of professional development for museum educators in teaching students on the autism spectrum. The full program launched in the 2012–2013 school year. There is a cost for most schools, but grant-based subsidies are available for Title I schools. Funding is critical due to the need for customization, extra planning time, and doubled staff: the educator-student ratio for GFA programs is always 1:12 or less (often 1:6), compared to 1:15 for standard gallery programs.

The three-part program consists of a pre-visit by museum educators to the school, a student trip to the museum, and a return visit to the classroom by the educators. An optional fourth session invites students, teachers, and parents back to the museum for a family day, including a short gallery visit and an informal exhibition of students’ art. Students work with the same educators throughout the program.

Sample Program Descriptions. As a member of the Guggenheim’s education staff, I taught GFA programs throughout the 2012–2013 and 2013–2014 academic years. Descriptions of two representative programs show the overall structure and variations of GFA. The first took place during the exhibition *Picasso Black and White*, on view from fall 2012 to early 2013; the second was given during the Christopher Wool retrospective in fall and winter 2013. All parts of the program are customized based on teachers’ reports of student age, needs, interests, strengths, and challenges. Students ranging from kindergarten age to teenagers and young adults have participated in GFA.

Example 1: The participants were teenage boys with autism (severity levels 1 to 2 according to DSM-V criteria) from a self-contained special needs class in a public school. The pre-visit included an introduction, through both pictures and a verbal description, to the building and to works by Pablo Picasso; students also had the opportunity to draw in response to either or both, with a focus on shapes and lines. The students had a strong art background, and they referred to ab-

straction as “special effects.” The museum visit included an observation of the building, with the students noting features they recognized from pictures as well as ones that were new to them, and the opportunity to sketch it. Educators led an inquiry-based discussion of the Picasso pieces and previewed the post-visit activity. During the post-visit, students created standing paper sculptures from two-dimensional drawings by folding, bending, or using slot and tab construction to make the paper stay upright. These were based on Picasso’s folded metal sculptures, but several students used Guggenheim shapes as inspiration (Figure 2).



Figure 2. Student paper sculptures.

Example 2: The participants were kindergarten and first-grade age students with higher-needs ASD from one inclusion and one self-contained class. The pre-visit included reading *I’d Like the Goo-Gen-Heim* as a group (Figure 3). Students explored shapes at the Guggenheim Museum by looking at photographs and by using their bodies to make a circle, a triangle, a spiral, and an arc. The museum visit included finding shapes in the Guggenheim’s architecture and in paintings, with photos of the building features and the artwork used as support. During the post-visit, students made patterned rollers using foam shapes and printed a design in paint.



Figure 3. Children listening to a reading of *I'd Like the Goo-Gen-Heim*.

Review of Practices in Guggenheim for All: UDL and ASD

Universal Design for Learning is the backbone of GFA and is based on the principle that practices benefitting students with special needs will benefit all learners. The teaching practices used in GFA align with researched interventions and practices for students with ASD. Goodman and Williams (2007) identify four areas of engagement that may be affected by behaviors and skill deficits associated with ASD: auditory, visual, social, and physical. They recommend strategies that are evidence- and research-based, replicable in nonlaboratory settings, and used not alone but in tandem. I have sorted their recommended strategies according to the three guidelines of UDL, which state that learning experiences should provide multiple means of representation, expression, and engagement (CAST, n.d.).

Multiple Means of Representation. Students on the spectrum may have difficulty focusing on distant objects or a complex visual field (Goodman & Williams, 2007). For this reason, GFA educators regularly use photocopied images and encourage students to match shapes, colors, or lines on the photocopies with those in the art or building, connecting visual input with visual-motor coordination and spatial reasoning.

Visual schedules that employ both words and images are a key component of all three segments of the GFA program (Figure 4). They reduce anxiety with regard to unfamiliar routines or spaces and increase independence.

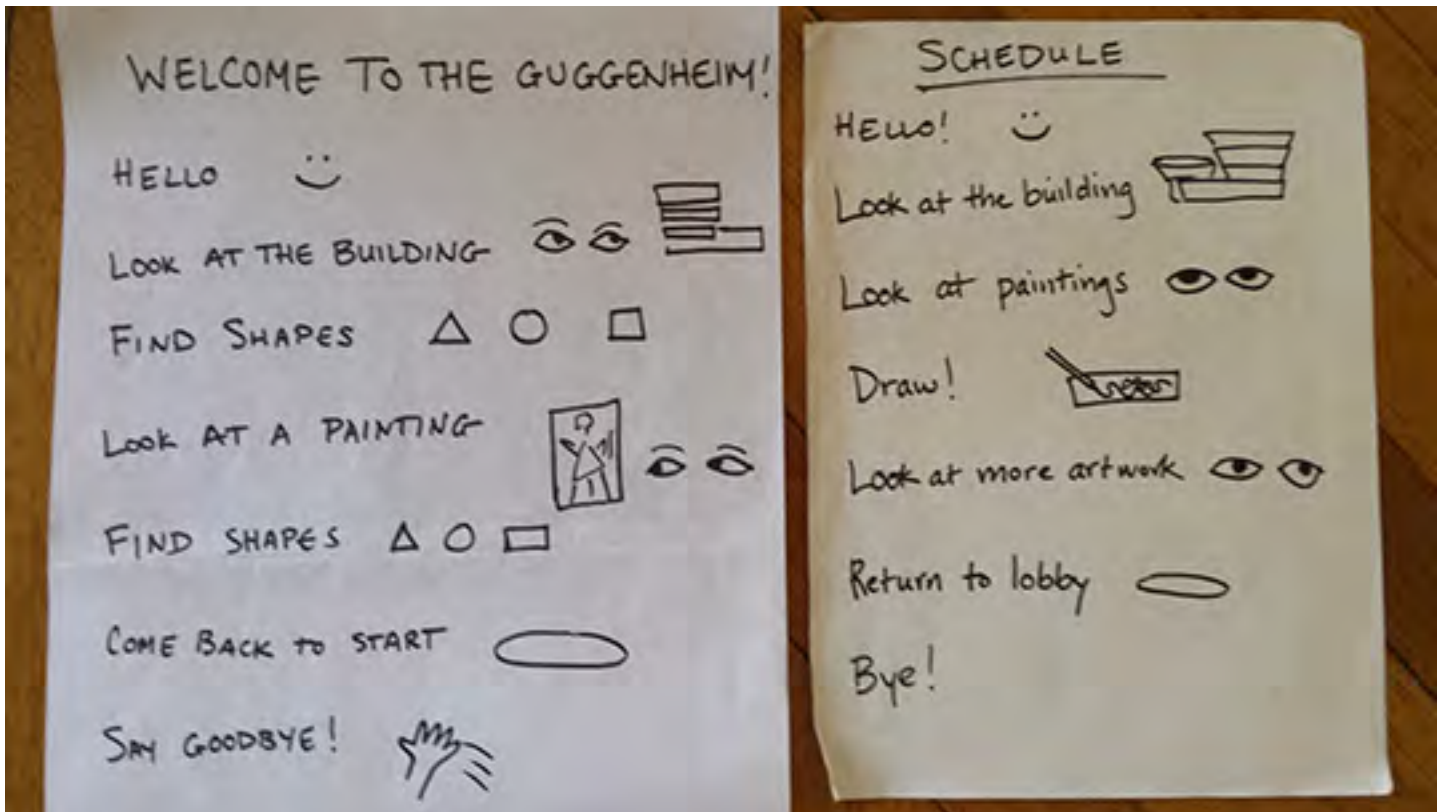
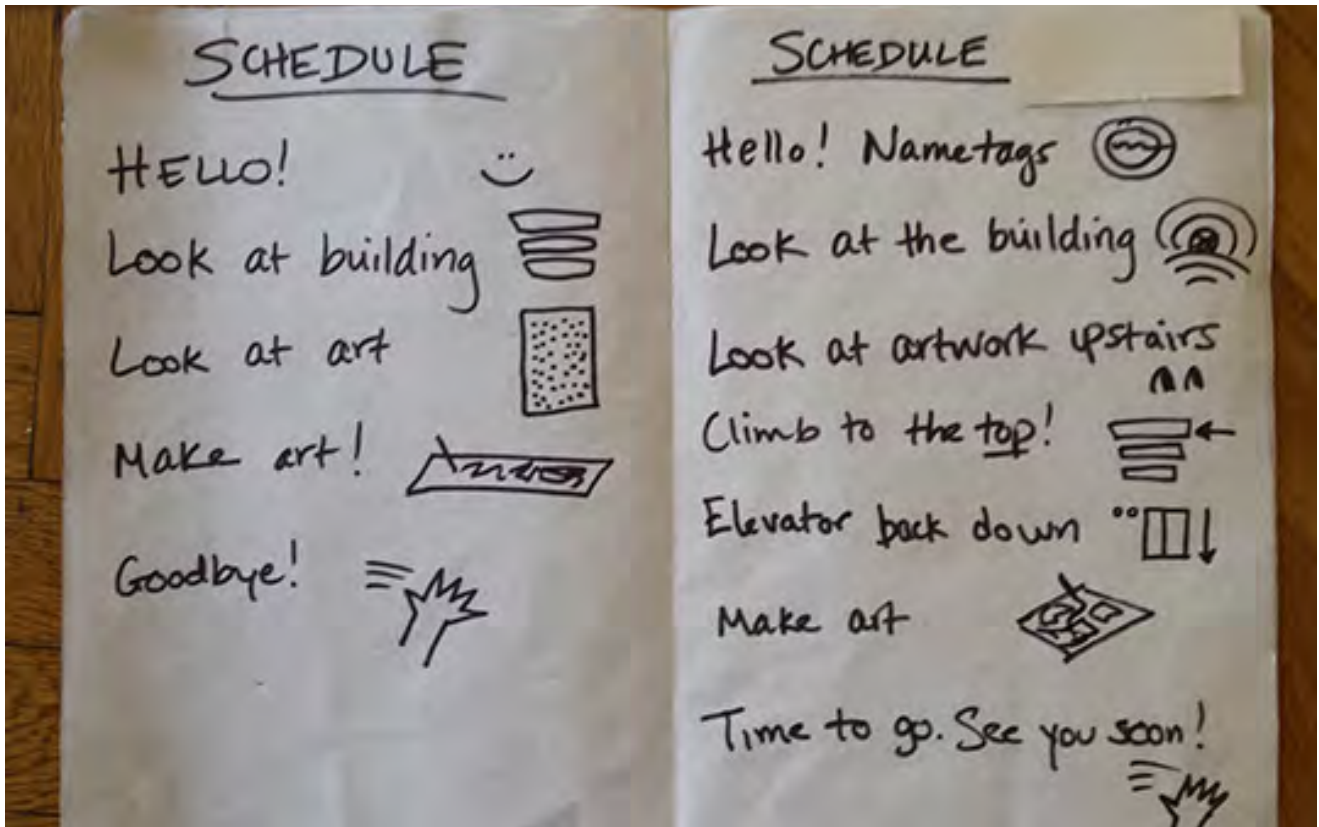


Figure 4. Visual schedules.

Touch objects and material samples provide tactile input to help students make sense of visual and auditory information. When discussing the spiral ramps of the Guggenheim, students handle a spiral seashell. When looking at oil paintings, students can touch canvas and burlap, comparing the texture of painted and unpainted samples.

Multiple Means of Action and Expression. Students with ASD often have difficulty processing verbal cues and information, which inhibits their ability to follow oral instructions (Goodman & Williams, 2007). GFA educators use auditory focus cues to get students' attention before delivering information and to signal transitions. Often these cues include a physical component. For example, an educator may tell the students, "if you can hear me, put your hands on your head."

The Guggenheim employs inquiry-based teaching for its school programs, in which student observations and questions are central to the experience. Students on the spectrum may have difficulty with these conversations, and they benefit from opportunities to communicate with more support. To this end, GFA educators use a modified form of inquiry that still elicits a high frequency of student response. An inquiry-based discussion of the building might start with "What shapes can we find?" and continue with "Point to a triangle," "Point to a curvy line," or "Find a circle on the floor." These questions and instructions provide frequent and predictable routines for interaction. Students can also use communication boards._

In addition to using auditory and physical cues, educators incorporate kinesthetic activities and "body breaks" into GFA experiences. The kindergarten students used their bodies to explore the shapes of the building. Other kinesthetic activities include posing like an artwork (whether it depicts people or not), moving arms or hands in the way the artist may have moved them to create marks on the canvas, and posing in freeze-frame or in a group tableau. Imitating objects or people benefits students on the spectrum because it requires observation, leading to improvements in expressive language and joint attention (Goodman & Williams, 2007).

Multiple Means of Engagement. For some students, exposure to the museum with "minimized threats" is an effective strategy for learning to cope with new routines and spaces. The shape of the Guggenheim creates some potentially challenging and surprising acoustics. The curved walls carry sound uncharacteristically far; people speaking many feet away on the ramps may sound as though they are in the immediate vicinity. Echoes are also a challenge, and the noise of each area combines and aggregates in the building's central space. While this can be a challenge for students on the spectrum, exposure in a guided experience can help them develop flexibility and tolerance for this form of sensory input. Museum educators also use touch objects to increase student engagement, providing fidgets that help some students sustain attention.

Choice has been shown to increase engagement when it comes to free play (Goodman & Williams, 2007). In addition, harnessing the restricted interests of students with ASD can lead to greater engagement and better learning outcomes (Mancil & Pearl, 2008). GFA uses both of these entry points as part of the UDL principle of optimizing choice and autonomy. During artmaking activities in the gallery or classroom, students make material and compositional choices

and have autonomy over their work while using materials in an appropriate way. In the teenage group described above, two students fulfilled the same activity goal according to their own interests: one made a standing picture/sculpture of an animal; the other made his in the shape of a train (Figure 5).

NoneFigure 5. Student paper sculptures.

This is a small sample of the interventions and adaptations used by educators in GFA. Many more strategies evolve organically as educators respond to students.

Place, Space, and the Museum

The distinctive architecture of the Guggenheim is a key component of the GFA program, particularly for cognitively or chronologically younger groups. It constitutes a content baseline that can be varied for different age levels, allowing discussions about topics as basic as shapes and lines or as complex and technical as poured concrete and cantilevering. GFA educators focus on helping students get to know the building and use the physical environment as a teaching object and sensory experience. In this way, GFA foregrounds the Guggenheim as a place and uses physical interaction with that space to create a rich experience.

Place-based Learning, UDL, and Museums. A glance at the principles of place-based learning reveals natural connections to the approaches of museum education. A few that are particularly relevant for GFA are:

- Learning takes place on-site in the school yard, and in the local community and environment.
- Learning is personally relevant to the learner.
- Learning is interdisciplinary.
- Learning is grounded in and supports the development of a love for one's place.
- Place-based education programs are integral to achieving other institutional goals. (Promise of Place, n.d., "Principles of Successful Place-Based Education")

The implementation of these principles leads to curricula that are compatible with UDL. Museum educators have documented the connections between place-based learning and museum education, and scholars of education have noted the connections between place-based learning and UDL (Petitpas, 2012; Semken, Williams, Ross, Kerr, & Monhardt, 2010). When students are learning from and about their immediate environment, they take in information in various ways (multiple means of representation). They will express what they know in ways that fit their abilities (multiple means of expression), and they will synthesize knowledge and continue to learn in ways that fit their interests, motivations, and preferences (multiple means of engagement).

Behind these pedagogical overlaps between museum education and place-based learning is a stronger statement regarding “museum as place,” which is a fundamental standpoint of GFA. Leach (2007) articulates four domains that constitute the tangible and intangible aspects of “museum place.” These are origin domain, creator domain, display domain, and viewer-object domain. Interactions with the building occur in a kind of hybrid of the latter two domains. In most cases, the museum environment constitutes the display domain and must be both physically and cognitively accessible. In the Guggenheim context, where students can interact with the building through their senses, I believe the viewer-object domain is also present.

In this domain, Leach notes, sensory perception has a key role in mediating the beginning of the internal meaning-making process. GFA educators encourage this sensory engagement and letting the body lead. They encourage students to listen to the sounds in the rotunda with their eyes closed, to lie on their backs to view the oculus window more easily, and to touch the walls, floor, and plants to feel the texture of the building and the relative temperatures of different materials. When 30 hands reach out to trace metal circles embedded in the concrete floor of the Guggenheim, the pedagogical stars of place-based learning, UDL, and autism-friendly teaching are all aligned.

Place-based Learning as ASD Intervention? Best practices for teaching students on the spectrum are consistent with UDL and also intersect with principles of place-based learning. Baranek (2002) calls for “appropriately structured physical and sensory environments” (p. 418) that accommodate the needs of students with ASDs, and advocates keeping students in “naturalistic contexts” (p. 419), not pulling them out for the purpose of intervention. With regard to social interventions, McConnell (2002) also notes the need for generalizable interventions that can be used in “home and community settings” (p. 367). The focus on place in GFA combined with the work of specially trained educators makes it a program that fosters place-based learning.

Surveying Teacher Goals and Outcomes

In addition to connecting GFA instructional methods with research, I sought anecdotal data from participating classroom teachers in order to learn more about their motivations for bringing their students to the Guggenheim. The results indicate that out-of-school learning and leisure experiences as well as positive exposure to the museum environment were key goals, consistent with the concept of “museum as place.”

Over the 2012–2013 and 2013–2014 school years, 13 classroom teachers participated in GFA, with two repeating from year to year. The teachers worked with a broad age range of students in a variety of settings: charter, inclusion, and self-contained classes; District 75 embedded schools from three boroughs; private schools for students with ASD or Pervasive Developmental Disorder, and one school outside the five boroughs.

All the teachers were invited via email to complete an online survey and provide information about their students, their goals for the museum visit, and what they believed contributed to the

success of the program. Four teachers returned the survey. The data sample shows remarkable consistency among teachers' perspectives across a range of student demographics.

The teacher responses, while small in number, came from professionals working with students as young as five years old and as old as 21. Their goals for the museum visit broke down evenly: for the two middle groups (six to seven years old and 11 to 15 years old), the goals were exposure to a community space that the students might not otherwise have had access to and the opportunity to generalize social skills. The teachers of the youngest and oldest groups both desired an accommodated or "appropriate" museum experience. Multiple teachers mentioned both "art and museums" or "the Guggenheim and its art collection" in their responses, a distinction which suggests that the museum environment in and of itself was a draw. They may be referring to the Guggenheim's unique architecture or to the public and communal museum environment more generally. Either way, these responses suggest that for a segment of teachers, the goal of the museum visit centers on the place itself.

The responses support viewing GFA as place-based learning. Teachers reported that their students "did well" in and enjoyed an environment that could have been overstimulating and that students were able to generalize information from the GFA class (about the art curriculum, social skills, or both) and apply it in another setting. Creating genuine engagement and applying classroom lessons to community settings are two hallmarks of place-based learning.

Memory and the Museum as Place

One response from the oldest group's teacher is of particular interest because it points to a critical cognitive outcome for students on the spectrum: the development of episodic memory and sense of an "experiencing self." Upon returning to school, the teacher asked the students to sequence and narrate portions of the visit and express an opinion about which artwork they liked best. Similarly, the kindergarten group completed sentence stems and created drawings to narrate what they had seen during their museum visit (Figure 7). A teenage group narrated their museum visit in the form of postcards to adults at home (Figure 8). These are cognitive tasks that are often challenging for students on the spectrum, but teachers harnessed the museum experience and place as an authentic opportunity for their students to practice them.

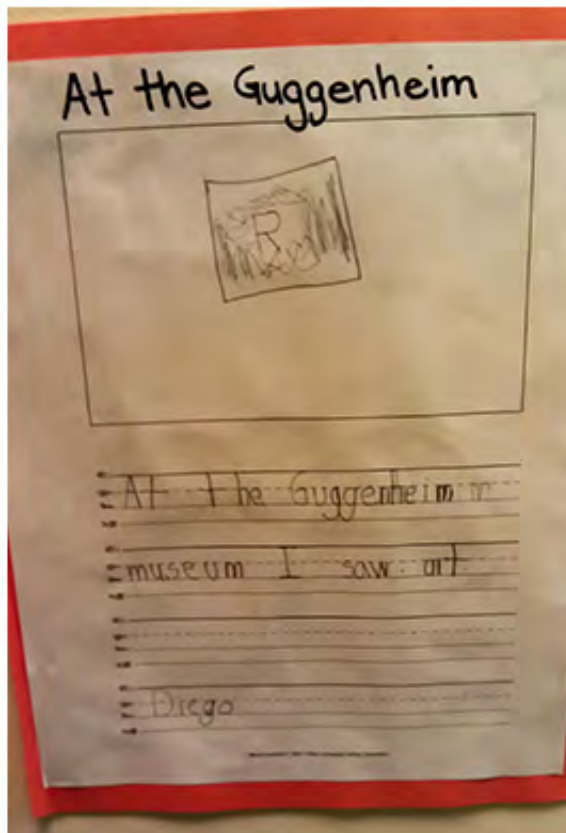
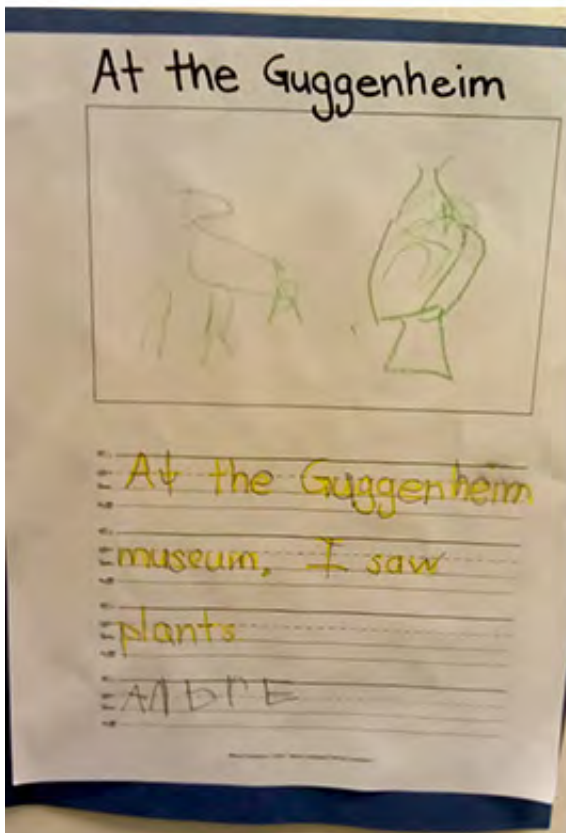
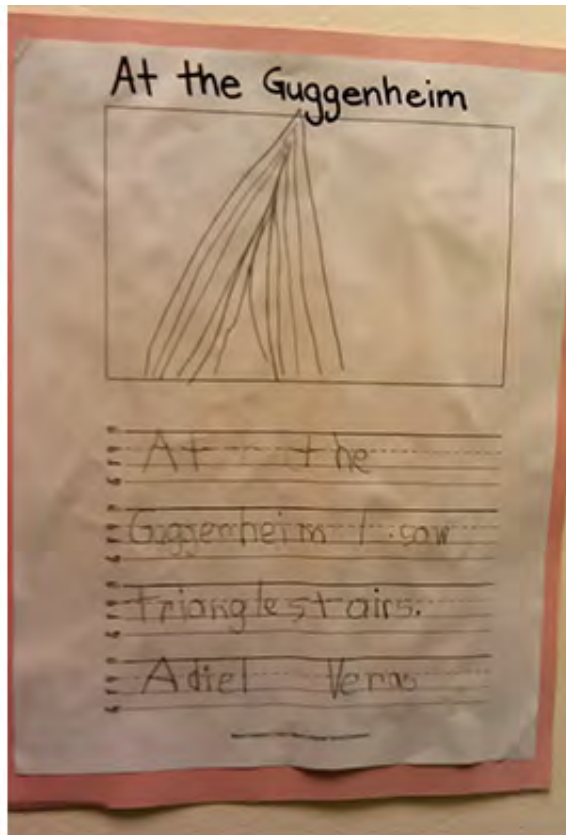
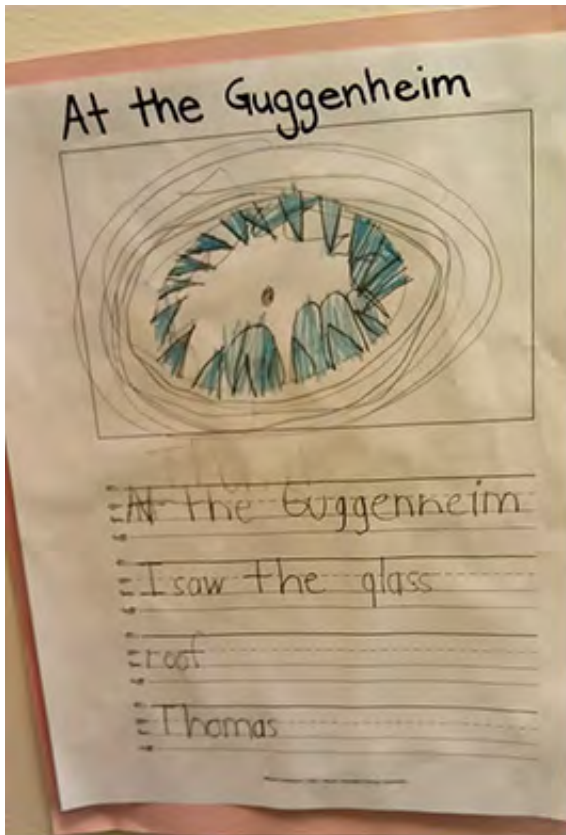


Figure 7. Kindergarten student drawings and writing after a GFA class.

Multiple studies have demonstrated that individuals with autism tend to be less accurate in recalling events that happened to themselves than in recalling events that happened to others, inverting the pattern for typically developing children and adults (Cornett, Miora, Fass, & Dixon, 2013; Millward, Powell, Messer, & Jordan, 2000). This deficit may be linked to the delayed or absent emergence of theory of mind in children with autism: if a child lacks an understanding of another's mind as separate from her or his own, there is a parallel lack of awareness of "knowing that one knows something" (Tager-Flusberg, 1990, as cited in Millward et al., 2000). Due to executive function challenges also common in individuals with autism, it can be difficult to select from and store information received through social interactions or the senses (Cornett et al., 2013).

Given these cognitive patterns, students with autism may be slow to develop self-concept, memory, and empathy. A well-developed cognitive curriculum can help build episodic memory skills by providing students with "a sense of themselves experiencing events" (Millward et al., 2000, p. 26). In the context of GFA, the social story that precedes the museum visit combined with sequencing or extension activities upon return to school can help support this cognitive goal. These outcomes are not limited to the context of the Guggenheim and may not even be limited to specialized programs, but a change of environment is essential. Taking students out of their usual setting creates a noteworthy narrative that is distinguishable from routine and can take shape around an "experiencing self."

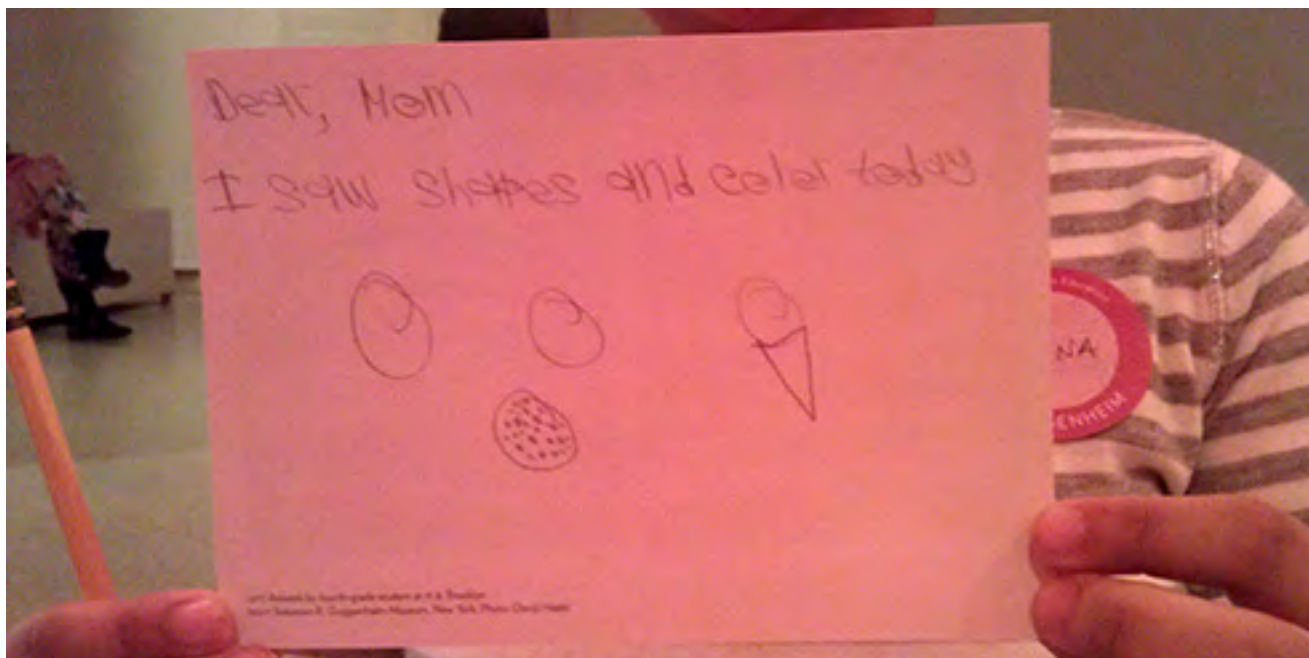


Figure 8. A teenager's postcard home at the end of a GFA tour.

An Upward Spiral: Scaling up Guggenheim for All and Place-Based Programs

Given the links between UDL principles, best practices for students with ASD, and place-based learning, there is great potential for researchers and educators to include experiential, place-based

learning in formalized teaching approaches for students on the spectrum. The practices and environment of GFA are compatible with a variety of teaching methods, and more programs are emerging in which museum professionals implement programs that draw on the clinical autism education literature (such as Baldino (2010) and Freed-Brown (2010)).

With due consideration given to modifying teaching practices, place-based learning experiences like GFA can be a resource for practitioners of various autism education methods and provide the variety of opportunities that researchers recommend for students on the spectrum. When it comes to interventions, “flexible eclectic approaches” more closely reflect the real world and the wide variety of “conditions and events” that the student will encounter (Tutt, Powell, & Thornton, 2006, p. 80). Additional research connecting experiences in museum settings to classroom and clinical approaches to autism education will benefit professionals in both areas; it will provide classroom teachers and therapists with more options for interventions and help museum professionals both hone the implementation of their offerings for visitors on the autism spectrum and better communicate the strengths of those offerings. It is my hope that the links between GFA and place-based learning will encourage more special educators to expose their students to the benefits of place-based learning experiences in museums and elsewhere.

For teachers, paraprofessionals, and parents, GFA is often a program of surprises: a child willing to explore a new environment or new materials rather than melting down, or a child who unexpectedly speaks about the building or artwork. What a given student will take from the program is unpredictable, but successful experiences are easy to spot. After a GFA program, one kindergarten student filled his reflection sheet with spirals and triangles, and wrote that his favorite part of visiting the Guggenheim was “holding Hollie’s hand,” recalling the educator who had led his group. And I could tell that the teenage boys who had explored Picasso’s work felt ownership of the Guggenheim when they started referring to it simply as “the G.”

As programs for audiences with special needs continue to grow, there are ample intersections that educators and researchers can draw upon to continue to improve access to museums for students on the spectrum. Place-based learning has the clinical and pedagogical grounding to inform this work and increase the benefits of participation at the Guggenheim and other museums for students on the spectrum.

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Curtain Up: Place-based Teaching & Learning in the New York City Theater District

By Peggy McNamara & Bryan Andes

On a crisp fall day in early October, first graders from the Mosaic School examine their local school neighborhood in midtown Manhattan. Research notebooks in hand, they look at the places around them. Tourists and workers stare, wondering: Where did these students come from? What are they doing? Why are they not in their classroom?

Surrounded by theaters, restaurants, office buildings, hotels, apartment buildings, and brownstones, first graders are taught that the whole world can become their classroom. As they approach each building on these busy commercial streets, they decide: What kind of place is this and what is it used for? When they return to their classroom, their teacher guides them to examine the kinds of places they have encountered and begin to explore the importance of these places to their community.

What does it take for teachers to use a place-based approach to teaching and learning?

At the Mosaic School place-based education begins with the process of using their local community surroundings as sites for students to explore and expand their understanding of the world. For the past 15 years we — a K/1 teacher and a professional developer—have worked together as collaborative curriculum makers, constructing and reconstructing curriculum to match students’ interests and learning needs. When teachers act as curriculum makers, curriculum emerges from an analysis of learning experiences that is steered by students’ questions and enriched by the significant role the school and neighborhood community play in creating learning opportunities. Such an approach supports students as creators of knowledge.

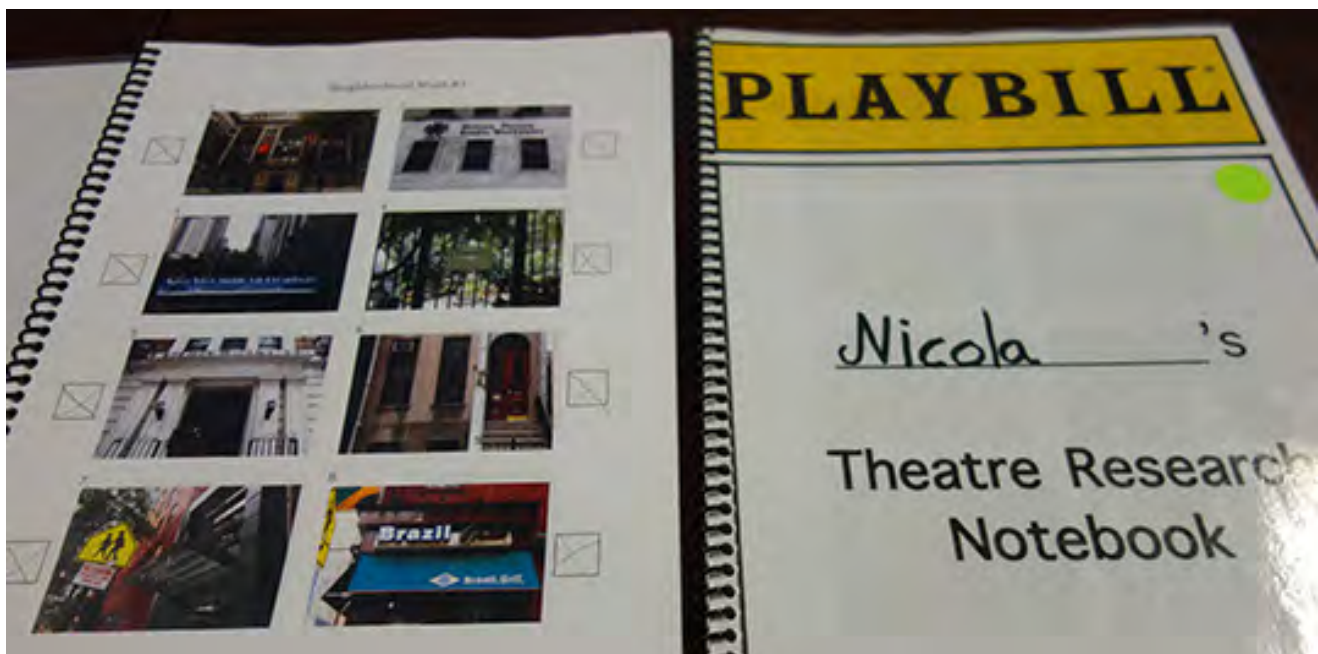
The Mosaic School, a prekindergarten through fifth grade public school, reflects the diversity that is New York City in an atmosphere that respects individuality and values families and community members as important educational resources. Social studies has served as an organizer for the ways in which the teachers at the Mosaic School integrate the content and skills of many subject areas. Social studies is a naturally integrative subject because it invites children to delve into their own lives and the lives of others (Linguist, 2002), and its content provides the “what” of learning—the “what to research,” the “what to think” about, and the “what to do something about.”

Critical to studying content is helping students learn how they can gather information about their world through in-depth studies of “places.” Carefully planned trips like the one described in the

opening vignette educate students to observe their environment, gather data, and form hypotheses. A natural curiosity is fostered when students and teachers situate their learning in lived experiences. Place-based learning enables students and their teachers to know and care for a place in which they spend significant time each day. When considering a place-based curriculum, Sobel (2004) invites schools “to uncover and cultivate the unique genius of the local environment and community through the school’s curriculum” (p. 22).

In this article we describe and analyze the process first grade teachers used as they guided their students to investigate a place in their school community called “the Theater District,” an important industry in the neighborhood. Teachers, students, and their families pass by these theaters every day, unaware of the dedicated collaboration that is needed to put on a theatrical production. Through an in-depth study of theaters, students learned about the roles, responsibilities, and interdependence of people who work in and attend theaters. The theater study culminated with first graders taking on the roles and responsibilities of both on-stage and off-stage theater workers, and putting on a complete production where their work was highlighted. The result was not simply the performance of a musical, but first graders’ presentation of their understanding of the process carried out by professionals in the theater world.

As the opening recounts, the theater study began with a trip to investigate the different places in the school neighborhood and their potential purposes. During the initial trips students began to identify clusters: sixteen theaters, twelve restaurants, two supermarkets, two grocery stores, one fire station, one bike store, five brownstones, and one very tall apartment building. These findings were recorded in their notebooks.



Theater research Notebook.

As teachers facilitated the tallying process, some students hypothesized that visitors to the neighborhood might come to see a play or musical. They began to wonder if there were lots

of restaurants in close proximity so that people could eat before or after they went to a show. Other students noticed that there were not many places—except for a small park and the school playground—for students to play. By fostering students’ skills and strategies of observation, the teachers introduced them to the values and opportunities in the places where they live and go to school. As students and teachers recognized the resources in the environment around them the walls between the school and the community became permeable (Wilson, 1997). These neighborhood explorations provided students with a context in which to view the role of a theater.

Based on the teachers’ own understanding of the theater and early childhood curriculum, they planned for students to learn about the features and internal workings of a theater, as well as its role in the local community. Teachers conducted their own research, asked themselves questions, and investigated the multiple ways of acquiring and demonstrating knowledge. Teachers accomplished these tasks by conducting many pre-trips, without students, to consider the best possible ways of utilizing a particular space. They created a learning environment within which the students were encouraged to “walk in every theater worker’s shoes,” examining what each job looked like, sounded like, and felt like.

Students were learning to understand the different workers’ perspectives as well as their relationship to one another. As they did so, the theater study evolved into three stages: the research phase, the recreation phase, and the implementation phase. The first phase began with the students learning how to observe, interview, and document a variety of theater jobs in order to understand all the processes and procedures needed to run a theater and to produce a theatrical show. In the second phase, students had an opportunity to use their newly acquired knowledge as they took on a specific job. They used role-playing and guided practice to develop their individual job skills. In the third and final phase, students ran a theater and produced a musical, stripping away the walls of the theater in order to show the audience members the interactions that occur before, during, and after a performance, making everything that occurred within a theatrical production transparent.

Researching the Theater District

Teachers decided that the best way for students to begin their theater research was to attend a Broadway musical. Students then generated lists of specific places in the theater (e.g., stage, auditorium, lobby, box office) and jobs (e.g., actors, musicians, box office workers) that they observed. Starting with exploratory questions from teachers, students began to ponder additional places and jobs: Who came up with the story? How did the actors know how to dance? Where were the costumes kept? How did the actors get changed so quickly? How did everything get in the right place at the right time? Attending the show at the beginning of the study served as a shared experience that provided a foundation on which to build their knowledge of the places and jobs in a theater. Teachers used the show as a reference point throughout the study.

Teachers were committed to engaging the whole community in the education of the first graders. They reached out to the local school community and the neighboring theater district to make connections. The process of engaging the school’s parents and the theater community began

slowly, with teachers' carefully worded emails and follow-up phone calls about the importance of their participation in this curriculum. Parents were valuable resources. Several parents who held jobs in the theater field joined class interviews, connected teachers to their colleagues, and helped to plan trips to various theaters in the neighborhood.

Members of the theater community were excited about the opportunity to engage with a school in order to educate future audiences and pass on the knowledge of their jobs. By the end of the study, students had interviewed well over forty theatrical workers. Students learned about the jobs of producer, playwright, director, choreographer, fight director, and set, light and costume designer. In addition, students examined the jobs that were carried out during an actual performance by actors, stagehands, stage managers, ushers, make-up artists, dressers, box office workers, and house managers.

Leading students through a study of a place required teachers to facilitate firsthand encounters that provided students with knowledge of their community and that validated their experiences outside the classroom as well as their personal knowledge (Vascellaro, 2011). Teaching students to use their background knowledge and critical thinking skills to gather information during interviews and on trips was a significant undertaking. These techniques became important ways for students to discover answers to their own and their classmates' inquiries.

Before each interview, students formulated questions as a group by thinking about what they knew about a particular job. Interviews were also developed from previous ones, as students noticed similarities among job responsibilities, processes employed, and materials used. Furthermore, students began to see how certain jobs were closely connected to each other. During each interview individual students asked questions that were prepared by the entire class. Every student had a turn to ask questions, but it was everyone's job to listen for significant information that would help the entire group. Students learned how to ask salient questions that would help them perform a particular job. They asked the playwright: How do you get your ideas? The actor: How long does it take to memorize your lines? The box office worker: How do you know which ticket to give a person? Additional questions were asked at the end of each interview to explore new ideas generated by the interaction with the interviewee.

During the interview, each guest demonstrated something related to his or her job. Students learned about vocal warm-ups from an actor, how to give cues from a stage manager, and how to do a quick change from a wardrobe worker. During theater trips students were shown how to do the job in the actual environment, and when appropriate, allowed to try it out. While visiting a box office worker and house manager at one midtown theater, students acted out their jobs using a variety of tools.

After each interview, the class met to discuss their observations and any remaining questions. Teachers supported students' language as they generated key words to describe the places and jobs they encountered. These lists of key words were used as references to help guide students to write reflections in their notebooks.



Usher, Director, and Wardrobe research notebooks.

The ongoing writing process taught students the value of documenting and reflecting on their learning experiences. Students were also encouraged to use illustrations to visualize and make sense of the theater workers' responsibilities and tools. They then transferred their job knowledge into shared books of written narratives and drawings.

Studying the theater as a place by interacting with both theater workers and the environment allowed students to demonstrate relational thinking in a concrete way. Students' notes, photographs, illustrations, shared books, and experiences with role-playing were used in the next phase of the study when they selected a particular job and carried out all responsibilities associated with it.



Books about theater.

Recreating Theatrical Understandings

The second phase of the study began with the writing of a script. Using the class interview with a playwright as a resource, along with the students' in-depth knowledge from a four-month fairy tale study conducted in kindergarten, the class began to generate ideas for a script. Using a familiar fairy tale structure empowered students as they rose to the complex challenge of writing a script with scenes, dialogue, and stage directions. Teachers asked analytical questions and modeled potential language. Students began to learn about the relationships among characters, words, and actions as they spontaneously acted out scenes to help them develop the language for the script.

Writing the shared script required teachers to balance a story structure that would guide students' thinking, while listening carefully to their ideas and helping them ensure that their writing made sense. The script-writing process taught students about the democratic process, and students often voted on which lines to use and whether or not to add on to someone else's idea. The final piece of the script writing involved the teachers selecting songs from Broadway musicals and helping students incorporate them into each scene.

After the script was completed, the students returned to their research notebooks and other resources to reflect on the jobs they were most interested in. Students received a list of theater jobs and ranked them in order of preference. Students were encouraged to choose a job based on their interests, strengths, and talents. They also wrote reflective pieces explaining why a particular job would be a good match for them. Teachers were encouraged to apply this information to match students to a job that would use their strengths while at the same time challenge them to stretch and grow.

Using their knowledge of this newly acquired job as well as the resources collected in the first phase of the study, students developed a new set of specific questions related to their script. The

costume designers wondered: How do we design a costume for a clam? The stagehands: How do we move a three dimensional tree? The wardrobe workers: When is our cue for a quick change? By identifying what was unknown about a job, students could focus in on how to do the job more effectively.

Theater workshops established a place in the classroom where students became actors reading scripts, box office workers making lists of materials they would need, set designers sketching pictures of potential scenes, choreographers creating dance patterns, costume designers looking through books for inspiration, and stagehands reviewing the script to decide when they would need to move items to and from the stage. Students were given time to role-play their jobs inside the classroom. As the students' work progressed, parents offered up their own talents (e.g., sewing costumes, playing in the orchestra, printing posters and ads). A theater production being implemented by six-year-olds began to emerge and blossom.



Clockwise: Set design, Costume design, and Box Office Workers.

The Show Goes On

The theater study culminated with the first graders performing their jobs, which would allow an audience of adults and children to experience a “real” theater production for two evenings. The first performance was billed as the “preview,” followed by the official “opening night.” The evening began with a student presentation of a museum (in the rear of the theater) that displayed all of the student work generated during the study (e.g., research notebooks, script, set and costume designs). The student set and costume designers, fight directors, and choreographers took audience members through the process they used to help create the musical. In some instances, audience members even got to participate. After watching the fight directors demonstrate the choreographed sword sequence, for example, audience members had the chance to be coached by the directors and try it out themselves.



Student demonstrating fight techniques.

Following the museum presentation, the front-of-house workers “opened the house” to welcome the patrons and role-play their jobs. Six-year-old box office workers presented audience members with “will call” tickets at the homemade box office. Six-year-old ticket takers ripped tickets and told individuals where to find six-year old ushers who then led them to their exact seat location

and handed them a Playful (their version of a Playbill). Each Playful contained information about the scenes, songs, and company. Not only did actors have biographies, but so did each and every student.



Once the audience was seated, it was time for the stage manager to enter and welcome everyone to the musical. After reminding patrons to turn off their cellphones and “other electronic devices,” the first grade conductor (dressed in a tuxedo) took the podium to lead the ten-piece orchestra made up of teachers, parents, and community members. The overture began. Stagehands prepared each scene with needed props, scenery, and lighting. The actors sang and danced, while wardrobe workers did quick changes in full view of the audience at stage left. The place (the theater) that was once a mystery became a place of knowledge, competence and active learning. By enacting each job in the context of a real show, students demonstrated their knowledge and understanding of each theater job, and the collaboration that was required to make it a success.

By using place-based teaching and learning approaches, teachers guided students to explore and question in order to develop knowledge that emerged from an analysis of a specific place in their

local school community. Through this theater study, teachers emphasized learning experiences that enabled students to become creators of their own knowledge, and utilized community members (e.g., parents and theater workers) into an active role in the classroom (Smith, 2002). Students gathered information by attending shows, interviewing experts, visiting theaters, watching videos, and reading books. Students recorded their findings by writing individual accounts and reflections, and writing and illustrating shared texts. Through all of this, students studied a place in an active and meaningful manner.

When considering the impact of this first grade placed-based theater study, it was clear that “the physical setting of a study, the where, profoundly influenced the what of curriculum [and] the substance of what they [teachers and students] learned” (Vascellaro, 2011, p. 61). In order to make the theater curriculum happen, teachers had to step out of their comfort zones in the classroom and reach out to the school and neighboring community for resources. Teachers viewed themselves as collaborative curriculum makers with students, teachers, and community members as critical partners. The agency of these teachers in curriculum making rested in their capacity to enter into interactive relationships with their students, the content, and the processes of learning (Schwab, 1960 as cited in Clandinin & Connelly, 1994). No instruction was so rigid as to impede artistic judgment and action, or the frequent and spontaneous choices needed to meet the varying teaching and learning situations. Through this process students were exposed to a variety of role models inside and outside the school who engaged them in a rich body of content (Vascellaro, 2011). Students developed academic skills in authentic ways as they used strategies to gather, organize, and apply the content of the study.

Studying a place in the local school neighborhood enabled students, parents, teachers, and theater workers to experience the power and possibilities of hands-on real-world learning experiences. Students learned how to investigate a specific place well enough to take it apart and put it back together again. The students will never watch a live theatrical production the same way again. After learning separately about the importance of everyone’s role within a theatrical production, students were better able to understand each theater job through their own actions. They developed a multitude of skills and strategies from language arts, visual arts, mathematics, social studies and science to support their learning throughout the theater study. Teachers were committed to helping students tap into their own unique interests, abilities, and talents, which one day might help them all become contributing members of society—citizens who have realized their potential and followed their dreams.

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Place-Based Education: (Re)Integrating Ecology & Economy

Mark T. Kissling & Angela Calabrese Barton

It is common to hear of “the economy” and “the environment” in contemporary political discourses. Most daily newspapers or news broadcasts run stories about both. Although commentators often pit them against each other—as in the current debate over the future of the Keystone XL pipeline project—they are in fact deeply interrelated. If we consider the origins of the words ecology, which we view as the foundation for the environment, and economy, this interconnection makes sense: ecology involves studying one’s environment, and economy involves managing it. Neither exists independent of the other. In this respect, there is integrity—that is, deep interdependence; wholeness—among “the economy” and “the environment.”

The farmer and writer Wendell Berry argues this point in an essay called “The Total Economy” (2003), as he considers the “so-called environmental crisis”:

The “environmental crisis” can be solved only if people, individually and in their communities, recover responsibility for their thoughtlessly given proxies. If people begin the effort to take back into their own power a significant portion of their economic responsibility, then their inevitable first discovery is that the “environmental crisis” is no such thing; it is not a crisis of our environs or surroundings; it is a crisis of our lives as individuals, as family members, as community members, and as citizens. (p. 64)

As Berry highlights, no action—economic or otherwise—can exist separate from people’s stewardship of the earth. There is integrity of the “beings” and “doings” of people with the earth on which they stand. This is our entry into place-based education.

Places Within Place-Based Education

Place-based education examines and cultivates integrity in and from particular places. Instead of abstractly framing subject-area content, place-based educators ground their pedagogy and curriculum in the complexities of their students’ lives and surrounding communities.

There is a growing body of literature on place-based education. While education rooted in the particular places of students’ lives is not new (e.g., Dewey, 1959; Tagore, 1961), a strong thread of place-based education has emerged in the past decade (Gruenewald & Smith, 2008; Smith & Sobel, 2010; Sobel, 2005). This thread has primarily developed from environmental education, with an explicit concern for the natural world. Bigelow’s essay “How My Schooling Taught Me Contempt for the Earth” (1996), calling for school curricula to become grounded in the places that students and teachers reside, is one example of the material shaping this thread.

Attention to the natural world, though, does not preclude attention to the human world. As Berry as well as educators like Noddings (2005) explain, there is deep interdependence and wholeness of all life on Earth. With all beings connected in a “pattern” (Berry, 1981), justice for nonhumans cannot be separated from justice for humans. Greenwood (formerly Gruenewald) (2003) has argued this point in his attempt to bring together critical pedagogy and place-based education in a “critical pedagogy of place” (p. 3). He explains that this approach to education

aims to contribute to the production of educational discourses and practices that explicitly examine the place-specific nexus between environment, culture, and education. It is a pedagogy linked to cultural and ecological politics, a pedagogy informed by an ethic of eco-justice (Bowers, 2001), and other socio-ecological traditions that interrogate the intersection between cultures and ecosystems. (Gruenewald, 2003, p. 10)

A critical pedagogy of place shows how the livelihood of humans is fundamentally tied to the livelihood of nonhumans, just as economy and ecology are intertwined. Thus, there is integrity of living beings with a need for sustainability of all parts within the whole.

We turn to one example of our work as place-based educators to show how middle level (i.e., late-elementary- and middle-school-aged) students in Lansing, Michigan, demonstrated an impressive ability to forego easy-but-incomplete economic or ecological responses to a proposed local power plant.

Lansing’s Need for a New Power Plant

In Lansing and its surrounding municipalities, residents receive electricity and water from the Lansing Board of Water & Light (the BWL), a publicly-owned power utility. According to the BWL, more than a century ago, Lansing’s citizens felt “the benefits of electricity and public drinking water were too important to be trusted to anyone except the citizens themselves” (Lansing Board of Water & Light, 2009a, para. 1). There is a history of the city’s citizens, as both owners and consumers, taking an active role in the workings of their utility.

In the winter of 2009, the BWL made public its interest to build a new power plant. At the time, electricity in the city (and its greater metropolitan area) was generated from two power plants. The primary plant was an old coal-burning facility. Making the case for the building of a new plant in a letter sent out to all consumers, the BWL explained:

The Eckert Power Plant near downtown Lansing is more than a half-century old, though it was designed to only last 40 years. Increasing operations and maintenance costs, environmental compliance costs, and the plant’s relatively poor efficiency make it ever more expensive to keep it operating. The cost to meet potential environmental regulations at the

plant could amount to approximately \$260 million in the next few years. The BWL staff recommends building a new, more efficient power plant whose air emissions, including greenhouse gas emissions, are much smaller than Eckert's. (Lansing Board of Water and Light, 2009b).

The rationale noted economic and environmental concerns: The Eckert plant was costly and dirty.

While the BWL had not settled on a definite proposal for the plant, it had made public a working plan that called for “a hybrid biomass generating plant” (Lansing Board of Water and Light, 2009c, para. 6), at which electricity would come from the burning of 70% coal and 30% biomass sources. Enacting this plan, the utility explained, would mean operating “a more efficient, greener power plant” instead of having to “buy electricity on the volatile open market” (Lansing Board of Water and Light, 2009c, para. 7). The proposed plant, the BWL argued, would address economic and ecological issues faced by the communities it served. Important context surrounded both of these matters.

Economic context. Lansing was mired in an extended period of vast economic distress. The unemployment rate in Greater Lansing hovered between 10% and 15%, as local automobile plants and their supply chains—some of the area’s largest employers and, historically, the linchpin of the local economy—decreased productivity or shuttered altogether. The economies of Lansing and the rest of Michigan were struggling, especially among the working class. These financial woes, however, were not nascent (e.g., Melinn, 2009; Saulny & Davey, 2008).

Many families in Lansing had been severely impacted for years, well before the onset of the nationwide recession in the fall of 2008. They endured job loss and saw local businesses close and public services reduced. Budget cuts at the state and local levels in most sectors intensified family and community-wide economic hardship. A Pew Research Center study found that nationwide, the people and families hit hardest by the recession were racial minorities and those who were already poor (Taylor, Kochnar, Fry, Velasco, & Motel, 2011). The idea of any kind of stimulation to Lansing’s economy was therefore welcome; the construction of a new power plant, in addition to saving money, might also create a number of new, needed jobs.

Ecological context. In Lansing, as in other places across the country, there was significant talk about the impact of coal-burning power plants on the health and well-being of people and their surroundings. Such considerations had not been present when the Eckert Plant was built decades earlier. Topics such as pollution had been on the table then, but there had been no discussion about the legacy of environmental racism attached to the building of power plants.

The negative environmental impacts of power plants, as well as other problems caused by industries like manufacturing and oil refining, have historically burdened poor people and people of color (Brodkin, 2009; Bullard, 2005; Bullock, 2001). The concept of NIMBY—“not in my backyard”—proves powerful as decision makers locate industry in places where the neighboring

communities, often poor and/or of color, lack the political clout to push back. Although environmental justice advocates are finding some success in fighting this disproportionate distribution of environmental degradation (Danaher, Biggs, & Mark, 2007), the practice continues.

Youth Studying the Power Plant Proposal

As the BWL considered Lansing's energy future, a group of youth at the Boys & Girls Club of Lansing (the Club) did as well. They were participants in Green Energy Technology in the City (GET City), an outside-of-school science program at the Club, and we were two of the teachers. The Club predominantly serves youth of color from low-income backgrounds, and GET City's participants ranged between fifth and eighth graders who attended a number of schools from across Lansing.

GET City's goal is for urban youth to learn about science and engineering related to energy sustainability and information technologies while working within and for their surrounding communities. The intent is for participants to develop "critical science literacy" while becoming "community science experts" (Calabrese Barton & Tan, 2010a, 2010b). The entire program is driven by the idea of teaching science for social justice (Calabrese Barton, Ermer, Burkett, & Osborne, 2003) and cultivating ecological citizenship (Kissling & Calabrese Barton, 2013).

When the BWL made public its proposed plan for a new power plant, GET City began an inquiry unit focused on the question, "Should my city build the proposed hybrid power plant?" This was an important local issue for all people in Greater Lansing. But it was particularly salient for GET City's participants and their families, given their racial and socioeconomic backgrounds (particularly in light of the ongoing recession and the history of environmental racism).

In the prior unit, the participants had studied coal as an energy source: its extraction from the earth; its transport to local power plants, its use to generate electricity, and that electricity's powering of the computers at the Club. Building on that study, the power plant unit sought to investigate alternative energy sources in the context of considering whether or not Lansing should build the proposed plant.

The unit began with GET City participants analyzing the BWL's public statements regarding the proposed hybrid plant. The participants generated a number of questions from this analysis, which we used to drive a sequence of related investigations: How many and what kinds of jobs would the plant create? How green would the plant be? Were there other, better options? The participants studied the viability of solar, biomass, and wind energy by working with local engineers to build and test small-scale models of these systems and used state and national data sets such as those of the U.S. Department of Energy's National Renewable Energy Laboratory to plot GIS maps of resource availability.

Participants also corresponded with local energy experts from research and development departments of both public and private organizations. They took field trips to learn more about other local energy initiatives. They conducted surveys of friends, families, and community members

to gauge how much their community knew about the plant proposal. At the end of the unit, at a community forum held at the Club and attended by BWL representatives, scientists, and community members, participants shared what they had learned.

Scenarios Pitting Economy Against Ecology

Throughout the power plant unit, we held a weekly discussion group with four GET City participants; it is a regular practice at GET City to hold weekly conversations with participating youths as a way to create a space for them to help shape the ongoing design and enactment of the program. Often the conversation groups involve youths of differing ages and levels of participation in GET City. Sometimes we hold a special sequence of conversations with particular groups of participants because we want to learn something specific. In this instance, the four youths whose perspectives we share here were the youngest participants in GET City at that time who also attended the Club regularly throughout the week. We wished to create a unique space for them to discuss their ideas within the larger program, and we wanted to understand how younger people made sense of the complex problems posed in the unit. We hosted these conversations in the Club's conference room after school on days that GET City was not in session. At the time, Jana, Nadia, and Zeus were fifth graders and Sam was a sixth grader.⁽³⁾ All of them are African American and members of working class families.

We conducted 12 discussions, and at the end of the unit we concluded with conversations about a set of scenarios related to the proposed power plant. The three scenarios explicitly addressed competing economic and ecological considerations, and all involved the ultimate question of whether the proposed BWL plant should be built, although each approached that question differently. The first considered whether it was fair for the BWL to charge customers extra for electricity derived from renewable energies. The second asked the youths to consider a town in West Virginia where coal extraction via mountaintop removal provided jobs but jeopardized the health of the community. (Some of the coal imported into Michigan comes from West Virginia.) The third asked whether the BWL plan was “good enough.”

Given the participants' social marginalization in relation to race and socioeconomic status, as well as their participation in a green energy program, we were eager to see how they considered ecological and economic tensions. The youths' responses to the scenarios are entries into their complex thinking about Lansing's power plant proposal. While there were clear economic and ecological aspects to their analysis, their responses demonstrated that those aspects could hardly be separated. We start by dis-integrating their arguments along economic and ecological lines but then dig into how this separation fails to capture the complexity of the students' thinking.

Economic perspectives. For Jana, Nadia, Sam, and Zeus, any decision about the power plant and the electricity that it would produce had to take into account the impact on people's jobs. Jobs—the lack of them, access to them, and creating them—was a central issue for all of the participants, and it was their main economic concern. This focus was not surprising, as all of these youths experienced their parents or their friends' parents losing jobs during this time period.

While talking about the second scenario and how a move away from coal toward greener energies could take away the coal miners' jobs, Nadia said, "It's hard [to be in favor of ending coal as an energy source] because people need their jobs." Zeus also spoke in support of mountaintop removal that extracts coal. He argued that jobs were "more important than the mountains [because] how are you going to buy stuff for your family and raise your family?" For all four youths, jobs provided income that was essential to the survival of their families. If the power plant did not maintain its current jobs or provide alternative employment, directly or indirectly, there would be a fundamental problem. But if established jobs were protected and new jobs were created, the new power plant could significantly help families survive.

Two other economic perspectives emerged from a discussion about the costs associated with a new plant, particularly one that attempted to rely as much as it could on green energy sources. On a macro scale, Jana worried about the costs of such a plant, since the technology to cheaply generate enough green electricity had not been developed. "In Lansing we cannot use wind because we don't have enough and we can't use solar because we have too many cloudy days," she commented. While Jana was the only participant to consider the feasibility of the plant from this macro-level perspective, all four participants raised the issue of feasibility with respect to environmental matters.

On an individual scale, the participants considered what it would mean for the BWL's customers to pay for increased costs related to green (or greener) electricity. Jana, Nadia, and Sam were not eager to support increased costs for customers. As Jana argued, "[the BWL's customers] need that money to buy food, water, and other things that their families or themselves need to survive and be healthy." Zeus, though, saw the issue differently. "If you want to live healthy," he said, implying that using green electricity was an healthy way to do that, "you're not just going to get it for free—everything costs." Then Zeus added: "But it is kind of not fair because some people may not have the money and those who don't have the money can't afford to pay [the extra cost for green electricity]."

Zeus's point was the foundation for the other three participants' concern about increased electricity costs. What about people who would struggle to pay the additional amount? As Sam argued, the environmental result of the extra cost was worth it: "We need a clean environment!" But not all people could afford to pay for it. As Nadia considered the extra cost, she said, "It depends on how much more [money the customers will have to pay]." She felt that green electricity was best for people and the environment but, at the same time, she supported having BWL customers pay less because "people don't have lots of money to pay for renewable energy sources." After doing the math to figure out what the cost differences might be for a household for one year, Nadia exclaimed, "Oh no!" as if to say, "There's no way this is going to work." She followed this up by saying that BWL customers "shouldn't pay that much [for greener electricity]—well, oh gosh, they shoooooooouuuuuldddd, but all of our energy doesn't have to be renewable."

The participants also raised concerns about what economic impact building a power plant committed to generating electricity with the greenest sources would have on people's jobs and income

as well as about the costs that BWL customers, particularly those with the smallest income flows, might have to shoulder. Based on these considerations, there was good reason to oppose the proposed plant.

Ecological perspectives. At the same time that the youths voiced the economic perspectives above, they maintained that a power plant must operate in whatever way is best for the earth and its people. Sam said that he would not support the proposed 70% coal, 30% biomass plant “because it could be much better.” With such a dependence on coal, “it will just make [the environment] dirty and people’s health will get messed up.” Implied here is the need for more extensive reliance on alternative energies.

But Sam recognized an important limitation. While he wanted the new plant to emphasize wind energy, he noted, “We can’t depend all on wind.” (In their GIS-based investigations of wind energy, the youths discovered that Michigan’s wind potential ranked in the top 15 nationally. However, the greatest potential was along the shore, not inland where they lived.) Therefore, some coal was needed. “If we’re not using a lot [of coal], it ain’t going to hurt the environment as much.” He recognized that technological restraints make a dependence on green energy sources for electricity difficult. Sam knew that Lansing would have a problem generating all of its electricity from wind.

Jana encountered a similar tension. On the one hand, she felt that Lansing should not build the proposed plant “because it can still cause CO₂ and pollution.” (During their surveys of experts, Zeus, Sam, Nadia, and she learned that there was significant disagreement about the carbon neutrality of biomass.) But on the other hand, Lansing should build it “because the power plant is our only electricity source.” Since Lansing did not have the technological means for cost-effective alternative electricity generation, she argued the proposed plant was necessary because “we still need to figure out how we are going to transfer all the renewable energy to all the houses in Lansing.” The plant proposal was not ideal for her—she made clear that it would be far better to go with “renewable energy sources [that] will never run out”—but it appeared that it could not be avoided.

Zeus recognized a tension similar to that expressed by Sam and Jana, but he viewed the circumstances differently. The proposed plant “could be even better,” he admitted, but “it’s healthier and better than the old one.” For him, moving from 100% coal sources down to 70% coal was important. He felt the plant was not ideal but that it was a step in the right direction. Thus, he could support it “as long as we’re making a positive change.” Both people and the earth would be better off.

A final ecological perspective that came up at various points involved the importance of the public being informed about what was at stake in building the plant. The youths felt Lansing’s residents needed to know the environmental aspects of the issue in order to participate in deliberations on the proposed plant. Exasperatedly, Nadia commented, “Some people don’t even know about coal.” Jana called for the BWL “to put poster signs up around Lansing because a lot of

people do not know what is going to happen [with a new plant].” Sam advocated that residents who were familiar with the issue should help those who did not understand it.

(Re)Integrating Ecology and Economy

The GET City youths’ perspectives on the proposed power plant show a number of their commitments: caring for the earth, creating jobs, living healthy lives, supporting technological innovation that allows for greater dependence on renewable energy sources, and using electricity produced from environmentally friendly sources/methods but with minimal financial burden, particularly on the community’s poorest people. Amid these diverse commitments, none of the youths clung to one at the expense of all the others.

As members of a program interested in green energy technology, the four youths were certainly predisposed to thinking about energy and the impact of the production and consumption of energy on the earth. Mindful of what they had learned from GET City, it would have been reasonable for them, in response to the scenarios, to offer perspectives that only reflected green commitments.

At the same time, as members of families and a community struggling through difficult financial circumstances (either directly or indirectly), the four youths were experiencing firsthand the economic recession. It therefore would also have been reasonable for them to view the scenarios through a solely economic lens.

However, the participants’ responses did not fall simply into ecological or economic camps but instead showed an understanding of the complex relationship between the two. Green(er) electricity was important to them, but so too was making it affordable. Limiting coal extraction that is harmful to the earth and local residents was important, but so too were residents’ livelihoods. Indeed, every single economic stance had an ecological dimension to it, and vice versa.

For example, when, while discussing BWL customers paying extra for greener electricity, Nadia said, “They shouldn’t pay that much [for greener electricity]—well, oh gosh, they shoooooooouuuldddd,” her drawn out should was an indicator of the importance she placed on green(er) electricity. Although she didn’t want Lansing’s residents, particularly the poorest, to have to pay more for green(er) electricity, she recognized the importance of green(er) electricity for the well-being of the earth and all its inhabitants.

Responding to the second scenario, Zeus found himself confronting a similar complexity. Coal extraction from mountaintop removal harmed the health of the earth and its inhabitants—and yet such mining supported people’s livelihoods. On balance, he felt jobs were more important than a healthy environment. But, he noted, “People should have another choice”; he felt that people should not have to choose between employment or healthy living conditions and the protection of the earth.

This point about the integrity of the issue—the need to attend to all the concerns involved—is not unique to this specific situation. However, it is particularly meaningful in the arguments made by youths from marginalized backgrounds about a justice issue directly affecting them. People with economic and political clout can talk about the economic and ecological crises as separate issues. In the short term, they do not suffer the consequences of that view. But for those who live the realities of economic recession and environmental racism, the repercussions are not only immediate—they are one and the same.

The lone instance in the youths' thinking about the scenarios where there was a lack of attention to economic and ecological integrity involved Jana's and Sam's responses to the second scenario. Although each youth had concerns about both the economic and ecological aspects of the two scenarios that were explicitly local to Lansing, Jana and Sam were unwavering in their ecological perspectives with respect to the scenario that focused on a coal-mining community in West Virginia. Both adamantly opposed coal extraction via mountaintop removal in this community, regardless of the economic burden that its residents would likely experience as a result. A salient point for us, here, is the locality of the issue. Even though Lansing was implicated in the scenario (as its new plant might receive coal from mountaintop removal areas in Appalachia), Jana and Sam did not identify with the bind in which the people in the scenario found themselves.

We wonder what Jana's and Sam's responses might have looked like if the coal-mining community were somewhere in mid-Michigan or if the youths had relatives who lived in that community. The challenge that emerges from this for place-based education is to cultivate authentic connections to people and all living creatures in other localities. While students need to understand the integrity of ecology and economy, they also need to recognize the integrity of all life on the earth—what Berry (1981) calls “living in pattern.”

Conclusion

Place-based education has focused primarily on the importance of connecting children to the natural world. However, the GET City youths remind us that the complexities of their lives, as lived in their surrounding communities, require a more nuanced stance. Jana, Sam, Zeus, and Nadia help us see that we need to facilitate opportunities for youth to experience their natural and lived worlds meaningfully. There is not much that is natural about a coal-fired power plant, but it is certainly part of the world of the people who live in the area surrounding it, and it also has a distinct impact on the natural world of that area.

Some might argue that this approach to place-based education is only possible in an out-of-school setting. We disagree. The integrity of ecology and economy is vitally important in school, where youth are routinely subjected to disembodied views of science, society, and community—not to mention many other curricular aspects. Imagine if all teachers and students had the curricular room and encouragement to consider the relationship of school life to local community challenges—and even to make that relationship central to classroom learning practices (e.g., Bigelow & Swinehart, 2014; Kissling & Rogers, 2014). Reflecting closely upon the perspectives of Jana, Nadia, Sam, and Zeus, who in deliberating about whether Lansing should build its proposed

power plant showed that economic and ecological considerations are inseparable, we call for educators to wade into the complexity of the integrity of ecology and economy in their classrooms.

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Discovering Place-based Education in the Foothills of the Himalayas

By Monimalika Day with Doug Hernandez

The Himalayan mountains are known worldwide for their magnificent heights and their astounding natural beauty. However, the fragile ecology of the Himalayan region makes it especially vulnerable to soil erosion and landslides due to deforestation, building and road construction. Social changes, such as migration of men to the cities for work and the effects of the tourist industry add to the area's problems. It was here that I (Moni) conducted a case study on preschools run by Prakriti (pseudonym), a non-governmental organization (NGO) dedicated to environmental conservation through education.

The central feature of this paper is a portrait of a teacher conducting lessons near a pond in a remote village in the foothills of the Himalayas. It describes how the teacher provides opportunities for her young students to explore their natural environment and helps them to connect with their place. It is essential to note that her story represents the efforts of many other preschool teachers working with Prakriti.

In India, preschool education is offered in three kinds of settings. First, the Integrated Child Development Scheme (ICDS) of the central government provides preschool education in Anganwadis (centers offering health, nutrition and preschool education). Second, in cities and towns, many private organizations and franchises launch their own programs. Third, NGOs run Balwadis to bring preschool education to marginalized communities and places that are difficult to access. The story presented here is a slice of the data collected while I was conducting a case study of Balwadis run by Prakriti in remote Himalayan villages.

We begin with a description of the methods used for data collection. This is followed by the story of the Balwadi teacher teaching lessons near a pond. Next, we discuss the classroom pedagogy and the curriculum of the Balwadis and provide information on Prakriti's Balwadi program and its origins. We end by connecting the evidence presented in this paper to the existing literature.

Methods

The case study on the Balwadis is part of a much larger research project, the Indian Early Childhood Education Impact Study (Kaul, Chaudhary & Sharma, 2014) that examines the impact of early childhood education (preschool) on school achievement in the primary grades in three states of India. The mandate of the research was to identify good practices in early childhood education through multiple case studies using qualitative methodology. The original research question was:

What are the key elements of quality in terms of curricular, organizational, financial, management, and professional development

in ECE interventions that are conducive to attaining the intended learning and developmental outcomes in children in different contexts?

A total of nine case studies were conducted in different parts of the country. In this article, I present some of the evidence we collected in 2012 while conducting the case study of Balwadis in Uttarakhand, the state that is home to the Central Himalayan mountains.

After presenting some of the Balwadis' findings in a workshop, I learned from a colleague that the information was an excellent example of place-based education. In qualitative research, the researcher often stumbles on new findings and is inspired to explore a dimension that was not part of the original plan. My colleague's comment motivated me to learn about place-based education and explore the ways in which it was reflected in my data. Since the research project had ended, I looked at the existing data and tried to answer the following questions to link the evidence to place-based education:

1. What experiences might young children have that will help them appreciate their environment and may eventually lead them to play a role in protecting it?
2. How do we engage young children to explore and connect with their environment?

For each case study in the research project, the researcher was required to visit one program twice to study in detail two extremes: an example of a preschool center that functioned well and one that faced significant challenges. We identified the sample with help from the administrators. However, we could visit additional centers, if we felt we needed to expand the sample. The Balwadi teacher Nanda (a pseudonym), whose work is reported below, was not initially selected in the sample.

We used different qualitative techniques, such as participant observation, videotaping, semi-structured interviews, and focus group discussions to learn about good practices in early childhood education. At the Balwadi center run by Nanda, we observed for two days, videotaped her lessons on the second day, and interviewed her at the end.

Portrait of a Teacher

A Balwadi trainer and I (Moni) were returning from a trip to a selected center when the trainer mentioned that there was another Balwadi tucked into these hills. This center had been closed for six months because the former teacher had left and there was no one to run the program. It had reopened recently when one of the young teachers married and moved to a village nearby. It is worth noting that the concept of near and far can be viewed very differently by people from the hills and those of us from the plains. A steep climb of 1.8 miles is often described as nearby by a pahari (one who lives in the mountains) but might be a very strenuous and difficult climb for someone who is not accustomed to these heights.

We got out of the jeep and after walking for half an hour on a stone path, we reached Nanda's Balwadi. Cellphones rarely function in these areas, so she had no prior knowledge of our visit. When we arrived, Nanda was busy with a language lesson. After completing it, she turned to the trainer and said she had planned a paryavaran bhraman (an environmental walk), which was part of their regular curriculum. We asked her to proceed with her lessons as planned.



Figure # 1 Starting the environmental walk singing “chali chuk chuk”

The teacher began the walk by picking up a yellow polythene bag, in which she had kept paper boats she and the children had made the day before. She lined up the children, singing “rail chali chuk chuk” (the rail [train] goes chuk chuk) and some of them joined the singing. She then walked down the stone steps, and confidently led the children to a nearby pond lined with stones. As an outsider, I was somewhat nervous about the depth of the water and hoped the teacher knew what she was doing. Guessing my concern, the trainer used a stick and showed me that it was only about 1.5 feet in depth. Later, I learned from a conversation with a member of a local NGO that the pond was a reservoir built to harvest rainwater; it also helped to slow down the seepage of water underground, which causes flooding during the monsoon season. The water was used by the villagers for their animals.



First, Nanda had the children sit on one side of the pond, where she tossed in some pebbles and pointed to the concentric circles in the water, saying “gola baan geya” (we made a circle), helping children to recognize the shapes they observe in their surroundings. As she threw pebbles, leaves, or grass into the water, she asked the children if they would sink. The children responded enthusiastically with a “yes” or “no” as they carefully focused on what was thrown into the water. She then asked children “kyun doob raha hai?” (why is it sinking?), but did not get much of a response. She laughed and repeated the question, urging the children to think more about it. Nanda also used a stick to make circles in the water as the children watched intently. She then encouraged them to explore the water and splash it. Some of the children closed their eyes and turned their faces away as the water splashed upward. One child moved away from the edge. Others looked around for pebbles, threw them in the water, and then pointed to the circles they formed.



Meanwhile, Nanda picked up some pebbles and grass, which she asked the children to put on their individual boats. She made each child feel special as she assisted him or her in gently releasing their boat and observe it floating. Some of the water splashed up as the children attempted to push the boats out from the edge of the pond. During this activity, Nanda sang “nao chali nao chali” (the boat moves, the boat moves), a Hindi rhyme. Once again we heard some of the children’s voices as they joined in the singing.

After encouraging the children to explore the water and its properties, Nanda introduced them to a few of the animals that live in the water. She pulled out a paper frog she had made from her bag, named it, and had it jump in the water, to the children’s delight. Then she brought her hands together and sang “machli jal ki raani hai” (the fish is the queen of the water), a popular Hindi rhyme sung in different parts of India. All the children joined in this time, either by bringing their hands together to make the fish and moving their thumbs (as the fins) or by singing the song. Many did both the action and sang, showing their familiarity and enthusiasm for it.

On our second visit the following day, Nanda introduced a new water animal, the crocodile, which is found elsewhere in India. She drew a circle on the ground and initiated the game, played by children in many parts of the country, where a child pretends to be a crocodile. Other children step in the circle and the crocodile chases them, pretending they are prey. In this way she engaged them in dramatic play while they were learning about the crocodile.



On the way back to the center, Nanda encouraged the children to explore the surrounding areas, to jump from a small stone wall, and to climb on the lower branches of a tree near the Balwadi, both with her assistance. She was ensuring that they had sufficient opportunity to practice their gross motor skills. These opportunities are critical for young children living in these mountains. We often observed women dangerously perched on a tree to get leaves or cutting grass on a steep slope for the cattle. The word “santulan” or balance was often mentioned when we traveled in these areas, and it is an important part of the curriculum.

Next, Nanda stopped the children at a small patch of land near the Balwadi where she had helped them plant seeds of some local crops a few weeks earlier. She encouraged the children to observe how plants grow by posing questions such as “kya ye chota paudha hai?” (is this a small plant?). The seedlings were about 1.5 inches and some of the young investigators began pulling them out of the ground to study them closely. Nanda knew they were trying to answer her question and did not get angry with the children. She just corrected them gently by saying “are poudhe ko mat nikalo” (oh, do not take out the plants), and showed them how to replant the seedlings. She also helped children identify the seedlings, which included corn, millet, and kidney beans, by comparing and contrasting the shapes of their leaves.

I have been in the field of early childhood for more than 25 years, but I have never seen such an informative, well-integrated, and joyful set of lessons. The teacher created opportunities to learn various concepts through exploring, naming, and imagining that helped the children bond with their environment. It is impressive to note that Nanda addressed all the developmental domains in a short period of time. Table 1 provides an analysis of the activities she conducted.

Table 1. Analysis of Activities

Activities	Objectives	Domains
Exploring and splashing water	Observe and feel the properties of water	Cognitive and sensory-motor
Making circles in the water	Recognize shapes in the environment	Cognitive (mathematics)
Floating boats and throwing pebbles	Observe sinking and floating	Cognitive (science)
Floating boats individually	Develop a sense of ownership and turn-taking	Social-emotional
Song about the boat and the fish	Learn about animals and transportation connected to water	Language related to environment
Dramatic play about a crocodile	Engage children in pretend play and introduce a water animal (albeit a non-local one)	Cognitive and social-emotional

Jumping from the wall and climbing trees	Walk, jump, and climb	Gross motor
Observing seedlings	Learn about local crops and how to care for them	Cognition (science) and social-emotional

When we went to Nanda’s Balwadi that day, we had no idea that we would witness a brilliant set of lessons on the environment that was carefully planned to address different domains of development. Nanda’s lessons showed how to engage children to explore and connect to their environment. Further research is required to know if these connections will lead to an appreciation of the environment strong enough to prompt the students to later play a role in protecting it.

The Balwadi Classroom and Curriculum

The Balwadi centers are all located in or near a village. The center itself is usually a room with floor mats for the children to sit on. The dimensions of the room can vary greatly depending on what the local community is able to arrange. The materials are organized around the classroom as “corners,” such as the dolls’ corner and the art corner. There is outdoor space surrounding the building, which is for activities and play, and some Balwadis have a large tree near the entrance. Extending beyond are areas to explore, such as the pond, walls, and gardens in Nanda’s Balwadi center.



The presence of local and recycled materials in the classroom sends a quiet message to the children and their families regarding the importance of their environment. While each center receives a few materials that are centrally procured—such as puzzles, crayons, slates, blocks, and some books—Nanda’s center relies mainly on local materials. We noticed that dried gourds, grass, leaves, seeds, and grains were displayed in the classrooms and used in many activities. Children were given opportunities to play with water and clay. Many centers had clay beads used for fine motor activities. In addition, there was an emphasis on using recycled materials. For example, the trainers and mentors visit local tailors to collect pieces of cloth. Dolls and balls are made from these scrap materials.



In Prakriti Balwadis, the curriculum is activity-based. The curriculum consists of eight different activities. Teachers are encouraged to develop their lesson plans by selecting activities from these categories. They are:

1. Bhasa gyan (knowledge of language)
2. Anka gyan (knowledge of mathematics)
3. Kahani (stories)

4. Khel (games)
5. Bhavgeet and kavita (songs with expressions and poems)
6. Samanya gyan (common sense or daily experiences)
7. Paryavarn siksha (education on environment)
8. Prayogatmak karya (activities related to daily life that promote logical or scientific thinking)

Although environment is one of the eight categories described in the curriculum, our observations revealed that concepts and materials from the child's environment were carefully woven into many activities, and into all other categories. For example, in the language activities, teachers often discussed different kinds of plants, flowers, and fruits. Local crops and seeds were used for sorting and teaching colors. They were also used by children for tracing shapes and letters.

Storytelling is an important activity in the Balwadis and teachers are encouraged to engage children in this activity every day. When we observed the training sessions at the Prakriti headquarters, teachers were not just encouraged to read books but were given ample time and opportunity to develop stories on their own and depict them on charts. During our visits to the centers, we observed several storytelling sessions where teachers had written stories focusing on local animals, birds, and fruits. The trainer explained in Hindi:

Our curriculum is connected to the environment, like the bird, and everything in a child's life. Second, we take the child out of the classroom. We allow children to understand things from their own perspective. For example, if the child goes near a butterfly, what is the child imagining about the butterfly? Let the child form his or her own ideas. For example, we must show them the fog, the dew. Where did the fog come from? Why did it come? We let children explore their environment using their own imagination.



Prakriti provides support to the teachers through regular mentoring from margdarshikas (mentors or those who show the way). The margdarshikas in turn receive mentoring from trainers, when trainers visit the programs. These supportive relationships, together with the curriculum, allow teachers to develop lessons grounded in their own sense of the place.



A Community-based Program

Prakriti started preschool programs for 3-to-6-year-old children in villages where there was sufficient demand, and where the community was willing to take responsibility for developing the program, making decisions, and monitoring it. Villagers contribute by building the Balwadi in a number of ways, including donating land, labour, and money. The classroom where Nanda held her classes was part of the panchayat bhavan, the local government building. In a conscious effort to engage the community, Prakriti provides the bare minimum: some teaching/learning materials (as noted above), and the teacher's salary.

In each community, the villagers select a young woman from the same village or a neighboring village to be the teacher. Some have completed secondary school education while others have not. Prakriti provides the necessary training and mentoring for the teacher, as well as a small stipend during training sessions. It organizes the timing of the program based on the nature of agricultural work and the need for childcare in the area. Local people are expected to monitor the day-to-day functioning of the program with support from small local NGOs, referred to as the

sanstha. This collaboration helps to decentralize decision-making and ensures the active involvement of local people in the day-to-day activities of the centers.

As community members meet to discuss various issues related to the Balwadi, they come together as a community for a special cause. Avibhak goshti (parents' meetings) are held to make decisions. However, each Balwadi teacher is also expected to host meetings of the Mahila Mandal Dals (a women's group), which deal with larger issues, such as sanitation in the village, protection of the forest, and reforestation. The following excerpt (translated from the Hindi) from a focus group discussion illustrates the close connection between the preschool program and the women's group:

First, we collected the money, and we collected utensils as well. The Balwadi came before [the work on] the forest. Then the mahila mandal dal (women's group) made restrictions on deforestation, fenced the forests, and did everything by donating their labor, including constructing the building for the preschool.



Recognizing the serious ecological problems in the region, Prakriti has focused on creating cohesive communities and supporting villagers to learn about different parts of the village ecosystem so they can promote sustainable development. Education is an important strategy through which

they raise environmental awareness in both children and adults, and engage them in active reconstruction and advocacy.



During a 1980s literacy campaign, the women in remote villages urged Prakriti to create a place where they could leave their young children while they did their daily chores. Thus, the Balwadi program was started in response to a demand from the community. According to the director, “The Balwadi was conceived as a place where the foundation of environmental education could be laid” (USNPSS, 2001, p. iii). It began with two programs in 1987 and because everyone in a village is interested in children, the Balwadi became an important platform for forming a cohesive community. The program expanded rapidly until 2001 but then began to shrink as Anganwadis, the government preschools, expanded in the area. Although Anganwadis are conceptualized as community-based programs, the implementation of that concept remains a challenge that has not yet been realized.

A Crucial Platform for Knowing and Valuing Place

When considering the Balwadis and the good early childhood practices that they employ, it is difficult to draw a distinction between place and education. Rather than developmental needs being facilitated exclusively within the walls of classrooms, places of origin were at the center of each child’s learning experience. While the main focus of our study was on observable best practices

that prepare young children for school, the environment and environmentalism emerged as a noticeable bedrock for children and families connected to the Balwadis.



This experience shows how rich a curriculum can be when it honors a teacher's experience and his or her own sense of place. When working with women who do not have access to higher education, many organizations in India simply tend to develop a scripted curriculum. It was apparent that Prakriti, the sponsoring NGO, gave teachers guidance about early childhood education and about helping children to connect to their environment. Most important, teachers were also given the liberty to construct their lessons. When teachers and children have a shared relationship with place, they are more likely to become stewards who care for it. As Judson (2010) aptly points out, children need to first love and bond to their natural world before they can be asked to heal that world.

Modernization often transports us from our places of beginning and displaces us from the context and reliability of our environment (Hutchison, 2004). In many respects, education globally is moving more towards homogenization. This monolith offers young children a single story of what prosperity is, and what it looks like. Often, we are preparing children for a global economy that displaces them and creates voids where a sense of place or belonging could exist. Similarly, Gruenwald & Smith (2008) describe globalization as distorting the meaning of personhood and what membership in communities should look like. In these global definitions of belonging and prosperity, there is barely a mention of environmental prosperity born from relationships between people and nature.

The more I engaged with the fragility and strength of the Himalayan villages, the more I became aware of the Balwadis' role as ambassadors of place. Children there are getting connected to place through exploration and experiential learning. In much of India, where Western programs

are often imitated, formal preschool education segregates children from their language, place, and community (Kaul, Chaudhary, & Sharma, 2014). Even in these remote hills, we observed many so-called “English medium schools.” These private programs, housed in concrete structures, have difficulty finding teachers who are competent in English, yet they often impose strict rules that children must communicate only in English once they enter the premises. By contrast, the Balwadis provide children with immediate and lasting opportunities to preserve their language, culture, and place. Since the teachers are from the community, they are fluent in the local dialect and only slowly introduce children to formal Hindi. Children benefit from every opportunity to develop as active citizens in the process of knowing places and being active in shaping what their places will become (Gruenewald & Smith, 2008).

The simple, yet powerful lessons offered through the Balwadis generate and strengthen connectedness to place, which in turn has the capacity to mitigate globalization and reduce environmental degradation. However, perhaps the greatest lesson these experiences have brought me is a reconsideration of what school is, or can be. For the Balwadis, the Himalayan foothills are more than just the topography. Here, the teachers and children attribute meaning—both personal and emotional—to place every day. According to Judson (2010), people ascribe meaning to the places they experience in daily life, which helps them to form connections to the world and develop a sense of belonging. In turn, that sense of belonging enables them to become ambassadors of the places that they inhabit.

This concept is congruent with the great Rabindranath Tagore’s vision of education. A famous Indian poet and philosopher, Tagore conceived school to be a place where a child could discover himself or herself and the larger universe through active exploration and deep engagement with the immediate surroundings (Pridmore, 2009). Child’s drawing of mountains, bushes, and bird. He despised rote memorization within the confined walls of a classroom and conducted classes in the open air under trees, a tradition which continues to be practiced in the school he founded in 1901. (Tagore’s school, Patha Bhavana, has grown to include Visva-Bharati University in West Bengal.) To make education meaningful to children and prevent them from dropping out of school, we need to explore ways in which we can help them to make sense of their immediate environment and connect to it.

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Learning Naturally: An Inquiry Study of Streams in Hawaii

By Becca Kesler

Jungle foliage arched high above the clear, knee-deep, rock-strewn stream. The melody of moving water was interwoven with the sounds of children as they worked their way down the bank and into its flow. One child picked a cluster of large rocks that he could hold on to, and walked around them several times, testing the difference between the way it felt to move upstream, round the top, and then get pushed downstream. Each time he repeated it, he seemed to gain confidence with what to expect at each point in the circle and how to move in response to the different directions and speed of the flowing water.

—*Waianu Stream, April 2014*
(from my teaching journal)

At a time when teachers are under tremendous pressure to quantify student learning and prepare students for standardized tests, it is easy to lose sight of the most essential part of our work as educators. In this climate, instead of responding with numbers, graphs, and narrowed gaps, perhaps we need to consider our role in our students' lives and ask a more fundamental question: What qualities do we want to develop in human beings?

As a teacher of young children, I ask myself: How can I nurture human beings who are productive, creative, responsible, and able to contribute to the future? Will they be able to care for and sustain the world they are inheriting? These are essential questions as children today are facing social and emotional challenges due to shifts in society and family lifestyles. These shifts often mean less unstructured time, less outdoor play and exploration, and less possibility for the experiences these activities provide. At school, children often contend with the pressures that teachers and administrators are feeling, either directly or indirectly. In these environments, I wonder: Where is the time for investigation, problem solving, creativity, and sense-making experiences?



I know that learning needs to be grounded in experiences. Developmental psychologists, such as Piaget (1990) and Vygotsky (1978), have shown us

that young children learn through their senses; they learn by talking and working with other learners; and they construct their understanding of the world through multiple experiences over time. Even before the developmental psychologists, progressive educators identified the importance of experience. Philosopher John Dewey (1990) contended that the concern of the teacher is to find ways in which subject matter may become part of the child's experience. In *Young Geographers*, Mitchell (1991) noted that since children's experiences begin with their immediate communities, "the school's job is to begin with the children's own environment, whatever or wherever it may be" (p. 8).

How can learning through exploration and experiences be achieved today? One possible answer, I believe, can be found in place-based education. As Sobel (2012) explains,

Place-based education uses the local community and environment as a starting point to teach concepts in the curriculum. It emphasizes hands-on, real-world learning experiences, increases academic achievement, helps students develop stronger ties to their community, enhances students' appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens. (Distance from Beauty section, para. 7)

With these foundational tenets of my pedagogy and my awareness of place-based education, I designed a teacher-guided, place-based inquiry curriculum. I anticipated that it would give my students opportunities for exploration, critical thinking, problem solving, creativity, and collaboration, while developing a relationship with the natural world. This is the story I would like to share. My hope is that it will provide other teachers with the inspiration to consider the rich learning opportunities available in their local environments.

Designing a Place-Based Curriculum

As a kindergarten teacher at Punahou School, a large, independent K-12 school in Honolulu, Hawaii, I am keenly aware of the need to design curriculum that is locally based. Units of study created on the mainland about ecosystems that are distinctly different from the subtropical, island-based environment in which we live usually have little connection to the lives of my students. In addition, I have a curricular directive to develop, through inquiry, the broad themes of “Needs” and “Interdependence.” The school’s kindergarten program is coupled with first grade’s, and this curricular focus lasts two years in the hope that by the end of first grade, the children will have the basis of an understanding that all living things depend on each other and their environment to meet their needs, in order to survive and thrive.

Because children are developing these concepts over a two-year span, we alternate between a focus on the inland/mountain region of our island one year, and on the shoreline/ocean region the next. (In Hawaiian, these are called the mauka and makai environments, respectively.) Although children study each region in an alternating sequence depending on their year of entry, every child will focus on the total island environment over the two years. Teachers are given professional discretion in determining the specifics of how these big ideas are developed. Children’s interests and questions, parent and community resources, and teacher strengths and passions shape the studies in each classroom. This is summarized in the table below:

Curricular Overview

Theme: Needs and Interdependence

Essential Understanding: “All living things depend on each other and their environment to meet their needs, in order to survive and thrive.”

Mauka focus:

- How do we depend on the land to meet our needs?
- How do other living things depend on the land?
- How do the land and all living things depend on each other?

Makai focus:

- How does the ocean meet the needs of the plants and animals for which it is home?

- How do we depend on the ocean?
- How does it depend on us?

My story takes place in the mauka year. In the spring, as one part of our yearlong study, my kindergarten partner, our two first-grade partners, and I decided to focus on water. We began by asking our two classes what they knew about water. As I queried my kindergartners, I learned that they knew that if you didn't have water, you would die. They also mentioned using water for a bath, getting water from the faucet or from a hose, and having water in a swimming pool. (One entry point to our study might have been to research how our water is supplied. However, since our municipal water supply system comes from an underground aquifer and none of the pipe systems are observable above ground, we abandoned this idea as not being age appropriate.)

My kindergarten students also talked about the salty ocean water that surrounds our islands, which they knew you couldn't drink if you were thirsty. Further, they knew that if you dug down into the sand at the beach, you could find more water. And, of course, they mentioned the rain. They know it intimately, from momentary showers of gently blown, misty rain, to sky-emptying downpours. What became apparent is that they didn't understand how all these water elements are connected.

Our island geography is such that a mountain or ridgeline essentially forms a backbone up each side of the island; valleys then fan out from the ridgeline, creating multiple watershed systems around the island.



For the indigenous Hawaiians, these formed the basis of their land-division system. These areas were called ahupua'a and provided all the resources from the uplands to the ocean that were nec-

essary to sustain life. While our current land-use patterns are no longer based on this principle, this concept is helpful in recognizing the underlying physical geography, acknowledging the ways of the native people, and finding the paths of the streams from the mountains to the sea.

After some discussion, my teaching partners and I decided to focus on these stream systems, exploring the way water travels in streams, flowing down through the valleys and out to the ocean. This would be an observable and sensorial experience, rich with ideas to wonder about and investigate. It would also provide students with chances to collaborate with each other. Further, it would give the children “an opportunity to bond with the natural world” (Sobel, 1995 *What’s Important* section, para. 11).

From the outset, I suggested that we take at least three trips to three different streams. At the beginning of my teaching career, when I was a faculty member at the Bank Street School for Children, I learned that at least three similar trips are needed for an effective study. With one trip, children are not able to generalize. With two trips, they tend to do some comparing and contrasting, mostly recognizing differences. It is not until the third experience that children begin to create an overarching understanding of the topic being explored. So to this end, my partners and I agreed that we would explore three different valleys and three different streams.

Our First Trip: Visiting a Nearby Stream

First we decided to visit the stream closest to our school, Manoa Stream. It flows through the campus of the University of Hawaii (UH), and the Hawaiian Studies Department has developed an educational site along it. Here they cultivate a wetland variety of kalo (the Hawaiian word for taro), an indigenous, staple crop, and they demonstrate this ancient, yet current, agricultural practice. We wanted our students to be able to look not only at the stream, but also at the system that brings fresh water to the lo’i (the ponds where the roots of the kalo plants stay submerged).



Early in February, we loaded the school bus with 50 kindergartners and first graders, dressed for an immersive learning experience. The site's Hawaiian Studies educators led our visit. First, they introduced the children to the area and told an ancient story about two great ancestors who discovered fresh water here because they were so thirsty after a long ocean voyage. Next, the entire group walked along a trail to discover the source of the water in the lo'i. A little way upstream, we noticed that a rock dam was built across Mānoa Stream, causing the water to pool up behind it. Here we could see that some of the stream water is diverted to a side ditch, called an 'auwai. This human-made stream then brings water to the lo'i and fills them, and then the water exits and flows back into the original stream. After learning a song that explained all the parts of the system, we followed the 'auwai back downstream to the lo'i.

Next, it was the children's chance to become kalo farmers. They were asked to gather dead kukui (a native tree) leaves from the ground and then, leaves in hand, they were invited to enter the water of one of the recently harvested lo'i. "Stomp the leaves down into the mud," called our guides. "They make organic fertilizer for the next crop." Almost instantly, the children were covered in mud at least to their thighs, and some even higher! At first, a few weren't sure about getting muddy and wet, but when they saw how much fun their friends were having, everyone joined into the wondrous, cool, mucky experience. They loved rinsing off in the 'auwai before getting back on the bus to go back to school. "Best day ever!" they cheered.



Getting that muddy was a new experience for most of the students. I thought of Sobel's (1995) words about the natural world, and our responsibility to help children "learn to love it and feel comfortable in it" (What's Important? section, para. 11). I hoped that their love and comfort was starting to grow.

I also thought about how crowded the 50 children had been along the streamside trail. I remembered how they tried to get onto the rocks or touch the water, but that safety concerns had prevented the adults from allowing this to happen. I longed for the children to go back and revisit this place that was so close to our school but previously unknown to them. I knew there was more learning to be had.

An Unexpected Opportunity: A Chance to Revisit the Stream



As it happened, our PE teacher, Peter, had recently gotten involved in learning to farm kalo. One day, I asked him if he had ever been to UH's lo'i. He had not, but he was extremely interested in visiting it. Suddenly, both of us realized that we had a great opportunity. Since he already took half-groups of students around our campus for 45 minutes of physical activity, alternately, we decided to combine these two periods and take half of each class to the stream and 'auwai over two weeks. The assistant teacher would remain at school with the other half-group.

This second visit to Mānoa Stream allowed for the deeper experience I had imagined. Children were very keen to go back. With fewer children to manage, we were able to let them wander more and collect sticks, fallen coconuts, freshwater clamshells, and leaves along the way. We observed more closely how the rock dam stopped the flow and created a calm pool behind it. We also noted how the stream water flowed over and around rocks. One child said, “I love how it turns from the rocks. See how the water is turning from the rocks?” His classmate answered, “It’s like the water is going in paths.” The children threw coconut husk pieces into the stream and watched as they raced, whirled and eddied, got stuck, and then moved on again. In contrast, we noticed that the ʻāuwai with its unobstructed flow moved calmly and steadily. Again, coconut husk boats were floated, but this time they moved gently downstream.

As I watched, I could see that the children were starting to build an understanding of what a stream is and how it flows.

Back at school, in our K-1 outdoor play space, we have a hand pump that allows children to create a “stream” over a rock pathway and down into a sandy area. While the children had always been drawn to this area, after our two trips to the stream, I noticed a group of children who went back day after day and intentionally created streams there. They also constructed dams and watched the water pool up behind them. “Break the dam, now!” one of the leaders would shout, and they would all watch to see how far the water would go before it stopped. To support their exploration of water flow and to encourage their creativity, on different days, I provided buckets, scoops, and sticks.

The Second Stream: Observing a Waterfall

A few days later, we traveled to Nuʻuanu Valley, a couple of valleys away from where our school sits. Through a family connection, we obtained permission to hike to a beautiful waterfall in the middle of the rainforest, toward the back of the valley. It was an overcast day as the bus moved steadily uphill, and the view out the windows changed from residential neighborhood to rainforest. The fresh, damp air swirled in, and various types of trees in multiple shades of green became visible. Unexpectedly, a song arose from several of the first graders: “Deep in the forest by the sparkling stream, the trees are painted every shade of green; there’s a place that I can call my own, my home, sweet home.” These lyrics were part of a song they were learning for a school program, but the spontaneity revealed their connection between the song and this place.



Soon the bus turned and took us to the end of a long driveway. As we disembarked, verdant cliffs reached up around us on three sides. The tops of the mountains were hidden, shrouded in misty clouds. “It could be raining up there,” Anna remarked. As we headed down the trail, carefully calculating where to step on the wet, grassy slope, the children squealed excitedly. Before long, the trail leveled out and followed the course of a stream. Here it became a mud path surrounded by moss-covered rocks, stands of bamboo, and large leafy plants. We pushed our way through the dense understory as shoes stuck, sucked, and slid. “Eeeeww! This is really muddy! I think it must have rained before we got here,” Taylor declared. Then as we parted the last branches, we stepped out into a clearing. Directly in front of us, 40 feet of water thundered down over black volcanic rock. The children stopped abruptly and the chilly spray brushed our faces. While most were speechless, Carolyn cried out, “Oh my gosh! That is sooooo beautiful!”

We moved forward toward the falls. The sheer volume of water and noise that it created mesmerized the children. They loved the spray on their cheeks and noted that it was cooler than rain. They also dipped their fingers in the pool near the base of the falls and found it to be cold too. Several children talked about how the rain would come down the mountains, make a stream, and then become this waterfall. Once children really had the chance to take it all in—sight, sound, touch, and smell, we all—children and teachers alike—made colored-pencil drawings of the falls.



This really focused our attention on how the water flowed down and around the rocks. In the middle of all this activity we heard children asking, “Where does this water go? We know it goes to the ocean, but where does it go into the ocean?” We really wished we had been able to have our bus driver take us there, but we had to go back to school.

Since the children were beginning to make connections between the clouds, the rain, and the fact that water flows downhill, we decided that it was time to do some more work back in the classroom. We checked books out of the library that we read to the students, we taught them a song that described the water cycle, and we did the classic demonstration of boiling water so they could see water vapor being made. We also set clear bowls of water with plastic lids out in the sun, so that some of the water evaporated, condensed on the lids, and then dripped back into the water below. For now, we figured, that was enough, since these demonstrations were just an introduction to the water cycle for the children. In *Beyond Ecophobia*, Sobel (1995) states, “The water cycle isn’t something to be taught in two weeks; it is best done over the six or eight years of elementary and middle school” (The Right Places at the Right Times section, para. 7).

The Third Stream: Getting Into the Flow

By now a month had passed since the waterfall trip. We were able to arrange our trip to a third stream because a student in my class had relatives who own a farm on the other side of the island. These farmers grow kalo and other crops, and the Waianu Stream runs alongside their land.

Again, we were fortunate to be able to involve Peter, because that was the same farm where he was learning to grow kalo. Since we planned our trip for the day we would normally go to our art special, we were able to include our art teacher as well. Once at the farm, we had the 50 kindergartners and first graders divide into three groups. They spent the morning rotating through different locations, or stations. One was the lo'i, and another was the stream itself. At the third station, children could choose between observing a water wheel system that produces electricity for the farm (and drawing it), or taking a guided tour to find and identify the variety of food produced on the farm.

Peter's station was the lo'i, where he took groups of students to harvest the kalo. This time, there was no hesitation. The children were familiar with the mud, the water, and the overall experience. They were truly excited to be working like farmers. They knew the plants needed to be harvested and delivered to the people who would eat the kalo. The children embraced getting muddy, pulling up each kalo plant, placing it with the others on a boogie board, and then floating the kalo plants to the bank of the pond, where they were stacked for later transport.



At the stream rotation, I was the teacher in charge. Before the children entered the stream, I showed them which parts of it were safe and where the boundaries to their explorations were. Some stepped cautiously from the bank into the cool, moving water. Others strode in boldly, only to be surprised by the water's force against their legs. Rocking back and forth, they would crouch and grasp for one of the large river stones to steady their balance. There were squeals of delight, outbursts of surprise, and barely audible mumblings as children reassured themselves that they were going to be able to do this.

As I stood on the bank, I noticed that while no child was talking about "flow" and water moving "downstream," their bodies were all working on understanding these concepts. I was pleased to see that their learning was being taken to a new level.

One child picked a cluster of large rocks that he could steady himself against and walked around them several times, testing the difference between the way it felt to move upstream, go around the top, and then get pushed downstream. Each time he repeated the circuit, he seemed to gain confidence with what to expect at each point around the circle and how to move in response to

the differing directions and speeds of water. Further downstream, a group of friends all hung onto a row of rocks so that their legs dangled behind them, chests and heads up out of the water, pretending they were mermaids.





Unlike their mermaid play on land, this required them to orient themselves to the flow of the stream. Another child created a challenge for himself by balancing on the top of a submerged rock, as if daring the stream to push him off.

A few children, who did not go into the water, found a spot downstream where the stream banks widened and the water flowed over a smooth bed of pebbles, creating a calm pool. Here they spent time tossing stones into the water. As they searched for larger and larger stones to make bigger and bigger splashes, they became fascinated by the different “kerplunk” each one made. At one point, one of the kids said, “Hey, this is like music! The big rocks make a low note.”



Taking all this in, I thought about Louv's (2008) concept of "nature-deficit disorder" and how he hopes that "by weighing the consequences of it, we can also become aware of how blessed our children can be—biologically, cognitively, and spiritually—through positive connections to nature" (p. 36). As their teacher, I knew that several of the children in the stream that day who did not do as well in traditional school settings were happy, engaged, and learning here.

At the end of our day, we finally had the opportunity to get back to the question the children had raised on a previous trip: Where does the stream flow into the ocean? Our visit had been to the side of the island that has the advantage of being less developed, so the human overlay is not as great. The distance from the mountains to the sea is also shorter there. Therefore, we had made plans with the bus driver to make certain that we would be able to follow the stream to its outlet.

When we left the farm after lunch, we had the bus stop on a bridge over the stream so that by looking out the windows on both sides, the children could see the water flow underneath us. For the first time since we began our investigation of streams and fresh water, I noticed that many of the children could observe which direction the water was moving by looking to the valley and ridgeline and that they could make reasonable predictions about the direction to the ocean (even though it was not visible). A few miles later, we crossed the stream again. It had increased in width and was so flat that it was barely moving. Yet here the children could clearly make the connection to the parts they had already seen, and as we drove a few hundred yards more, they exclaimed, "Here's where it goes into the ocean!"

The "Stream Homework Project"

At this point, I could see that the children were making the connections that they had not made a few months earlier. I knew that their understanding of mountains, rain, fresh water, streambeds, direction of flow, and relationship to the ocean had all been strengthened. However, I was not certain that they had created a mental construct that would put all these pieces together in a generalized way. As I was trying to decide what a final experience for the study might be, I had a burst of insight. What if I got the families involved?

While I have long believed that parents have a role to play in the educational lives of their children, the attention to that relationship in the schools of Reggio Emilia in Italy has further shaped my understanding. Rinaldi (as cited Cagliari & Giudici, 2001) explains that

Participation is an educational strategy that characterizes our way of being and doing school. Participation involves the children, the families, and the teachers and is viewed not only as "taking part" in something but even more in being a part... There is a recognition that everyone—children, teachers, and parents—is an active subject in the educational relationship, each contributing complementary and necessary knowledge. (p. 136)

As we concluded our study, I realized that I had an opportunity to broaden our learning community in just such a way.

One benefit that I could easily see was that each child would get individualized instruction because he or she would be met at the level of his or her understanding, and the families could answer questions, fill in the gaps, and clarify their children's specific misunderstandings. In addition, the parents would be learning alongside their children.

As I imagined the families doing this project, I knew it meant that they would spend time together exploring a natural environment. Chawla (as cited in Louv, 2008) says, "There is a great need to educate parents about this research—to awaken or inspire the parents' pleasure with nature play—as a necessary context for continued nature experiences for their children" (p. 36). While I didn't directly introduce the families to the research mentioned by Chawla, I hoped that participating in the culminating project would help them to see the joy and beauty that is available when we reconnect with the natural world—a very different experience than the sports practices, dance lessons, and errand running which fill the weekends of so many of my students. I became excited by the possibility that as urban, modern people, they might become aware of which stream is near them and how they are related to that watershed. They might think about how it all flows to the ocean. They might even go back again or strike out on their own to discover other streams. This is how the stream homework project was conceived.

I decided to ask each family to do some research to find out which stream flows closest to their home. They were also asked to try to find the source of the stream in the mountains, follow it down through the valley, and discover where it entered the ocean. I also wanted them to document their trip(s) so that their child could share his or her learning with classmates back at school. I left the medium for sharing open, so that families could do what they could afford and could work with whatever technology was available to them. I suggested some possibilities—making a poster, creating a book, emailing me digital photos, putting together a slide show, or filming a video—and invited them to do whatever worked for them.

However, I must admit that as soon as I had this idea, I began to doubt its feasibility. I worried that parents could see it as a burden and that they might perceive it as something that was my responsibility, not theirs. I was concerned about the technical aspects of getting the digital projects to me. I wondered if children would present their projects well enough, and if their peers would be attentive and gain anything from the sharing. However, after conversations with colleagues, reminding myself again that home-school connections are valuable, and deciding to give families more than three weeks to complete the assignment, I went ahead with it.

As the projects began to arrive, I was amazed at the quality and strength of understanding that they revealed. As varied as the final products were, it was apparent in each one that the experience of learning along with their families had accomplished the goal of enabling the children to generalize that rainwater becomes a stream, flows downhill, and eventually empties into the ocean.

In one instance, four families that all lived in the same area met to do the work together. The video that one of these families produced revealed discussions among the adults that showed that they were constructing their understanding alongside their children.

The students were fascinated by every project. No matter the media, they listened respectfully and asked the presenter meaningful questions or made relevant comments such as: “Did you get to go to the waterfall?” “Where are the two streams coming together? How did you know that?” “That stream is by my house, too!” It took us about nine school days to find the time to view all the projects, sharing a few of them at each sitting. Regardless, excitement and engagement remained high throughout.

While these projects could never have replaced the experiences the students had visiting actual streams with our class, now the children were able to take these virtual trips and learn from them. The stream homework projects allowed them to “visit” many more streams than would have been feasible otherwise. As the children viewed more and more places, they began to see similarities and differences that had not emerged earlier. They were fascinated to discover that almost every stream had at least one bridge. Along with learning the vocabulary, they learned the difference between “natural” streams and “man-made” streambeds, as many of the streams flowing through neighborhoods are in cement flood-control canals. They discovered that some of the streams join together before they get to the ocean, and several of the children found out that “their” stream entered the ocean at the same place as another child’s. Interestingly, the source of one child’s stream was a spring and didn’t start in the mountains.

Full Cycle

At the end of the year, I asked my kindergartners again what they knew about water. Abigail described the whole water cycle with great enthusiasm. Many mentioned that water flows downhill and that streams empty into the ocean. James commented, “You have to be careful what gets into the stream because it can end up in the ocean and might hurt the animals there.” Then Carolyn and Anna chimed in, “Waterfalls are so beautiful and they tickle you.” William talked about the difference between fresh water and salt water. He stated that although stream water is fresh, it must also be “clean” before we can drink it. “But it can be used for plants and you can play in it,” Emily added. I was satisfied that our study of stream systems had helped them to deepen their understanding of how we depend on the mauka environment to meet our needs. They know that fresh water is not only necessary for survival, but that it also helps us to thrive.

But more than learning any of these concepts, in the process the children discovered that they are learners. They were involved in being productive, creative, and responsible. They now know that to observe, to wonder, to touch, to test ideas, and to figure things out is immensely satisfying. They know joy and beauty and are developing a relationship with the place where they live. They are learning to care about it. These children have the potential to contribute to the future and to care for and sustain the world they are inheriting.

My story took place in Hawaii, the home for the teachers, students, and families at my school. However, such a story should not to be considered unique. It could take place anywhere around the world in any environment. If teachers can look to their local environments and the rich opportunities they provide, we could be shaping the kind of human beings the world needs everywhere. Place-based education says, fundamentally, that who you are, where you are, and what you

experience has value and is worth knowing. We could be learning naturally. That is something that can never be accomplished with a one-size-fits-all, generic, standardized curriculum. Just imagine the possibilities—for children, for teachers, for families, for communities, for the earth.



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Nature Preschools: Putting Nature at the Heart of Early Childhood Education

Ken Finch & Patti Ensel Bailie

Imagine a preschool where the children spend part of their class time intently watching a snapping turtle lay its eggs in the playground sandbox—and then get to witness the babies hatching out weeks later. Imagine a preschool where the children go on joyful outdoor adventures every day, in all safe weather conditions, to explore acres of woods and wetlands—always under the careful watch of their teachers but free to learn from what they themselves discover and enjoy.

And imagine a preschool where the children are superbly prepared for kindergarten through a daily commitment to exploration, experimentation, discovery, creativity, sharing, and play.

These preschools exist. They are an emerging type of high quality early childhood program known as nature preschools: licensed, professionally operated preschools located in multifaceted green spaces where the children explore, play, and learn daily. Stimulating outdoor habitats are the focus of the curriculum, providing a wider diversity of discoveries and experiences than most indoor classrooms. The children's frequent and attentive explorations of nature immerse them in the ecology of their own communities—an ideal foundation for place-based learning.



Preschoolers and their teacher exploring the prairie. Photo: Bob Bailie.

Like most early education centers, nature preschools operate on a tuition basis and have professional teaching staff and well-equipped classrooms and support facilities. But unlike other preschools, their teaching spaces commonly include ponds with croaking frogs and zooming dragon-

flies, foot paths leading to new mysteries and adventures every day, boulders and logs to scramble over and peek under, and shallow streams to splash in. Many nature preschools even have access to the extraordinary resources of nature centers or similar environmental education facilities, including natural science artifacts, captive animals, and programs led by professional naturalists.

The Opportunity

The activities of a nature preschool may sound familiar, since for generations this “nature play” was a routine part of growing up. But childhood has changed dramatically over the past 30 years, and kids’ experience of nature is part of that change. On the one hand, children now enjoy tremendous access to information and images of nature. If they have the interest, they can find exponentially more data, photos, sounds, and videos about the natural world than their grandparents could ever have imagined.

On the other hand, these are only second-hand adventures. The dramatically whispered words of a stalking television naturalist will never carry the same sensory and emotional impact as children’s own discoveries beneath streambed stones, or their excitement when they succeed in climbing their first tree, or the physical and spiritual peace they feel while lying amid tall grasses, just watching the clouds drift by.

Such early and memorable outdoor experiences are almost universally recalled by adult conservationists—and not just as pleasant diversions, but as the foundation of their enduring love of nature (Chawla, 1998). Can children ever gain the same passion for nature from an electronic screen, no matter how many times they view a spectacular clip of a cheetah taking down an antelope? It seems unlikely.

As Pyle (1993), Louv (2005), and others have powerfully described, nature is relinquishing its long-standing role as a common and beloved component of children’s lives. It’s not that children don’t still enjoy the outdoors. Rather, overscheduled days, the allure of electronic play, testing-obsessed schools, and media-fueled parental fears are causing the landscapes of natural play to be supplanted by off-white walls and digital displays.

One thing that hasn’t changed, though, is that all parents want what is best for their children. That should include the opportunity to fall in love with the outdoors and claim it as a lifelong source of recreation, adventure, learning, and renewal. According to Wilson’s (1984) well-regarded “biophilia hypothesis,” humans are born with an innate affinity for nature. But if this love affair isn’t activated during the childhood years, will it ever be? That is a challenge for the current generation of American children—and exactly what nature preschools can address.

What Are Nature Preschools?

Quality preschools have long included nature in their activities, whether through collecting leaves, keeping classroom pets, or growing flowers from seeds. All of these are good but often limit-

ed exposures to the natural world. By contrast, nature preschools replace the limitations with wide-ranging adventure and discovery, including

- child-centered outdoor investigations;
- unstructured play and exploration in rich outdoor settings;
- often, large natural areas to explore; and
- special programs that might include making maple syrup, meeting live animals, making apple cider, and discovering pond life.



Nature preschool classes usually venture outside daily, in all safe weather conditions.

We propose three defining characteristics for nature preschools. The first is that they use nature themes and daily nature explorations as the central organizing concept of their program. That is, nature is not just one topic or activity center among many, but rather is the integrating thread that intentionally ties together the preschool’s philosophy, methodologies, classroom design, outdoor spaces, and public identity. The second defining characteristic is that a nature preschool’s overall program must be equally committed to both high standards of developmentally appropriate early childhood education (ECE) and the best practices of environmental education (EE). This necessarily requires dual expertise among its teaching staff—i.e., skills and experience in both ECE and EE. And the third defining characteristic is that a nature preschool supports dual aims for children: meeting child development goals and acquiring conservation values.

There is no single “correct” incarnation of these defining characteristics. Instead, there is a broad, continuous spectrum of nature preschools based on their practices and resources. It includes an

infinite variety of representations, though all of these must share the commitment to nature as a central organizing concept along with the dual emphasis on both ECE and EE. Described below are examples of points along this spectrum. Each level includes the resources and activities of the levels below it. The most basic representation of the nature preschool is one with a small but diverse natural play area that is used daily for nature explorations and play, accompanied by an organizational commitment to bringing nature into the classroom(s) through approaches such as expansive outdoor views, natural materials for play and artistic expression, nature-themed books and activities, windows that open, and an extensive use of natural lighting.

The next level can be typified by a nature preschool that has a small naturalized play area on-site and has brought nature into its classrooms but also takes children outdoors to explore and play in a larger natural area at least once a month throughout the school year. This wilder destination might be a nearby nature center, a wildlife refuge across town, or a city park down the block.

A further step along the spectrum would be a nature preschool that has an ongoing partnership with a local nature center or a similar EE provider. This partnership will use the nature center's wild lands and other educational resources (e.g., staff naturalists, live animals, and special programs) at least every other week. The partnership can be both "coming" and "going"—that is, the preschool classes can visit the nature center, or the nature center's resources can be brought to the preschool.

The apogee of the nature preschool model is a center that is operated by, and situated at, a nature center (or similar facility) that provides the preschoolers daily access to the host organization's complete range of resources—including land, programs, staff expertise, artifacts, and live specimens—while also offering a wide variety of complementary options for the nature preschool families. These additional offerings typically include family nature programs, nature day camps in the summer, volunteer opportunities, walking trails, and a variety of habitats open for self-guided exploration and enjoyment.



*Nature preschool playgrounds are far from typical—like this one at Dodge Nature Preschool in Minnesota.
Photo: Ken Finch*

Regardless of where a nature preschool fits into the spectrum, the key to its success is the children's frequent, unstructured time exploring nature. Most nature preschools use two complementary daily strategies for nature play—group hikes in natural habitats and individual free play in a natural play space—that encourage the development and practice of different skill sets and diverse abilities in social/emotional development.

Whole-class or small-group hikes explore the trails and nearby habitats, with the teachers serving as guides, mentors, and lifeguards. A class hike might ramble a half mile to the pond to collect polliwogs for the classroom aquarium. Or it might go barely 50 yards before the children decide to spend the whole session playing in leaves or snow. Both are equally valued by knowledgeable teachers.

Individual free play occurs in a confined natural play space, allowing the children to pursue their own interests and choose their own play partners, always with teacher supervision. These “natural play spaces” may include some commercial play equipment, but they are usually dominated by natural features that spark play: logs, gardens, grassy slopes, digging pits, shrub hideaways, piles of leaves, tree cookies (slices of tree logs), rain barrels or other water sources, and a wide variety of “loose parts” for building (such as sticks, rocks, and stalks).

NoneNature preschool playgrounds are far from typical—like this one at Dodge Nature Preschool in Minnesota. Photo: Ken Finch

Familiar classroom activities are also a part of a nature preschool's agenda, including free play in activity centers, storytime, music and movement, art, and daily snacks. However, even these indoor activities commonly use nature themes and often are crafted around the children's outdoor discoveries.

There are currently 30 to 40 nature preschools in the United States that operate under the auspices of (and on the grounds of) community nature centers. These are all half-day school-year programs. Parents register for the full school year, and can choose from two to five days of school per week, either in morning or afternoon sessions. Tuition rates are usually comparable to other quality preschools in the local area. Some of the most prominent nature preschools are found at:

- Schlitz Audubon Nature Center, Milwaukee, WI (www.sanc.org)
- New Canaan Nature Center, New Canaan, CT (www.newcanaannature.org)
- Dodge Nature Center, West Saint Paul, MN (www.dodgenaturecenter.org)
- Chippewa Nature Center, Midlands, MI (www.chippewanaturecenter.org)
- Teton Science School, Jackson Hole, WY (www.tetonscience.org)
- Drumlin Farm Wildlife Sanctuary (Massachusetts Audubon Society), Lincoln, MA (www.massaudubon.org/get-outdoors/wildlife-sanctuaries/drumlin-farm)

There are scores of other preschools that similarly use natural areas in their daily curricula, but they are less visible than those run by nature centers.



Gardening is a popular preschool class activity. Photo: Bob Bailie

There is no theoretical reason why nature preschools cannot morph into full-day, year-round programs. Although more expensive to operate and subject to additional licensing regulations, such programs would better serve two-earner and single-parent families whose logistical needs require full-day care. It seems likely that the nature preschool approach will soon spread to this full-time model.

Nature Preschools and Child Development

Nature preschools benefit young children through the priority they place on time spent in the natural world. They provide the time, tools, and materials that children need to explore natural spaces, allowing the curriculum to emerge through the constantly changing natural world and the varied interests it fosters in children.

These multidimensional outdoor experiences provide children with a very strong foundation for future schooling—i.e., with “kindergarten readiness.” Children’s hands-on experiences in nature contribute to early brain development at a very crucial time in their growth, since 85% of a child’s

brain develops during the preschool years (Bruner, Goldberg, & Kot, 1999). Research has found that rich environments, multisensory activities, novel experiences, and physical movement all contribute to the formation of neural connections in the brain (Medina, 2008). The diverse natural environments at nature preschools fit this model perfectly and thus help to develop the brain because they are busy, interesting, and challenging settings that require thoughtful decision making to navigate and explore (Jensen, 2008).



Children develop observation skills at Schlitz Audubon nature preschool in Wisconsin. Photo: Bob Bailie

Young children instinctively find the natural world novel, interesting, and meaningful. At nature preschools they can actively experience this stimulating environment with all of their senses on a daily basis. Practicing visual and auditory discrimination skills, such as watching animals move and distinguishing between different bird calls, helps to wire the brain for math and reading. These skills are superbly facilitated through frequent hiking and nature-based play. In fact, parents report that their children's observation skills notably increase within just a couple of months of attending a nature preschool. Further, nature preschoolers' daily adventures can include handling a unique variety of tangible objects, interacting with wild animals, caring for a garden, and helping turn the compost pile. Connections are formed between brain cells when children participate in meaningful activities like these, and hence learning takes place.

The exercise that children get from scrambling over logs, climbing trees, and hiking on trails is obviously valuable for fighting the obesity epidemic and for fostering physical abilities like large motor development and balance. But these movements also spur production of key chemicals that help build the brain's structure for learning and memory. Cross lateral movements, in particular—like sweeping a butterfly net in the prairie or digging a hole with a shovel—cause children

to repeatedly cross the midline of their bodies. This seemingly simple pattern of movement strengthens the connections between the two sides of the brain—a process that is needed to establish a good foundation for reading and writing. And even children’s tiniest actions at a nature preschool—like pulling seeds out of a sunflower head or picking up a worm—help to develop the fine motor skills needed to be able to hold a pencil, and thus to begin to form numbers and letters.

Our society is increasingly recognizing that success in life requires humans’ cognitive abilities to be balanced with social and emotional skills. The extensive free play opportunities at nature preschools help children practice and learn social interactions. They may use loose parts to collaboratively build structures, work together to dig up a root, or excitedly share their natural discoveries with their classmates. In the process, they are building friendships, learning how to get along with others, and working out how to solve problems together—all enhancing the skills necessary for critical thinking and leadership. Nature play also allows for appropriate risk taking and adventurous play that builds self-confidence and personal judgment. In addition, a child’s empathy and sense of responsibility are boosted by caring for plants and classroom pets, while the need to remain on the trail, not pick the wildflowers, and stay quiet enough to see wild animals all contribute to the development of self-control—a vital prerequisite for future school achievement.

Play in the rich outdoor environment also stimulates language, because there are just so many things to discover and talk about! Children are inherently curious and wired to learn, and thus they constantly ask questions about what they find outside. Their vocabulary increases as they use different words to describe what they discover and make up stories about animal tracks in the snow or who might be living in a hollow tree. Concurrently, scientific thinking emerges as they carefully observe the natural world, sort objects they find and collect, try simple experiments like floating sticks and acorns in a puddle, and clearly see the results of their actions.



A natural playground at Schlitz Audubon Nature Center Preschool in Wisconsin. Photo: Ken Finch

Finally, most humans find nature to be calming and stress reducing; preschoolers are no exception. The beauty of the natural world contributes to their spiritual development, helping them to develop a sense of place and an understanding that they are part of a much larger world. Throughout it all, the discoveries that nature preschoolers make—day after day, month after month—build a deep awareness and appreciation of nature and animals and foster the enduring gift of a sense of wonder.

What Lies Ahead for Nature Preschools?

There is a cultural movement underway and gathering steam: a movement to bring the joys and benefits of nature back to our children. There are hundreds of initiatives around the country (and throughout the world) that address this goal, with much success. Yet even among the best of these, nature preschools stand out. They provide children with direct, safe, playful (yet meaningful) contact with nature day after day, week after week, and often for two school years—probably more time in nature than they will get in all the remaining years of their K–12 education combined.

A few of the nature preschools in the United States date back over 40 years; several others have emerged just recently. Without exception, they have been successful. Yet most families still do not have access to them. Thus far, there are only a few score nature preschools in the United States, making them a rare option for nearly all American families. Most of the existing programs are located in suburban areas, so urban and rural children are currently the least likely to have access to them.

Several organizations have efforts underway to start new nature preschools, but this work is still young. More common are the many efforts to create natural play spaces within the current boundaries of existing, traditional preschools and child care centers, which is sometimes the only viable way to bring real nature into smaller centers. Although it may fall short of providing the rich experiences in true nature preschools, this is excellent and important work. It is beyond the scope of this article to make recommendations for how to support schools wanting to move toward becoming nature preschools, but there are several organizations that provide good resources. Two worth mentioning are the Natural Start Alliance (www.naturalstart.org) and Antioch University New England's new nature-based early childhood certificate program (<http://www.antiochne.edu/teacher-education/nature-based-early-childhood-education-program/>).

Although there are still only a few nature preschools, their approach and philosophy is proving to be compelling to educators, conservationists, and parents alike. Thus, their numbers are increasing, and they are poised to become a more significant part of the future of early childhood education in the United States.

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Preparing Teachers for Place-based Teaching

by Amy Vinlove

Given a broad definition of place-based education as “education grounded in the built and human (social, cultural and economic) world, as well as the natural world” (Bank Street College of Education, n.d.), what should be the central components of a teacher preparation program for effective place-based education? What knowledge, skills, and dispositions need to be emphasized in preservice education to encourage new teachers to not only recognize the places that surround their students, but also develop and implement effective ways to integrate these places into a curriculum in a purposeful and meaningful manner?

Experiences in my own elementary classrooms in Alaska, Denver, and New York, followed by a career in teacher education at the University of Alaska Fairbanks (UAF), have led me to consider these questions and explore the ways in which new teachers can be prepared to enact high quality place-based practices in their classrooms. This paper begins by offering two portraits of recent teacher education graduates providing place-based teaching in their classrooms, followed by a description of the knowledge, skills, and dispositions teachers (new or seasoned) must possess to effectively teach in a place-based manner. Next is a short discussion of the importance of experience and application of these tenets. Finally, there are three examples of activities and assignments my colleagues and I have developed for our teacher preparation program. We aim for these experiences to help inspire and prepare our graduates to integrate their local communities and places into their own classrooms, whether they find themselves in an urban classroom in Anchorage or a small Alaska Native community “off the road system” in rural Alaska.

Portraits of Two Graduates

Kara(1) grew up in a small fishing community in coastal Alaska. After graduation she was hired to teach third grade at a charter school in a midsized Alaskan town. Seventy percent of her students are Caucasian; the other 30% are of Hispanic, Asian, or Alaska Native origin. They come from a variety of economic backgrounds. Her school is located in a residential neighborhood, with forests and rivers within walking distance. When teaching about local Alaskan history, Kara developed a month-long unit that involved investigations of local active gold mines as well as historic gold-mining landmarks and required students to develop their own mining devices that

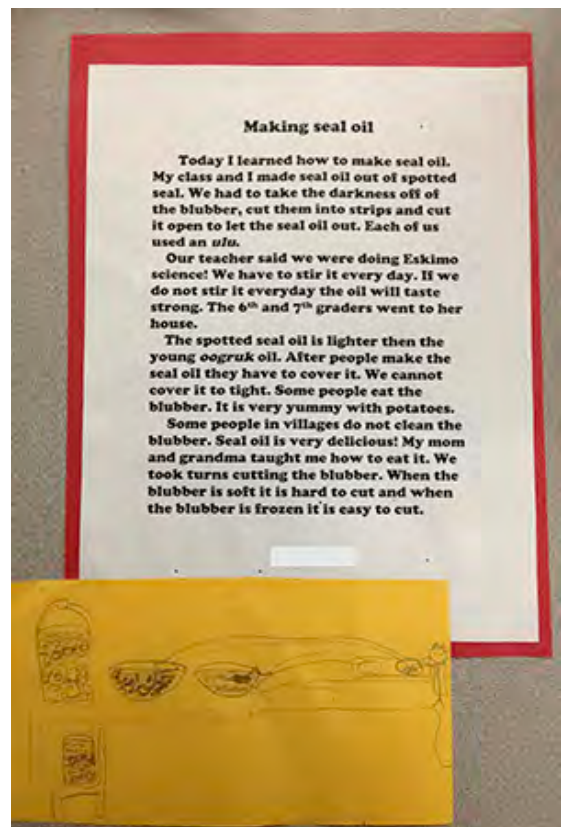


Figure 1. Student work sample reflecting on the seal oil project.

incorporated several types of simple machines that they were studying as part of their science curriculum.

Holly grew up in an Inupiaq village in northwestern Alaska. After completing her undergraduate degree and certification at UAF, she was hired to teach sixth and seventh grade in an Inupiaq community of 250 people in the same region as her hometown. All of her students are Alaska Native, and all are categorized as “economically disadvantaged.” The community has a strong heritage of subsistence activities, and most families participate extensively in traditional seasonal hunting and gathering. For a science project, Holly took her students to her house, and together they made seal oil from a seal harvested by her husband. After rendering the oil, they brought it back to the school in jars and decorated the jars; then pairs of students set out to deliver the seal oil to the community’s elders. Holly had her students write multiple entries in their science journals about the different steps of the process. How can a teacher education program prepare teachers for such diverse contexts? What strategies can and should be included and emphasized to help new teachers acquire the knowledge, skills, and dispositions necessary to learn deeply about their communities and to integrate that information into their school curriculum? Our experiences at UAF suggest that the approach must be multipronged and not only allow new teachers to be exposed to new strategies for gathering and using local information, but also require that they practice these strategies during their preservice internship. Furthermore, it must include experiences both large and small that offer opportunities to practice the dispositions necessary to incorporate place-based teaching respectfully.

The diversity of contexts our graduates find themselves in after receiving their certification has led us to consider the knowledge, skills, and dispositions necessary to equip these new teachers with the ability to learn about, from, and with any community in any context. This broad approach to preparation for place-based teaching in any place may differ from one that includes learning opportunities focused on one specific geographic region and/or includes specific information on one group, or a small number of distinctive local groups, of students. Although the majority of nonwhite schoolchildren in Alaska are Alaska Native, and some of our students (like Holly) go on to teach in rural Alaska Native communities after graduation, we are mindful of the fact that we need to equip all of our graduates with strategies and skills to enact place- and community-based practices in their future classrooms wherever they teach.

Given this approach to emphasizing transferable knowledge, what is it that new teachers need to know and be able to do to incorporate place-based strategies in their classrooms? What dispositions are necessary to create a place-based pedagogy that identifies and values local information and resources and demonstrates a commitment to connecting academic curriculum with the nested contexts of children’s lives?

Knowledge

Knowledge of the communities and places where students and teachers live and where schools are located forms the foundation of a place-based education and accumulates over time spent at a particular school or in a particular community and place. What are the categories of community

knowledge that inform and contribute to meaningful place–school connections? Some areas to be probed are:

- What is the history of habitation and migration in the community? Who comes here, who leaves, and why? What populations are indigenous to this area?
- What languages and dialects are spoken in the community, and how are they used?
- What is the educational, social, and economic history of the community, and what is the current context of schools and work there?
- Who are the influential people in this community, and what is the source of their influence?
- What controversial or challenging issues is the community currently faced with?
- Where do community members tend to gather? Where do students go in the community outside of school time?
- What community resources are available that could connect with academic subjects?



Figure 2. Students on a field trip explore a local geographic landmark.

An understanding of community context, however, should not stop at the level of human-based histories, challenges, resources, and spaces. These elements do not exist outside of the natural environment or place in which the community is located. Gruenewald (2008) writes that “Place foregrounds a narrative of local and regional politics that is attuned to the particularities of where people actually live” (p. 308). Scollon and Scollon (1988), in describing a potential place-based curriculum, list 32 questions on a proposed final exam testing “How Well Do You Know Your

Place?” (p. 86). From this list, we can learn some of the important place-based elements that create the context in which schools and communities exist. Among other things, Scollon and Scollon suggest that persons who “know” their place can identify local geological and aquatic landmarks and their significance in the community; some local plants and animals as well as factors threatening their continued existence; local natural resources and the ways in which they are being used by community members; and primary weather patterns.

Skills

While local knowledge is the foundation of a place-based education, the ability to obtain that knowledge and then connect it to the academic curriculum requires an additional set of learned skills. McIntyre, Rosebery, and Gonzalez (2001) write

Instruction always takes place within a context. At one level, the idea of context has to do with trying to connect learning in a discipline with children’s learning in their everyday experiences, that is, their lives out of school. The key transformation then becomes the exploration of how to ground their learning . . . in everyday experience, while at the same time helping them acquire academic [competence]. (p. 121)

As part of a preservice education for place-based teaching, new teachers need guidance and practice in learning to obtain the local knowledge described above. They also need to practice planning curriculum that purposefully connects local knowledge and resources to academic subject matter. In addition, they must have experience with the practical skills needed to comfortably work in the local area, with children and other members of the local community.

Learning to gather knowledge from local sources. Preservice teachers must be guided in determining who to look to for local knowledge and how best to gather local information in a respectful manner. Preservice activities should be designed to help new teachers recognize and locate local information sources and determine where or to whom to go for different types of local knowledge. Activities can be designed that require preservice teachers to learn from any and all of the following resources:

- Children. Like most people, children are typically happy to talk about themselves, their lives, and their interests, if they are given the opportunity to do so in safe and nonthreatening environments. Preservice teachers should be given opportunities to interact with their students in informal situations, such as during recess and lunch, to learn their interests. Preservice teachers should also be encouraged to integrate student interests and knowledge into the academic curriculum.
- Families. Parents and caregivers are also a rich source of local knowledge, but new teachers must remember to first foster a relationship of trust and respect with them and to work with them in a collaborative manner to build on the families’ local knowledge and skills. Families can be looked to for local history and community knowledge as well as for their “funds of

knowledge” (Gonzales, Moll, & Amanti, 2005), i.e., their own personal banks of knowledge and skills.

- **Employees within the school community.** School employees constitute an often overlooked and undervalued rich source of knowledge. Noncertificated members of the school community, such as classroom aides, bilingual staff, custodians, secretaries, and other support staff, often come from the community surrounding the local school and have long-standing ties to it. New teachers should be encouraged to look within their school for expertise on local history, priorities, and controversies as well as general insights.
- **Community members outside the school.** Community-based organizations, businesses that serve a role in the local economy, universities and colleges, governmental agencies, and museums or other attractions showcasing locally relevant information offer a wealth of resources. All of these can be used as sources for in-class investigations, potential guest speakers, or sites for field trips.



Figure 3. An intern teacher in Western Alaska takes her students on a walk through the community.

- **Local gathering places and media sources.** Announcements posted at local coffee shops, post offices, and stores can provide excellent windows into the goings-on of the local community. Local media sources, such as websites of local organizations, agencies, and businesses; local newspapers; and local television news, radio stations, and talk shows, can do so

as well. Preservice activities should incorporate exposure to and use of some of these local sources to help new teachers practice learning from informal and formal local resources.

- **Getting outside.** Taking a walk around the neighborhood surrounding the school (provided the students come from the nearby neighborhood) is an easy way to gather information on their community and place. New teachers who are committed to incorporating the natural environment into their practices would also benefit from spending time outdoors in their area. Exploring local natural landmarks, such as lakes, rivers, forests, and trails, can provide a wealth of first-hand experiences and inspiration for curriculum integration. Connecting place with academic content. To claim the promise of place-based education, new teachers must learn and practice strategies that connect local knowledge with the academic curriculum. In their research following pre- and in-service teachers, Schultz, Jones-Walker, and Chikkatur (2008) found that “it was far more challenging for teachers to understand how the assets and resources within the community and other dimensions of students’ lives were critical to shaping pedagogy and curriculum” and that “most new teachers either overlooked these opportunities [to connect students’ lives to the curriculum], or initiated them but found it difficult to follow through once they entered the classroom as full-time teachers” (p. 163). For those without prior experience, these acts are challenging. However, a wealth of options and resources for meaningfully integrating place into the curriculum exists, in both large ways and small.

New teachers must learn and practice larger acts of place-based teaching. Larger acts of place-based teaching typically involve developing multistep, interdisciplinary curriculum projects, where the teachers learn about or through a local context alongside their students. Holly’s seal oil project described above is an example. These projects are particularly valuable in that they allow new teachers to gain information about their students’ lives and families, the local community, and/or the larger physical places surrounding the school, while teaching in a place-based manner. Place-based thematic units use the local context as the vehicle for learning and typically integrate core academic skills, including writing, reading, researching, conducting scientific experiments, and applying mathematical concepts in real-world situations. Although there are few prescribed curriculum plans for locally based thematic units—since they are, by nature, specific to the contexts in which they are taught—new teachers can be led step by step through the process of identifying local resources and then developing high quality curriculum units that use this information as a foundation. They can also be encouraged to develop and facilitate projects designed to address pressing issues in the local community.

New teachers must also learn and practice smaller acts of place-based teaching. These acts are less time and resource intensive but can (and should) become part of a new teacher’s place-based pedagogical repertoire. They are also crucial for new teachers who embrace place-based teaching but find themselves at school sites imposing stringent constraints on curriculum or pedagogy. The integration of local resources into curricular activities forms the most basic kind of place-based teaching. This can be as simple as using a local point of reference when presenting an example of a new vocabulary word or using an aspect of the community as the basis for a math story problem. It could also involve using the classroom, school, or local community as the point

of departure for an exploration of scientific concepts or a study of maps. The opportunities for small integrations on a regular basis are endless, but they are contingent on both teachers' willingness to look for such opportunities and on teachers' knowledge of relevant community-based resources.



Figure 4. Students explore the environment during a nature walk.

Practical skills for place-based teaching. A preservice education in place-based teaching must equip its new teachers with the management skills necessary to take a class outdoors, either in the woods or in an urban area. It must also give them guidance and practice in planning and facilitating field trips, both near the school and farther away. Field trips, which are also small acts of place-based teaching, need not be complicated, full-day affairs requiring permission slips and parent helpers. The areas within walking distance of a school typically provide a wealth of options and opportunities for short excursions with a variety of curriculum tie-ins. The Watershed School, a K-8 charter school in Fairbanks, Alaska, with a place-based curriculum focus, has developed a system of trails in the woods near the school. Trips on the trails are used for science observations, art lessons, writing inspiration, read-alouds in the woods, math activities, and sometimes just for a quick dose of fresh air and exercise. Teachers have secured permission in advance for these daily outings and take students out, both as a planned activity and spontaneously.

A new teacher committed to place-based teaching must also possess the ability to identify and enlist guest speakers and facilitate their visits in a manner that maximizes the learning potential of those opportunities. Teachers can either seek out visitors who possess “expert” knowledge on a subject under investigation by the class, or simply accept an offer from a community member or parent to visit the classroom and speak to the students on a subject of relevance. Like field trips, visits from guest speakers can sometimes be of little educational value unless they are properly organized and followed up with discussions or debriefings relevant to the academic content they are intended to enhance. Opportunities to enlist and facilitate visits from guest speakers should be incorporated into a preservice preparation for place-based teaching.

Dispositions

The ability to work respectfully within a community to learn and use location information requires the presence of several underlying dispositions or habits of mind. Mindful teachers practicing place-based education must be committed to building and sustaining meaningful relationships with the students, families, and communities in which they work. They must be attentive listeners to others, and they must understand and respect that people operate from multiple perspectives and possess diverse worldviews. In order to gather the local knowledge crucial to place-based pedagogy, new teachers must also be willing to learn from nontraditional knowledge sources and must recognize the need to mitigate the power differential that typically exists between teachers and the students and parents they serve. Needless to say, it cannot be assumed that every new teacher possesses these dispositions. It is important, though, that new teachers learn to value and recognize them. Teacher preparation programs emphasizing place-based practices must endeavor to foster these dispositions in their graduates through experiential activities.

The Importance of Experience and Application of Ideas

While some instruction in the knowledge and skills necessary to enact place-based education can be delivered in the context of a university classroom, the bulk of the learning must occur through experiential activities. These activities require hands-on practice: getting out and gathering information from the community as well as doing the challenging real-world work of connecting place and community resources to the academic curriculum. McDonald, Tyson, Brayko, Bowman, and Shimomura (2011) contend that “there is no substitute for the first-hand knowledge teachers gain from spending time learning about student’s personal and community cultural practices outside of school” (p. 7).

My own research on the quality and composition of preservice preparation in place-based education offered at the three campuses of the University of Alaska found similar beliefs among program graduates. Of 166 University of Alaska teacher education program graduates who responded to a survey regarding their preservice preparation in place-based education, 58% referred to some type of experiential activity when asked to describe the activities they engaged in that most contributed to their knowledge and understanding of place-based education (Vinlove, 2012). Only 40% said they acquired place-based teaching competency through a classroom-based activity. Some examples of influential experiential activities listed by graduates included “getting

outside and being taught by elders,” “connecting with local artists,” “the home visit project,” and “working with my local National Park Service” (Vinlove, 2012, p. 172).

The survey of University of Alaska graduates asked for suggestions of ways to strengthen preparation in place-based teaching. In 50% of the 68 ideas offered by the graduates, there were requests that some type of experiential activity be added to their program. The responses included “require students to create a place-based unit and to carry it out, not just plan it on paper,” “getting out into the community and exploring the unique history would be beneficial,” and “get teachers out into the local environment, partner with scientists, field experts, do more field sessions” (Vinlove, 2012, p. 135). Thirty percent of respondents to this question stated that place-based teaching had not been part of their preservice education and that they wished that it had been included (Vinlove, 2012).

Experiential Activities and Assignments to Foster Place-Based Teaching Practices

This paper will conclude by describing three different experiential activities and assignments we have developed at UAF to help our preservice elementary teachers (called interns in their final year of preparation) acquire the knowledge, skills, and dispositions necessary to enact meaningful place-based practices in their own classrooms. The activities are designed to help interns learn and practice the skills necessary to acquire local knowledge and meaningfully connect that knowledge with the academic curriculum. Additionally, we emphasize experiential activities that require students to interact with their local community outside of the school environment and provide opportunities for interns to hone the dispositions necessary to work respectfully with students, parents, and local community members.

Place-based mapping and curriculum development. Our place-based mapping and curriculum development project is a course-long activity that students complete as part of their social studies methods class. It involves gathering information about the community and environment surrounding each intern’s school and thinking of meaningful ways to incorporate place and community resources into the curriculum. During the semester, while working full time in elementary classrooms, interns use Google Maps to develop an interactive, annotated map of the area around their school and community. They locate and provide interpretive information on 14 different areas of geological, ecological, cultural, historical, social, and economic interest around the school and community. They share their maps and information with their fellow interns in class weekly. Simultaneously, they develop a narrative list of curricular ideas and tie-ins that connect with the points on their maps, and we discuss these ideas as a class.

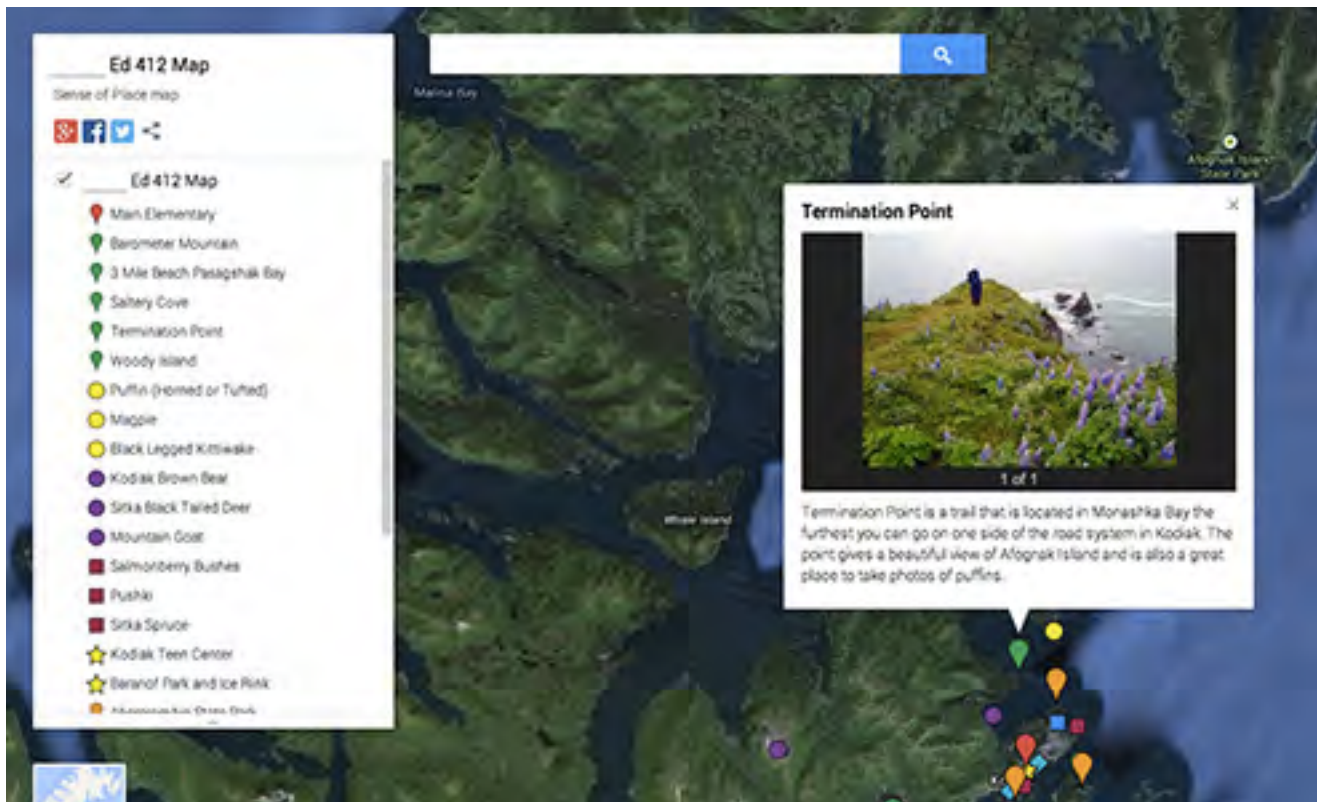


Figure 5. Screen shot of an intern-created place-based map of Kodiak, Alaska.

Many of the prompts for the project, such as “Identify community gathering areas in the neighborhood(s) your students come from“ or “Identify at least five significant natural landmarks in the area and define local uses or associations with the landmarks—why is the location significant to the community? What activities occur there or what is it used for?” require that interns get out into their community and learn about the natural environment as well as places of local importance. Unless interns are working in a community where they have lived for a long time, they typically have to talk to community members to gather the information required for their map. Other prompts, such as “Using the draw-a-line button in Google Maps, map a one-mile walk you could take with your students,” provide a point of departure for discussing some of the skills necessary to enact place-based teaching, such as how to successfully lead a class on a walk beyond school grounds.

Creating the narrative that accompanies the map requires students to think about each component of their map and make a purposeful connection between that component and an aspect of their school’s academic curriculum. Examples of curriculum prompts include “Think of a realistic occasion you might have to invite an influential member of the community into your classroom. Describe how you would facilitate their visit and a class interview of that individual” and “Imagine teaching a unit on the Alaskan or local economy. How would you incorporate the locations or local businesses you have identified?” Although the interns do not have an opportunity to implement all of the place-based curriculum ideas they develop in this assignment during

their internship year, many use identified community resources as the point of departure for the creation of their week-long social studies unit, described below.

Community-based social studies unit and local artist project. During their final year of preparation, our interns have two structured opportunities to develop and teach place-based curriculum in their internship classrooms. As part of the same class that requires the place-based mapping and curriculum development assignment, interns have to develop, teach, and reflect on a week-long social studies unit that integrates a resource in the local community. Many interns, as a result of the mapping activity, choose to design units that have a place-based resource as the focus. These have included a third-grade unit on mapping important community subsistence areas; a first-grade unit on “me in my community” that incorporated five interviews with local community helpers; a second-grade unit on Alaskan aviation history; and a fourth-grade unit on the climate of interior Alaska. The units are developed by using the Understanding by Design curriculum framework and a component of the unit assessment that evaluates the extent to which community resources were used. The different topics and pedagogical strategies in the interns’ place-based social studies units also provide rich opportunities to discuss the practical skills of place-based teaching.

As part of their arts methodology course, our interns complete an assignment identifying a local artist, interviewing the artist, and then developing and implementing a lesson or series of lessons that teaches students about the artist and allows them to experiment with the technique and medium that artist employs. In this assignment, which was developed by my colleague Joan Hornig, interns (in pairs or small groups) have the opportunity to meet with local professional artists in their art studios to learn about their work and their artistic process. After meeting with the artist, the interns create an art lesson that is inspired by (but does not copy) the artist’s work. As part of the lesson, the interns must also create a piece of artwork along with their students. Afterward, the interns reflect on the connections between this assignment and the place-based mapping assignment. The local artist project has been an excellent opportunity for students to experience locating and using community resources and incorporating those resources into the curriculum.



Figure 6. An intern plays basketball with her students.

Experiences with the community and nontraditional sources of information. Other opportunities and requirements for interacting with the community or locating and using nontraditional sources of information are infused throughout the year-long internship. Over the course of the year, our interns are required to maintain a “log of collaboration” that chronicles their collaborative efforts within and beyond their internship schools. As part of this assignment, they are twice required to attend or participate in events that support the cultural and linguistic heritage of the community in which their school is located. At the start of the school year, we brainstorm a list of opportunities to meet this requirement; the primary criteria are that the activities must not be school related and that they cannot take place on school grounds. Interns attend a wide variety of activities to fulfill this requirement, from the yearly Native Arts Festival to sporting events to which their students have invited them.

During their internship year, our students also complete an assignment called “Turning Learning Upside Down” that requires that they learn something new from one of their students or a student’s parent. The goals of this assignment, which has several short steps, are to encourage interns to find the individual knowledge assets and expertise held by students and/or families in the classroom as well as to enable interns to connect students’ school learning experiences to their out-of-school knowledge and experiences. For the assignment, interns must first identify at least four potential nontraditional sources of knowledge—either the students’ or the students’ family members—and state what they might learn from each of those sources. After settling on one new source, they must then decide where and how to facilitate an hour-long learning experience using that source. After the learning experience has taken place, interns write a short reflection about it. They consider how they might use the information gained during the learning experience to enhance future academic learning in the classroom and also how they could connect the knowledge shared by the student or parent to some aspect of classroom learning. Over the last several years, interns have learned about a myriad of different topics, including how to can smoked salmon,

play a new basketball game, crochet a scarf, prepare Thai spring rolls, groom a show dog, sign some basic phrases in American Sign Language, and make a wallet out of duct tape.

Where We're Headed

Geertz (1996) stated, "No one lives in the world in general" (p. 262). Indeed, no one should teach "in general" either. Meaningful learning occurs when students can connect new knowledge to their personal lives and situated experiences. This can only occur when their teachers are equipped with deep knowledge of their students' lives and of the communities they teach in, possess the skills required for connecting this local knowledge to academic subject matter, and have acquired the dispositions necessary to want and be able to do these tasks effectively. The practices described above have been developed collaboratively by faculty in my department over the last 15 years to help new teachers acquire these skills as part of their preservice education. As reflective practitioners, we continue to retool and reshape these activities based on feedback from our graduates and the perceived needs of the students they serve.

Over the past year, I have been engaging in a small-scale follow-up study to observe our graduates in their classrooms, interview them about their practices, and collect artifacts in order to assess the impact that their preservice education in place-based teaching has had on their actual classroom practices. This information is helping us to shape and refine our place-based preservice activities. To fully claim the promise of place-based education, we recognize and value the education of teachers themselves, and emphasize the knowledge, skills, and dispositions necessary to harness the power of place-based teaching. We hope to see the fruits of our efforts manifest in teaching practices that are intimately tied to and derived from communities as well as in classrooms that place the intrinsic knowledge of their students, families, and communities at the center of the educational experience.

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