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Michael Thomas Duffin

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PORTRAIT OF AN URBAN ELEMENTARY SCHOOL:
PLACE-BASED EDUCATION, SCHOOL CULTURE, AND LEADERSHIP

Michael Thomas Duffin

A DISSERTATION

Submitted to the Ph.D. in Leadership & Change Program
of Antioch University
in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

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This is to certify that the dissertation entitled:

Portrait of an Urban Elementary School:

Place-based Education, School Culture, and Leadership

Prepared by

Michael Thomas Duffin

is approved in partial fulfillment of the requirements for the degree of Doctor of
Philosophy in Leadership & Change.

Approved by:

Committee Chair:	Dr. Carolyn Kenny	Date
------------------	-------------------	------

Committee Member:	Dr. George Tremblay	Date
-------------------	---------------------	------

Committee Member:	Dr. Philomena Essed	Date
-------------------	---------------------	------

External Reader:	Dr. Michael Quinn Patton	Date
------------------	--------------------------	------

Abstract

This study explored the interaction between place-based education, school culture, and leadership at one elementary school in an inner city section of Boston, MA. The centerpiece is a stand alone research portrait that tells a story about how an external program, a willing and ready school community, and a skillful school leader reinforced each other to achieve a shared vision under challenging conditions. From an under-subscribed school in chaos and lacking focus, the subject school transformed into a vibrant, highly sought school with a pervasive, environmentally-oriented culture and curriculum. Portraiture methods were adapted to a utilization-focused evaluation purpose, drawing on archival and newly collected program evaluation data (interviews, surveys, documents, observations) spanning three years.

The electronic version of this dissertation is accessible through the Ohiolink ETD Center at <http://www.ohiolink.edu/etd/>.

Acknowledgements

This study was only possible as the result of a vast network of supporting players. In particular, I would like to thank: Carolyn, Jon, Deb, and my fellow students in the Leadership and Change program; staff of the CO-SEED program (especially Bo); all the dedicated folks in the Place-based Education Evaluation Collaborative; my wonderful colleagues at PEER Associates; and Jean, the staff, students, and partners of the Haley Elementary school for their hard work toward a better future. Support from the National Network of Environmental Management Studies fellowship program of the U.S. Environmental Protection Agency allowed me to both start and finish this work. I am grateful for the love of my family, and for the landscapes that sustain me.

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Chapter 1: Introduction

The purpose

The most immediate purpose of this study was to create a narrative research portrait of the way that place-based education (PBE), school culture, and leadership have interacted over the past couple to several years in one particular urban elementary school. The grandest conception of the purpose of this study was to contribute trustworthy, empirical data and analysis that advances the conversation about how to best prepare K-12 students to be high achieving stewards of an ecologically sustainable world that they help create. These two purposes were bound together by the practical concern of generating a program evaluation document that is useful to decision makers for the PBE program in question.

The criteria for success by which this dissertation should be judged follow specifically from the methodological choices I have made. In brief, the technical merit of this study should be judged by the extent to which three primary audiences feel that the work authentically captures the essence of what is going on at the subject school site. This panel of judges includes: the actors described in the research portrait, the critical reader of the research portrait, and my own aesthetic sensibilities as a research portraitist. The worth of the study should be judged by the extent to which the research portrait is actually used by the stakeholders of the PBE program in question who have been identified as the

highest priority intended users, namely its funders, program directors, and the administrators and school board members of the subject school.

Researcher preoccupations and anticipatory schema

This dissertation used the qualitative research method of portraiture (Lawrence-Lightfoot & Davis, 1997), implemented within a utilization-focused evaluation (Patton, 1997) methodology. In chapter three of this proposal I describe portraiture in more depth and also present my utilization-focused rationale for applying it in this case.

For this introduction, however, I describe and employ some aspects of the portraiture method that work well for foreshadowing the research context and situating myself as a researcher within it. As a research portraitist, my “conceptual preoccupations” become the “lens through which I see and record reality” (Lawrence-Lightfoot & Davis, 1997, p. 93). The intellectual, ideological, and autobiographical themes that I bring to the research question shape my view at all phases of the project. As I introduce key elements of the research context in the following paragraphs, I also strive to reveal my own “anticipatory schema” with respect to the research context by declaring many of my assumptions and pre-existing role relationships.

The educational policy context

The most recent reauthorization of the Elementary and Secondary Education Act, more commonly known as the *No Child Left Behind Act of 2001*

(NCLB) (Public Law, 2002a), has thrown the long standing, often acrimonious debate about how to define and measure success for America's schools into sharp relief. For instance, responding largely to the high stakes, sanction-oriented structure of NCLB, "at least twenty states and a number of school districts" have officially protested the implementation of this federal policy (Darling-Hammond, 2004, p. 6).

At the heart of much of the debate about educational accountability is competition among rival epistemological paradigms of scientific truth. The official agents of the U.S. Department of Education (Public Law, 2002b) define "scientifically based research" about what works in education very narrowly to include only randomized control trial research designs, occasionally granting acceptable status to strong quasi-experimental designs (Institute for Education Science, 2006). This disqualifies most if not all qualitative educational research from consideration for funding or official recognition from one of the most influential sources of public educational policy in the country.

From the perspective of my own strong bias for utilization-focused evaluation (Patton, 1997), I am generally sympathetic to the need for policy makers to establish consistent standards of evidence. Decisions about accountability at the national level seem to require setting and monitoring some kind of standards. However, this same pragmatic, even slightly dialectical interactionist (Greene & Caracelli, 1997) orientation also leads me to doubt that a single, narrow epistemological bias toward positivism is likely to generate

sufficient research-based evidence that can be derived in naturalistic contexts and at modest cost, and that is also highly useful for local educational leaders.

On a macro level, my experience as an ecological systems thinker and educator leads me to see this type of paradigmatic debate as an emergent property of the larger socio-political competition for power and influence in contemporary society. On a more mundane level, I entered into the final and primary data collection phase of this study anticipating that many of the participants in my dissertation research would express their sentiments about NCLB, educational accountability, and related leadership issues in obviously political overtones.

In addition to the current debate about *how* to measure school success, there are questions about *what* to measure. As a counterpoint to NCLB's narrow criteria for success, many schools, nature centers, government agencies, and non-profit organizations are working to bring about educational reform by intentionally connecting schools to their communities (Chin, 2001; Smith & Williams, 1999; Stone, 2001). This approach is often called place-based education, defined as "...the process of using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science and other subjects across the curriculum" (Sobel, 2004, p. 7). Outcomes such as environmental stewardship behavior, attachment to place, and community engagement that are explicit goals of place-based education are not well accounted for in the standardized measures that drive the high-stakes

testing mandated by NCLB. Nevertheless, the body of research evidence supporting the effectiveness of place-based education and the closely related field of environmental education, though growing, is still in its early stages (for summaries, see Schneider & Cheslock, 2003, p. 50-53; and Chawla & Duffin, 2005).

I am an advocate of place-based education in the sense that Stake (2004) describes. I have a “*confluence* of interest” with the general goals and values of my research subject and a “hope to find the program working” (p. 104, emphasis in original). Awareness of this bias led me to put extra effort into critically weighing data that appear favorable to place-based education. For this study, I consciously reinforced my habit of seeking and describing the less immediately palatable aspects of the PBE programs I investigate. As a portraitist I began with a search for “what is good here?” and subsequently sought to balance toughness and generosity, receptivity and skepticism, assuming that “the expression of goodness will always be laced with imperfections” (Lawrence-Lightfoot, 1997, p. 9). It is more important to me to maintain my integrity as a critical researcher than it is to affirm my bias toward place-based education.

The program

The Community-based School Environmental Education Project (CO-SEED, www.anei.org/pages/88_co_seed.cfm) began in 1997 and operates as a project of Antioch New England Institute, a consulting branch of Antioch University New England in Keene, New Hampshire. CO-SEED’s primary purpose is to help schools

and communities work together to develop community- and place-based approaches to education while simultaneously increasing social capital and preserving the environment. The program is framed as a “whole school change” model. The *CO-SEED Logic Model* (CO-SEED, 2006) describes the program’s hypothesis as follows: “If we implement comprehensive place-based education in schools, we will have a positive impact on: academic achievement; environmental stewardship behavior; community vitality; and environmental quality.” CO-SEED works with a site for three to four years, sometimes longer if additional funding can be secured. The program has been or is being implemented at 13 sites in New Hampshire, Vermont, Massachusetts, and Maine.

The following five core components of the program are implemented at each site, but the specific form and process of each of these is intentionally and flexibly adapted to local needs and conditions.

1. SEED Teams consisting of administrators, community members, teachers, community learning center staff, students (at times) and a facilitator from Antioch. The SEED team acts as the steering committee for the program.

2. Community Vision to Action Forums are two-day facilitated events that bring together as diverse as possible of a cross-section of a community. The purpose is to help: articulate long range goals for collaboration between schools and their communities; enhance communication between town committees, community activists, and curriculum design at the schools; and to prioritize and launch action steps.

3. Community Learning Center (CLC) Representatives from a local partner organization spend the rough equivalent of two days per week at a CO-SEED site school. CLC representatives assist teachers with place-based and project-based curriculum development and lesson implementation, and facilitate connections between community entities and the schools.

4. Professional development is provided to teachers to help them discover means of incorporating place-based and project-based learning into their curricula. Summer institutes, professional development in-service days, and individual and team meetings are professional development strategies used by CO-SEED.

5. Antioch University New England Staff work with the schools to facilitate the process of CO-SEED implementation, professional development, curriculum integration, and program evaluation.

CO-SEED has engaged in substantial program evaluation every year since its inception. I began working as an evaluator for CO-SEED in the 2002-2003 school year (Powers & Duffin, 2003), and have been the primary external evaluator for the program since September, 2003 (Duffin & PEER Associates, 2004). Both the pilot study completed as part of my dissertation proposal (Duffin & PEER Associates, 2006), and the final portrait that I generated as the centerpiece of this manuscript are included as part of the complete CO-SEED program evaluation report for 2005-2006.

Prior to my role as an evaluator of CO-SEED I worked as an administrator for an environmental education resource center that was also housed within Antioch New England Institute. During this time I developed strong working relationships with key CO-SEED program staff, and tangential relationships with some CO-SEED participants. My long-term, in-depth familiarity with CO-SEED staff, program philosophy, and multiple sites has been explicitly and repeatedly discussed as a strong asset to the more participatory approach to evaluation that was desired by the program staff.

My previous and current program evaluation relationship with CO-SEED has two primary implications for my dissertation. First is the fact that my dissertation data combined both archival data from previous evaluations I have conducted at this site (Duffin & PEER Associates, 2004; Duffin, 2005) and new data collected for the dual purposes of my dissertation and the annual CO-SEED program evaluation at the subject site. Of course, the pre-existing relationships I have built with most of the key stakeholders at the subject school and with the CO-SEED program staff shaped my observations and interpretations as much as the formal data itself. Second, my commitment to a utilization-focused evaluation approach meant that it was essential that the CO-SEED program staff consented to having their evaluation report take the form of a research portrait. Based upon their review of the pilot study, CO-SEED staff enthusiastically affirmed that the portraiture format would serve their decision making and political reporting needs.

The collaborative

CO-SEED is a founding member program of the Place-based Education Evaluation Collaborative (PEEC, www.PEECworks.org). In October 2001, several New England foundations and educational organizations came together to explore how they might collectively strengthen the evaluation of their place-based environmental education programs. They each sensed that their organizations could be doing more and better evaluation of their programs by working together than by working independently, and so the group decided to join together as PEEC.

PEEC has three main purposes. It serves as a learning organization for program developers, fueling internal growth and program development for the individual organizations. PEEC also aims to identify, develop, and disseminate evaluation techniques, tools, and approaches that can be applied to other place-based education providers, thereby promoting better evaluation practice in the field. Finally, as a long-range goal, the collaborative intends to contribute to the research base underlying the field of place-based education and school change.

My dissertation question emerged directly from the evaluation findings of PEEC. In the PEEC cross-program evaluation covering the 2002-2003 school year (Powers, 2004), we focused on finding patterns in the qualitative data across all the programs. For the subsequent year, 2003-2004 (Duffin, Powers, Tremblay, & PEER Associates, 2004), we piloted a “dose-response” analysis of data from 338 educator surveys spanning 55 schools and four different PEEC programs. In addition to

positive correlations between the amount of exposure to the program and nearly all intended outcome measures, the data suggested the existence of a kind of “tipping point” phenomenon whereby intended program outcomes seem to become embedded in a school’s culture after a couple years of systematic PBE intervention. Subsequent exploration of this tipping point hypothesis was generally consistent with the preliminary findings (Duffin, Powers, & PEER Associates, 2005). PEEC has now constructed a long term research agenda which centers on exploring this school-level tipping point hypothesis. My dissertation was designed with explicit anticipation that the findings would inform PEEC’s long term agenda, adding a richer set of descriptive evidence to be considered alongside existing and future quantitative survey data. At the scale of the particular CO-SEED school site that will be the focus of my dissertation, the past two years of program evaluation data led me to anticipate discovering ample evidence of a tipping point-type culture change at this site.

The school

The Dennis C. Haley Elementary School serves approximately 300 students, grades K-5, and is located on a busy highway in Roslindale, MA that connects Boston proper with the urban areas south of Boston. Because the Boston Public Schools system allows parents to have some choice in which school their child attends, many of the Haley School’s students do not live in the immediate neighborhood. The Haley has an unusually large schoolyard for an urban school, with a grass field, play equipment, and a micro-wetland, all recently renovated

or created in partnership with the Boston Schoolyard Initiative. School uniforms are mandatory, breakfast is offered free to all students, and the school is officially designated as a “Peace Zone.” Through the place-based education support of the CO-SEED project, the Haley School hopes to deepen its pre-existing mission to become a model environmental school.

Demographically, approximately two-thirds of the students are identified as African American, one-quarter as Hispanic, and the remainder as White, Asian, or Native American in decreasing percentages. Approximately two-thirds of the 31 staff are described as White and one-quarter as African American, with two staff members identifying as Hispanic, and one as Asian (Boston Public Schools, 2006).

The Haley School began its three year CO-SEED journey in the fall of 2003. The Community Learning Center (CLC) partner organization is the Boston Nature Center (BNC), a Mass Audubon program headquartered at a nature preserve within walking distance of the school. Before CO-SEED started at Haley, BNC had been placing a staff member in the school part time for two years as part of their own pilot program to establish in depth relationships with Boston schools.

The leader

Jean Dorcus has been the principal of Haley Elementary school for nearly a decade. I first met her on November 3, 2003 when she welcomed me to her school for a full day of CO-SEED evaluation interviews. My interview with her

lasted 50 minutes, and left me with an impression of a steady, solid school leader very dedicated to her vision of Haley becoming a model environmental school. That initial impression has been slowly reinforced through the last two years of formal and informal data collection about CO-SEED at Haley, including a 40 minute interview with her in May of 2004, and another 40 minute interview I had with her and the Education Director of Haley's Community Learning Center partner organization together in June of 2005. In February of 2006, after receiving reassurances that my focusing on her leadership practice as a key part of my dissertation would only require a reasonable handful of conversations in addition to her willingness to broker further conversations with other relevant people, Jean warmly agreed to be a central figure in my research portrait.

Three factors added new and interesting dimensions to my conversations about Jean's leadership of the Haley school and how it does or does not relate to place-based education and changes in school culture. One factor was that this study coincided with the end of the official three year tenure for CO-SEED at this school. Thus, school personnel, program staff, and I as the external evaluator all shared a more summative orientation to this year's annual program evaluation. Another factor was that the overlap between my contracted evaluation work at this site and my dissertation allowed for more time and energy resources being available for data collection this year as compared to previous years. This resulted in a deeper and richer understanding of what is going on Haley. The third factor was that the timing of CO-SEED's wrap up at this site and my

dissertation also happen to coincide with Jean Dorcus' retirement as a school principal. As it turns out, the search for a new Haley principal was driven by the momentum that Jean and CO-SEED created toward achieving the goal of making Haley a model environmental school. Being aware of each of these factors heading into the data collection phase of the study opened up new channels for deeper reflection.

Contribution to the literature

From a content perspective, I have found no literature, popular or academic, that focuses specifically on the intersection of the themes of place-based education, school culture, and leadership. Thus, my dissertation provides a new perspective for each of those three existing fields of study.

A similar dynamic exists when viewing the literature through a methodological lens. Of the empirical, peer-reviewed literature that focuses on school culture, most of it attempts to quantitatively measure various dimensions of the phenomenon and correlate those with other variables of interest. Of the smaller body of empirical, peer-reviewed school culture literature that employs a qualitative approach, there are a few studies that use descriptive approaches that are loosely similar to portraiture, but none that uses the exact same methodology that I used for my dissertation. Finally, of the small but growing body of empirical studies (most of which are doctoral dissertations) that employ portraiture for investigating any number of topics, none of them uses portraiture for program evaluation purposes as I did with this dissertation.

As the portrait unfolded, it became increasingly clear that the integration of portraiture and utilization-focused evaluation was a key innovation, opening up new issues and opportunities, and requiring an explicit articulation of the methodological rationale. This is discussed in more detail at the end of chapter three and also in chapter five.

The scope and limitations of my research

The formal statement of the question guiding the construction of my research portrait was ‘How have place-based education, school culture, and leadership interacted over the past several years at the Haley Elementary School?’

My aim was to see deeply into the dynamics of this one particular site. While my perceptions were certainly shaped by current and previous evaluation efforts at other CO-SEED and PEEC sites, formal cross-site comparison was not part of my dissertation.

This investigation was embedded in the ongoing, long term evaluation agenda of both CO-SEED and PEEC. This larger agenda is explicitly mixed-method, and employs both qualitative and quantitative paradigms, often in dialectical, iterative succession. Despite my references to the tipping point “hypothesis,” and despite the fact that the final format of my research portrait includes presentation of some quantitative survey data, the paradigm for this dissertation was purely constructivist. This study was not intended to formally test the tipping point hypothesis or to validate the dose-response measurement

strategy upon which it is based. It was not about proving or disproving any particular propositions or assumptions about place-based education, school culture, or leadership. The goal was to explore, discover, and describe what I saw and heard in this context, presenting my interpretation in a research portrait that rings with authenticity and that also serves an evaluative purpose. Though there were moments during the creation of the final research portrait when I departed temporarily from a more obviously pure constructivist paradigm, these were explicitly noted, and stand as embellishments on the main qualitative canvas.

The themes of place-based education, school culture, and leadership served as starting points for entering the field of observation. While all three themes provided orienting conceptual frameworks that were essential to my investigation, there was a hierarchy of importance among them. The phenomenon of place-based education (as manifested by the CO-SEED program) was what I was most curious about.

School culture and leadership emerged as adjunctive concepts for the framing of this study because of their potential to shed light on place-based education. While school culture and all its associated dimensions, definitions, and descriptions is an intrinsically interesting topic to me, it was the particular dimension of school culture *change* that I hoped to learn most about in this investigation. Similarly, leadership theory in general was not a focus of this dissertation, nor did I intend to apply or generate any particular theory of leadership. I aimed simply to try to understand how the participants at this one

urban elementary school experienced leadership as it applied to changes in their school culture and/or their work with place-based education.

Summary

This introductory chapter sought to provide an overall picture of my dissertation research plan. I described the range of interconnected purposes of the study and how to determine if those purposes are successfully met. I began situating myself as a researcher by declaring many of my conceptual preoccupations and pre-existing professional roles as they relate to the key features of the research context. These include the national policy debates (about NCLB), the place-based education program in question (CO-SEED), and the subject school (Dennis C. Haley Elementary) and principal (Jean Dorcus). Because this study addressed three main themes (place-based education, school culture, and leadership), each of which is complexly robust in its own right, it was important to discuss the ways in which I limited and focused my inquiry. In doing so I reaffirmed the constructivist paradigm I employed.

The remaining chapters flesh out the structure provided in this introduction. Chapter two presents critical commentary on the portions of the academic research literature that bear most directly on my subject. Chapter three provides a thorough account of the portraiture method (Lawrence-Lightfoot & Davis, 1997) and utilization-focused evaluation methodology (Patton, 1997) I used for collection, interpretation, and presentation of my data. Chapter four presents a complete, free-standing research portrait of the Haley Elementary

school as it finished up its formal tenure as a CO-SEED site. As such, it integrates descriptions of context, method, findings, discussion, and implications for practice into an aesthetically satisfying narrative whole. Chapter five provides an academically reflective afterword focused on insights gained about the process of conducting this research. This integrates the results from a series of short member checking conversations and correspondence I had with key actors and stakeholders after the portrait was drafted. The purpose of these conversations was to get feedback on the authenticity and utility of the portrait. Chapter five also contains intuitions about how this work might inform future research. The concluding Chapter six provides brief reflections about the potential implications of the findings of this dissertation for the broader field of leadership and organizational change.

Chapter 2: Literature Review

There is a conceptual thread that binds together each of the three main anticipatory themes of this dissertation. Namely, place-based education, school culture, and leadership all hinge on the notion of creating change in social or organizational systems. The place-based education programs involved in PEEC explicitly name “community sustainability and well-being” as the long term impact/change toward which their programs are aimed (*PEEC Working Theory of Change*, cited in Duffin, Powers, Tremblay, & PEER Associates, 2004, p. 10). Some of the most popular authors on school culture argue strongly that school culture change is a vehicle for --more than a consequence of-- educational reform (Deal & Peterson, 1999; Sergiovanni, 2005). Much of the leadership studies literature explicitly or implicitly reinforces Kotter’s distinction between “leadership” as producing useful change and “management” as keeping the status quo functioning smoothly (1999, p. 11).

To consider concepts of place-based education, school culture, and leadership as fully stand alone ideas as they relate to this dissertation would be a misleading oversimplification. My own relationship with the term “leadership” illustrates some of the challenges involved in disentangling the thematic concepts and terminology in my research context. I am suspicious of literature that attempts to isolate and describe leadership as a separate, abstractable phenomenon. Thus, I have tried to focus my scholarly inquiry into place-based

education primarily on the organizational and social change that is one of the alleged consequences of leadership. Yet, I have been unable to escape that fuzzy, teasingly simple, ill-defined “L” word in my empirical program evaluation data.

In the last four years I have interviewed over 250 people involved in a variety of place-based education programs as part of my professional practice. The actions and attitudes of school administrators, school board members, and exemplary teaching and program staff consistently rank at the top of the list of factors that interviewees claim as affecting both desirable and undesirable program outcomes. And the word that these interviewees most often use to describe this set of intangible but oh-so-important stuff is “leadership.” So, my inclusion of the term leadership as a major anticipatory theme in this dissertation is a function of what I am hearing from my professional community of practice, not a result of my own personal sense of the terminology that I think is most precise. Discussions about place-based education and school culture evoke similar dynamics.

Scope of this chapter. In this review of literature I make no claim to having exhaustively identified what the existing literature says about every aspect of place-based education, school culture, and leadership. These are interdisciplinary topics that cross boundaries and justifiably draw inspiration and evidence from many different fields of thought and experience. Further, the theoretical structure of each of these topics is still emergent and contested. A relatively recent digest of the place-based education literature notes that “place-based education is a

relatively new term, appearing only recently in the education literature”

(Woodhouse & Knapp, 2000, p. 2). The field of leadership studies, while much older than PBE and possessing a vast and rapidly growing literature, is “still in a state of ferment” (Yukl, 2002, p. xvii). The body of school culture literature lies somewhere in between, but, like PBE and leadership, is still working to find and define common language for expressing the essential dynamics (see Schoen, 2005). These topics are each academic poster children exemplifying the claim of one of the founding fathers of the modern conservation movement, John Muir, who wrote: “When we try to pick out anything by itself, we find it hitched to everything else in the Universe” (Muir, 1988, p. 110).

In the following pages I will, however, show how there are many authors that contribute relevant, substantive, and intellectually provocative ideas that inform the discourse about each of my themes of place-based education, school culture, and leadership. The primary criterion for deciding what literature to include or exclude in this review was my subjective perception of the extent to which the piece resonates with *all three* of my anticipatory themes. For instance, there is extensive literature about topics such as educational reform, transformational learning/leadership, or organizational development that is not included simply because the application to place-based education is only slightly more distant than other literature. A second inclusion/exclusion criterion was my estimation of the potential utility and accessibility of the particular literature to the program staff and participants of the place-based education program I am

engaging with in this study. While I did pursue fairly thorough searches of the peer-reviewed, empirical literature, this second criterion resulted in a decidedly practitioner-oriented slant to the literature I choose to discuss in this chapter. A third criterion for refining the scope of the literature discussed here is the extent to which it moves beyond description of static phenomena and focuses on the dynamics of personal, organizational, or social *change*.

If there is a single storyline, it is this: the juicy, interesting stuff centers around terms and concepts that people seem to agree are vitally important and operative, but that defy consensual definition, fully authoritative description, and unambiguous, discreet categorization. In other words, the intersection of the ideas and practice of place-based education, school culture, and leadership is an extremely embryonic area of study.

Roots and shoots of place-based education

Place-based education may be a “relatively new term...in the education literature” (Woodhouse & Knapp, 2000, p. 2), but the substance of the practice of PBE can be connected to pedagogical traditions and socio-ecological conditions evolving over the last hundred years or so.

Pedagogy. As we take our first steps into this 21st century, the educational literature is full of a wild profusion of educational philosophies that promise to prepare young people for the complex society of tomorrow. PBE is not exactly the same as any of these, but it overlaps substantially with many of them. The list includes: problem-based learning, service-learning, integrated or collaborative

learning, environmental education, environment as an integrating context (EIC), education for sustainability, conservation education, bioregional education, experiential learning, essential schooling, contextual learning, constructivism, democratic education, community-based education, critical pedagogy, multi-cultural education, and probably others as well.

From a philosophical perspective, many of these pedagogical approaches are refinements of ideas articulated by John Dewey in the first half of the 20th century. Dewey proposed that a young person's school life and his/her future adult life were not two fundamentally separate things, and that *learning* happens by *doing*. This central idea is summed up in his claim that "Education is a process of living and not preparation for future living" (Dewey, 1940, p.6).¹ Dewey did not propose that young people fully assimilate every aspect of the complex adult world. In his view, though, the education of young people ought to take the form of developmentally appropriate projects that authentically represent and address real life needs, not some artificially abstracted simulation.

From the perspective of the mechanics of how PBE and that long list of similar pedagogies are actually implemented in practice, many of them gather under the umbrella of experiential learning as described by David Kolb (1984) and summarized in Figure 1 below. Kolb provides a contemporary synthesis of the foundational work of John Dewey combined with Kurt Lewin's pioneering

¹ As an interesting side note, this quote attributed to Dewey is widely rephrased/misquoted as "Education is not preparation for life. Education is life itself."

work in group dynamics and social psychology as well as the cognitive developmental theory of Jean Piaget. See Figure 2 below (Kolb, 1984, p. 17).

Figure 1. The Experiential Learning Cycle

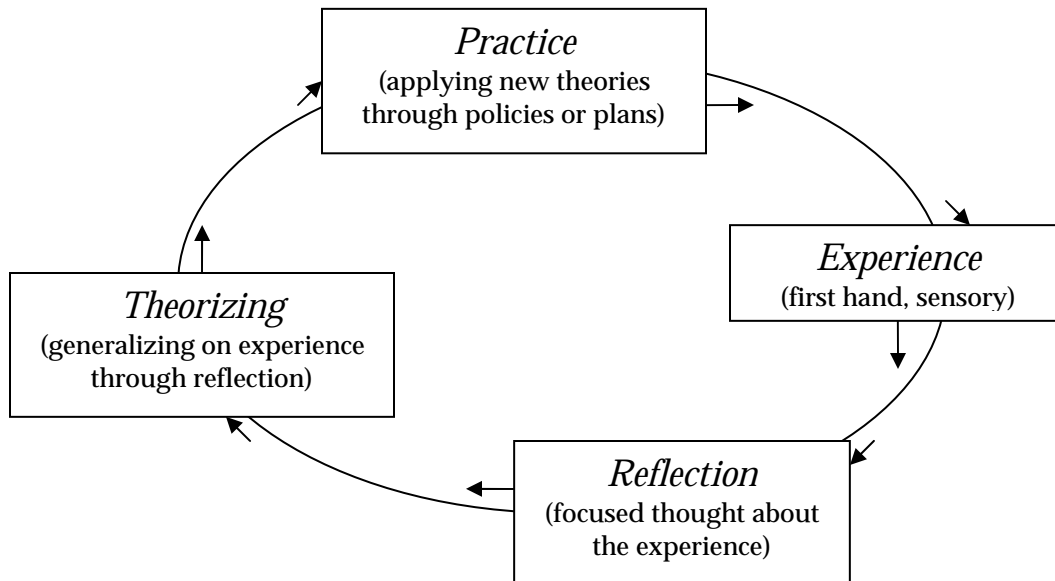


Figure 2. Family Tree of Experiential Education

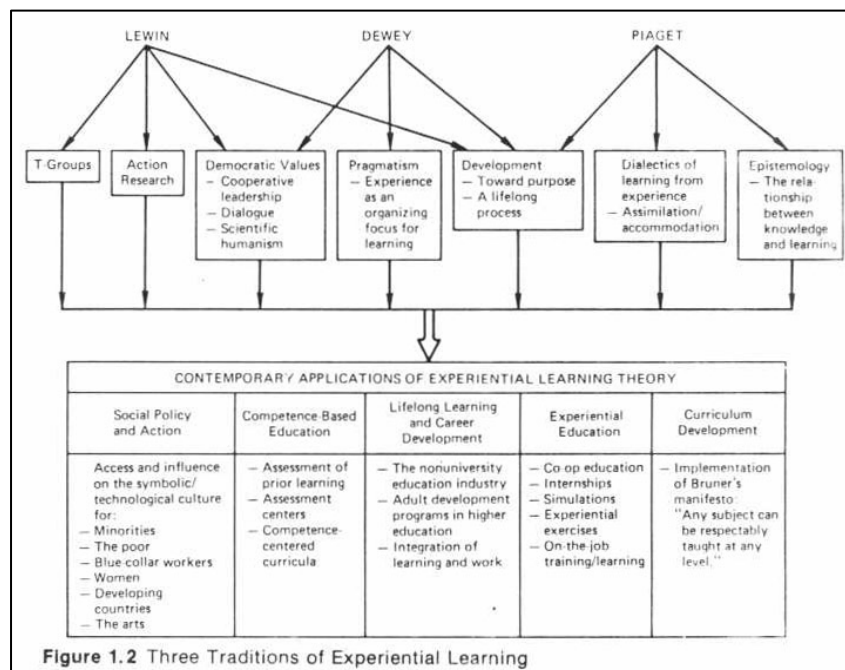


Figure 1.2 Three Traditions of Experiential Learning

Reading through Kolb's family tree of contemporary experiential education, we begin to see that these approaches to learning are not limited to the teaching and learning of young people. Mezirow (2000), Friere (1998), and their adherents developed experiential models more focused on adult learners. These educational approaches exemplify one of the essential challenges of the task of trying to pin down place-based education. PBE is such an open and flexible proto-theory of education that it flows over into a million different connections to other theories of education and society. Maintaining focus and concise description are perennial problems for many PBE efforts. This dynamic is also a problem for the study of ecology, one of the fundamental principles of which is that everything is connected to everything else.

Ecology. During the 20th century the number of people living on planet Earth nearly quadrupled, from well under 2 billion in 1900 to just over 6 billion in 2000. The last century also witnessed exponential growth in the human technological capacity to pursue the natural resources and energy needed to feed our concurrently exponentially growing consumer appetite. Meanwhile, the ecological carrying capacity of our planet stayed about the same size as it has been since the last ice age. The environmental movement emerged in the latter portion of last century to contend with the effects of human expansion toward (or past) planetary limits. The litany of environmental degradation is long, often overwhelming, and well described elsewhere. For our purposes here, it is sufficient to note that general awareness of environmental problems (such as the 30% decline from 1970 to 1995 in

the “Living Planet Index,”² and subsequent projected annual drops of up to 3% - figures from *The Future of Life* by E.O. Wilson, 2002) is a driving force behind what has come to be known as environmental education.

From Rachel Carson’s *Silent Spring* in 1962, through the first Earth Day in 1970, and continuing on into the present century, the call for environmental education has been growing steadily. Internationally, the United Nations spelled out the broad definition³ of and agenda for environmental education in *The Belgrade Charter* (UNESCO, 1975), and updated it with *The Tbilisi Report* (UNESCO, 1977). Plans for the UNESCO Decade for Education on Sustainable Development (2005-2014) draw upon the inspiring international process embodied in the *Earth Charter* document (Earth Charter Initiative, 2000). Domestically, the National Environmental Education Act came into force in 1990 (Public Law, 1990). A 1996 Environmental Protection Agency report assessing the implementation of that act listed as its first recommendation to make environmental education a priority across the country (NEEAC, 1996). A decade later, the same group reported finding “...abundant evidence that every state in the nation has responded to this call for action... [and] the overall quality of environmental education has improved measurably across the nation” (NEEAC, 2005).

² Distilled from databases of the World Bank and United Nations Development and Environment Program by the World Wide Fund for Nature.

³ “The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones” (UNESCO, 1975, p. 3)

Despite the progress made by environmental education and the environmental movement, most Americans agree that the precipitating conditions that generated these efforts remain formidable. After surveying a random sample of 1,500 adults every year since 1991, the NEETF/Roper report concluded that “95% of American adults (96% of parents) think environmental education should be taught in the schools and 90% believe that people in the workplace and in other places in adult society should receive environmental education too” (Coyle, 2004, p. 4). Yet, “while the weight of the research shows that the simplest forms of environmental knowledge are widespread, real comprehension of more complex environmental subjects is very limited within the public” (p. 7). The most recent synthesis of this body of evidence highlights an interesting demographic pattern in the data:

Americans aged 35 to 54 – *not* those aged 18 to 34 – are more knowledgeable about the environment. The differences... are slight but statistically significant. Given that older adults, including ‘Baby Boomers,’ had little or no environmental education in school, this suggests that environmental knowledge is acquired over a lifetime and probably mostly through the media (Coyle, 2005, p. 8, emphasis in original).

In sum, “the pursuit of environmental literacy in America is widespread and popular but it needs to be ratcheted up a few more notches to become finally effective” (Coyle, 2005, p. 97).

Beyond ecology. Place-based education can be seen as an extension and refinement of environmental education. The key difference is that place-based

education focuses on all aspects of the local environment by including local dimensions of culture, history, social and political issues, economics, and the built environment, as opposed to focusing more exclusively on the non-human natural world. Place-based education (for young people) is about “using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science and other subjects across the curriculum” (Sobel, 2004, p. 7). In short, the community becomes the curriculum, textbook, and laboratory. PBE presumes that a person who knows and cares about the place they live is best prepared for taking better care of the local and global environment. PBE is intrinsically interdisciplinary and experiential, and tends to emphasize reflection on one’s self (Woodhouse & Knapp, 2000), identity (Thomashow, 1996), and sense of place (Haas & Nactigal, 1998).

David Sobel is the author of a field-defining book entitled simply *Place-Based Education: Connecting Classrooms & Communities* (2004). He is also one of the founders of the CO-SEED project which is the focal program for this dissertation. He comes to this “broader and more inclusive” (2004, p. 9) framing of environmental education as place-based education primarily as a consequence of his focus on the developmental needs and readiness of children. The natural curiosities and cognitive capabilities of early elementary school children are well-suited to learning about place at the scale of their homes and their classrooms. Older elementary children are most appropriately engaged at the scale of the schoolyard and neighborhood. Middle school is the time to focus on making forays into the larger community, and high school is the time when a growing

mind is best suited to engage with issues of a truly global scope (Sobel, 1998). This more child-centered approach is also a way to move “beyond ecophobia,” allowing children to “love the earth before we ask them to save it” (Sobel, 1996, p. 39).

Other place-based education authors seek to make environmental education more relevant and effective by focusing on broader scale (yet very personal) issues of power, politics, and justice. Roger Hart claims that “[e]nvironmental education must be radically reconceived in order to be seen as fundamental to the residents of communities from *all* social classes in *all* countries...[it] is intrinsically tied to community development in general” (1997, p. 10, emphasis added). He thus advocates for strong democratic participation of children in development or education projects. More recently, David Gruenewald (2003) provides a powerful synthesis of place-based education and critical pedagogy, making a compelling case for bringing the work of Friere, McClaren, Giroux, Bowers, hooks, and Haymes (among others) into the PBE equation. He shows that “while critical pedagogy offers an agenda of cultural decolonization, place-based education leads the way toward ecological ‘reinhabitation’” (2003, p. 4). In other words, PBE and critical pedagogy are better together. The key idea is summed up in Gruenewald’s quote of Bullard: “The environmental crisis simply cannot be solved effectively without social justice” (2003, p. 6).

Here again we see the familiar pattern of starting a discussion with the intent of focusing on place-based education, and then finding that PBE is hitched to bigger ideas of ecology and society. David Orr is perhaps the most forceful author in this

regard (1992, 1994, 2004a), but I will save discussion of his work until the section below where I review literature that connects place-based education and leadership. Note how the discussion of place-based education literature embodies the core of the philosophy: start with the particular and nearby, and study them to gain insight into the big and far away.

Place-based education as a policy strategy

As philosophically compelling as Gruenewald's (2003) "critical pedagogy of place" is, there is still the practical challenge of making any kind of place-based education manifest in an educational policy context that is dominated by a "learn to earn" (Woodhouse & Knapp, 2000, p. 3) mentality that is narrowly focused on standardized knowledge content. The elephant in the living room of place-based education is the *No Child Left Behind Act of 2001* (NCLB) (Public Law, 2002a). Speaking at a Green Schools Symposium several months after NCLB went into effect, New Hampshire's Commissioner of Education at the time described the influence of this act on the educational system in the country as "bigger than the Grand Canyon or San Andreas Fault" (Nick Donohue, personal communication, December 9, 2002). Outcomes such as environmental stewardship behavior, attachment to place, and community engagement that are explicit goals of place-based education are not well accounted for in the standardized measures that drive the high-stakes testing mandated by NCLB.

It remains to be seen whether place-based education can mature into what David Sobel often calls "a viable alternative to the No Child Left Behind mindset"

(personal communication). The evidence is accumulating slowly and gathering momentum. As a counterpoint to NCLB's narrow criteria for success, many schools, nature centers, government agencies, and non-profit organizations are working to bring about educational reform by intentionally connecting schools to their communities (Chin, 2001; Smith & Williams, 1999; Stone, 2001), often calling it place-based education. Responding largely to the high stakes, sanction-oriented structure of NCLB, "at least twenty states and a number of school districts" have officially protested the implementation of this federal policy (Darling-Hammond, 2004, p. 6).

Measuring place-based education

An epistemological analysis of the preceding sections on the history, definition, and political positioning of PBE reveals further evidence that this is a nascent field of study. Almost all the literature referenced above is from the theoretical or wisdom literature. It is only loosely and broadly based on strict empirical research. The following paragraphs describe three collections of empirical research that begin to bring place-based educators a few notches closer to having a compelling response to school boards and administrative decision makers who feel increasing pressure to provide (what is commonly referred to as) "hard" data to justify their curricula.

Three levels. There is a categorization scheme that has been used extensively in the educational research literature to simply classify the various factors that affect student achievement (Marzano, 2003). *School-level factors* have to do with school wide administrative, cultural, and/or policy decisions, initiatives, and influences.

Teacher-level factors are the decisions and behaviors that individual classroom teachers have choice to directly affect. *Student-level factors* have to do with the unique characteristics that individual students bring to school, such as background, intelligence, and motivation.

Which of these three factors has the biggest influence on student achievement? Just nine years after the launch of Sputnik, a landmark study involving 640,000 students and entitled *Equality in Educational Opportunity* (but more commonly referred to as the “Coleman Report”) made the shocking assertion that student-level factors accounted for 90% of the variance in student achievement (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York, 1966). This report led some to believe that schools really did not make that much of a difference, so why bother, because the die is already cast by the background that a student is born into and lives in at home. A more optimistic synthesis of 10 high visibility studies (Marzano, 2000), however, suggests that schools account for 20% of the variance in student achievement, i.e. more than twice that suggested by the Coleman report. Of the 20% of influence that can be attributed to schools, Marzano (2003, p. 74) synthesized studies from several other researchers to determine that about 13% comes from teacher-level factors, and 7% come from school-level factors. Perhaps most interestingly, if one reinterprets these statistics in terms of the percentage of students who do or do not “fail,” then a defensible case can be made that “schools that are highly effective produce results that almost entirely overcome the effects of student background” (Marzano, 2003, p. 7).

It is not immediately clear where the effects of place-based education programs might show up in this 3-level classification system. One could argue that place-based education might be classified as a “community-level” factor, adding a fourth tier to the classification system. This would suggest that its impact on students would be even less than the 7% level ascribed to schools, since impact on students seems to decrease geometrically as the factors become further and further removed from the individual student unit of analysis. On the other hand, one could also argue that by bridging the worlds of school, home, and community, the effects of place-based education might show up as some fraction of the 80% contribution due to student-level factors. When a student becomes actively involved in community environmental and/or social issues, would this show up in these statistical computations as a glowing, high leverage piece of the student-level factor pie, or as a muted, marginally influential piece of a diffuse community-level factor? The answer does not flow directly from the educational research. This dilemma may also be symptomatic of the general difficulty that place-based education has fitting into simplified classification schemes because of its interdependent, flexible, highly contextualized philosophy.

It is clear, however, that place-based educators often need to make the case for their programs in terms of student achievement data if they want to speak the language of a mainstream system that is dominated by the No Child Left Behind mindset.

Student achievement - broad factors from research. Many of the goals that place-based education strives to achieve are notably lofty and difficult to convincingly measure. Student academic achievement is one of the tamer examples of this. It is challenging to establish a compelling, direct causal link between a student looking for insects in a local stream or interviewing community elders and that student's scores on standardized tests. There is, however, a noteworthy body of research that suggests that student engagement in learning or motivation can function logically as a measurable proxy for student academic achievement.

After thoroughly reviewing the body of empirical educational research of the last thirty-five years, Marzano (2003) concludes:

The link between student motivation and achievement is straightforward. If students are motivated to learn the content in a given subject, their achievement in that subject will most likely be good (p. 144).

Marzano cites over 40 different studies as evidence for that claim. Included in his argument are references to several quantitative studies that show correlations between motivation and achievement ranging from .19 to .63, and effect sizes that range from two-thirds to one and two-thirds standard deviations of improved achievement (2003, p. 145).

This body of evidence holds an important implication for place-based education programs. To the extent that PBE programs can support the claim that their programs increase student engagement and motivation in the learning process,

then it is logically reasonable to suggest that PBE programs are likely to positively influence student academic achievement.

There is also a body of general educational research evidence that suggests very strongly that *individual teachers* make a substantial difference in the academic achievement of their students (Wright, Horn, & Sanders, 1997; Pedersen, Faucher, & Eaton, 1978; Marzano, 2003, pp. 71-105). For instance, using multivariate, longitudinal analysis of student test scores in the Tennessee Value-Added Assessment System, Sanders & Rivers (1996) found that:

- Three straight years of most-effective teachers gives kids a 50-percentile point advantage on students who spend three straight years with least-effective teachers.
- The effects of teachers on student achievement are both additive and cumulative with little evidence of compensatory effects.
- As teacher effectiveness increases, lower achieving students are the first to benefit. The top quintile of teachers tend to reach students of all achievement levels.
- Students of different ethnicities respond equivalently within the same quintile of teacher effectiveness.

A recent study of 92 elementary and middle school teachers in and around Chattanooga, TN (Public Education Foundation, 2002) describes some of the ways that the “most effective” teachers (in terms of student achievement scores) tended to be similar:

- Student work could be found everywhere, inside the classroom, out the door and, in some cases, down the hall.
 - The teachers did not stand still and lecture; they covered every part of the room and monitored every activity that took place.
 - Multiple small group activities were often found in their classrooms, with the traditional arrangement of desks in rows practically non-existent.
 - Students in their classes were at ease asking questions and commenting on statements made by teachers and other students.
 - Expectations for the students were clearly stated and exemplars of previous years' assignments were shown to students as models of what to produce.
 - The organization of the rooms and the lessons was clearly evident.
- Materials were easily accessible when needed and no class time was wasted from lack of preparation.

This research on the general features and results of effective teaching has direct implications for place-based education. First, most place-based education programs focus primarily on building the skills and capacity of individual teachers. The logic is that change in teacher practice is the first step in changing student behavior, which then leads to changes at the community level down the road. Second, descriptions of the practice of effective teaching in general tend to coincide almost exactly with the type of interdisciplinary, hands-on, real life-oriented practices that are the explicit hallmark of place-based education and related experiential pedagogies. It is somewhat ironic that some of best techniques for

“teaching to standardized tests” may in fact look more like progressive experiential methods than the stereotypical images of a more traditional drill and practice, command and control type of classroom environment.

Student achievement - research on place-based education and related fields. As early as 1990, environmental education research literature suggested that a conservation ethic and responsible behavior must begin with early, sustained exposure coupled with action strategies and behavioral practice (Hungerford & Volk, 1990). But the research focus on connecting environmental education to student academic achievement becomes much more prevalent after the publishing of a prominent and dramatic study entitled *Closing the Achievement Gap* (Lieberman & Hoody, 1998). This 1998 study was sponsored by the State Environmental Education Roundtable in partnership with 12 State Departments of Education, and included data from 40 schools across the nation. The study showed higher scores for 36 out of 39 comparison measures between schools using the environment as integrating context (EIC) versus schools that did not use an EIC approach. The study also showed that EIC schools tended to have reduced discipline and classroom management problems, increased engagement and enthusiasm for learning, and greater pride and ownership in their accomplishments.

Since *Closing the Achievement Gap*, nine additional studies have emerged along similar lines, connecting some form of student academic achievement to some form of place-based or environmental education (American Institutes of Research, 2005; Athman & Monroe, 2004; Bartosh, 2004; Danforth, 2005; Emekauwa, 2004; Ernst &

Monroe, 2004; Falco, 2004; NEETF, 2000; SEER, 2000). These studies have been summarized in multiple, practitioner-friendly formats (Chawla & Duffin, 2005). The 10 studies collectively cover 16 states and 265 schools, and use various combinations of standardized test scores, interviews, observations, demographics, and documents in their research designs. The Bartosh (2004) study is compelling for its scope. It includes 77 pairs of demographically matched schools and augments state standardized test score data with data from a locally developed survey. The only two studies in the group that are published in peer-reviewed journals are Athman & Monroe (2004) and Ernst (Athman) & Monroe (2004), and these are really part of the same study of high school students in Florida. They address critical thinking and motivation, factors that are closely related to but not necessarily the primary focus of place-based education. The Emekauwa (2004) study is notable for dealing explicitly with place-based education conceived of and implemented in ways similar to the PBE program that is the focus of this dissertation. The American Institutes of Research (2005), Danforth (2005), Falco (2004), and NEETF (2000) studies each provide more detailed case studies of academic achievement results for various local place-based education-type programs.

None of these studies is conclusive by themselves, but taken as a whole they begin to show an emerging pattern connecting place-based education to improved student academic achievement. It is also interesting to note the last couple of years have seen a marked increase in the number of studies pursuing this connection. This includes, of course, the work that I and my colleagues have done for the Place-based

Education Evaluation Collaborative on the dose-response measurement strategy (Duffin, Powers, Tremblay, & PEER Associates, 2004). We have several other quantitative academic achievement investigations in process as of this writing as well. But despite the recent surge in research and evaluation connecting place-based education and student academic achievement, the body of evidence is still more piecemeal than coherent, both in terms of the findings and methods.

Measuring behavior change. The CoEvolution Institute recently published an important report entitled *Measuring Results* (Schneider & Cheslock, 2003). This review of research literature focuses on the impacts of non-formal programs in environmental education, museums, social marketing, and health programs. These four domains all seek sustained behavior change in program participants and so have some valuable lessons to share with each other.

One of the main findings of *Measuring Results* is that actually measuring the results of complex human behavior in response to these non-formal programs is a difficult task in and of itself. In the field of environmental education in particular, the authors note a “weak link between theory and practice” (Schneider & Cheslock, 2003, p. 26). Interestingly, the theory of change that has perhaps the longest tradition in the field of environmental education (i.e. that knowledge about the environment leads to positive attitudes about the environment which then leads to pro-environmental behavior, or KAB for short) is not very convincingly supported by the research literature. In summing up the findings of the four behavior change domains as a whole, they note:

The social science nature of evaluation and the focus on human behavior have made for a lack of systematic analysis, which is attributed at least in part to the necessary reliance on self-reported data. Tracking people's adoption of positive behavior or retention of what they have learned is easier in some case than it is in others. Follow-up is inconsistent and longitudinal analyses are rare...[but] useful and often worth the effort and cost (p. 134).

To help strengthen the collective body of evidence for the impact of behavior change programs, Schneider & Cheslock recommend "...systematizing evaluation strategies across the field[s]" (2003, p. 133) and greater dissemination of measurement strategies and findings. They also recommend rigorous articulation of program goals and mission, and the use of multiple-method research strategies and design. The work of the Place-based Education Evaluation Collaborative could well be a leading example of embodying all of these recommendations.

The *Measuring Results* report notes some exciting lessons learned about effective behavior change strategies that emerged from their review of the research across the domains of environmental education, museum education, health education, and social marketing. For environmental education in particular,

People need to know *why* and *how* to act in environmentally responsible ways.

Effective programs train participants for specific behaviors. In addition...

prompts or triggers (e.g. goal setting, commitment strategies, personal reminders, information feedback systems, role modeling) increase the frequency of desirable

behaviors and decrease the frequency of undesirable ones (Schneider & Cheslock, 2003, p. 46, *emphasis in original*).

The summary of cross-domain lessons learned echoed the importance of targeting specific behaviors in environmental education and added two other recommendations. First, programs should tailor interventions to the “individual characteristics and agendas” of the specific program participant audience. Second, programs should directly address the feelings and emotions of participants in order to “instill positive attitudes toward specific actions,” help participants believe that those actions will make a difference, and help them “believe in their own abilities to engage in action” (p. 130-131).

A major implication for both the implementation and research of place-based education, then, is to be detailed and specific about which of the many interconnected theoretical outcomes are the highest priority, and then build the educational or research program intentionally around those. It is almost like the “teaching to the test” attitude that often becomes the lowest common denominator in a No Child Left Behind atmosphere, except that the place-based educators and researchers can take the opportunity to design the test themselves.

The culture of inquiry around school culture

Popularity. The body of literature on school culture spans the gamut from patently popular to severely scholarly, but much of the most commonly referenced literature tends to be more toward the practitioner end of the scale. Similar to the literature on place-based education, there appears to be more reliance on the

wisdom of scholar-practitioners than on the rigor of pure empiricism and peer review. Perhaps this is due to the fact that a primary audience for writing about school culture would be educational administrators and teachers who tend to have more of a practitioner than academic orientation. Examples of important popular literature on school culture include the books and articles of Thomas Sergiovanni (e.g. 1994, 2000, 2005), Andy Hargreaves (e.g. 1994, and others), Michael Fullan (e.g. 1993, 2001, and others), and, especially, Terrence Deal & Kent Peterson (1999). In addition to the popular authors just mentioned, much of the formal scholarly literature on school culture (e.g. Snyder, 1998; Burrello & Reitzug, 1993; Schoen, 2005; and others) also tends to draw heavily on concepts and literature from the fields of organization development. Many references are made to the literature on corporate or business culture written by Edgar Schein (1985, and others), Peter Senge (1990), Tom Peters (1982), Terrence Deal & Allan Kennedy (1982), and, less frequently, other organizational change authors. At a broad level, this cross-fertilization between business and education makes sense as the field of education has become increasingly oriented toward an accountability mindset that is similar to the market driven accountability that has been a key feature of the business world for a long time.

Epistemology. I identified a hundred or so empirical, peer-reviewed articles about school culture that seemed to resonate most strongly with the research context for this dissertation. Roughly half of them did *not* have school culture as a primary target or conceptual framework. Instead, they focused on topics such as student

achievement, other school reform initiatives, particular characteristics of school principalship, or other topics related to but not directly addressing school culture. School culture emerged as a byproduct of the analysis and interpretation of the primary topic. It was discovered rather than sought as a factor. The takeaway message is that it is relatively common for school culture to show up as a proposed contributory factor to changes in other important aspects of school activity. This dynamic parallels the warrant for this dissertation, which is based upon previous evaluation findings (Duffin et al., 2004, 2005) in which school-level culture emerged as an unanticipated hypothesis to explain teacher-level survey data.

Of the remaining fifty or so articles that *did* focus directly on school culture, roughly two thirds attempted to measure school culture directly or quantify a correlation between school culture and some other variable. Roughly one third of the studies focused on qualitatively exploring or describing school culture or its constituent elements, with some of the descriptive studies employing multiple methods such as interviews, document analysis, and selected quantitative measures as well. The main point is that despite the complex and multi-faceted nature of the phenomenon of school culture, there is about twice as much empirical literature employing positivist methods to investigating the topic as there is literature using constructivist methods. Further, I found no instances of the use of portraiture, the methodology I used for this dissertation.

Most of the quantitatively oriented studies of school culture used questionnaire data as independent variables in various correlational, regression, or

path analysis designs. The Organizational Climate Description Questionnaire is clearly the most often used instrument. The author Wayne K. Hoy, currently of Ohio State University, is the most prolific scholar in this realm with over a hundred refereed publications, and over a dozen books or chapters published over the last forty years (Hoy, 2006).

Defining cultures. There is a common pattern that runs through the culture of inquiry about school culture, the content of the literature about school culture, the literature on place-based education, and the field of leadership studies. Namely, these phenomena are much harder to define than to recognize in practice. For instance, there is scholarly discourse about the relative merits and accuracy of term school “culture” versus the term school “climate” (Maxwell, 1991; Roach & Kratochwill, 2004). A quote from a foundational literature review sums things up pretty well: “The major point [the teachers] made was that they are much more confident about the experience of the phenomenon [of school climate or culture] than they are of understanding it” (Anderson, 1982, cited in Maxwell, 1991, p. 72). Further, definitions of school culture run the range from the simple and undeniably clear (e.g. “...the way we do things around here,” Bower, as cited in Deal & Peterson, 1999, p. 3) to the robust and thorough scheme derived by Schoen (2005) after an extensive review of related literature:

1. Professional Orientation (the activities and attitudes that characterize the degree of professionalism present in the faculty)

2. Organizational Structure (the type of leadership, communication and processes that characterize the way the school conducts its business)
3. Quality of the Learning Environment (the intellectual merit of the activities in which students are typically engaged)
4. Student-centered Focus (the programs and services offered to support student achievement)

A slight scratch of the surface reveals a dizzyingly complex variety of ways people think and talk about culture. Recognition of this dynamic is part of the justification for entering the research context for this dissertation from a very a-theoretical stance with respect to school culture. By documenting the lived experience of school culture for the participants in my research context, relying on essentially emic language, I hope to add another shade of color and nuance to the existing literature describing school culture.

School culture and place-based education

Tipping point warrant. This investigation into the literature on school culture began as one response to the 2003-2004 cross-program findings of the Place-based Education Evaluation Collaborative (Duffin, Powers, Tremblay, & PEER Associates, 2004). During that investigation we piloted a “dose-response” analysis of data from 338 educator surveys spanning 55 schools and four different PEEC programs. There were some patterns in the survey data that made most sense if we hypothesized that some of the intended teacher practice behaviors were being transmitted within and between the teaching staff more than from the PBE program to the teaching staff. We

wondered: Does the school culture have some kind of tipping point whereby place-based education norms become embedded in the way things happen in the school? Our subsequent exploration of this tipping point hypothesis was generally consistent with the preliminary findings (Duffin, Powers, & PEER Associates, 2005). We began researching the school culture literature more closely, and I began laying the groundwork for what has evolved into the study contained in this dissertation.

Connecting PEEC and the school culture literature. The overall arc of this line of my dissertation investigation and the PEEC agenda in which it is embedded shares some methodological and/or results features with several existing research studies. Like Strahan's 2003 study, my dissertation involves some reanalysis of longitudinal, archival interview data. Strahan also found that collaboration was a key feature of the culture in the subject schools, and that is the variable within my previous data that shows the strongest evidence of the tipping point pattern. Exemplifying the findings of DiPaola & Walther-Thomas (2003), there was preliminary evidence suggesting that the principal and the subject site for my dissertation match the following description: "Principals in schools that have cohesive cultures recognize the importance of focused professional development, time for learning and reflection, and shared leadership" (p. 17). To the extent that this is true, the design of my dissertation parallels a handful of studies that first identify exemplar leaders, schools, and/or school cultures, and then try to describe them in more rich detail (Littrell, & Peterson, 2001; Peterson & Littrell, 2000; Strahan, 2003; Leonard, 1999; Butterworth & Weinstein, 1996; Burrello & Reitzug, 1993). The summative

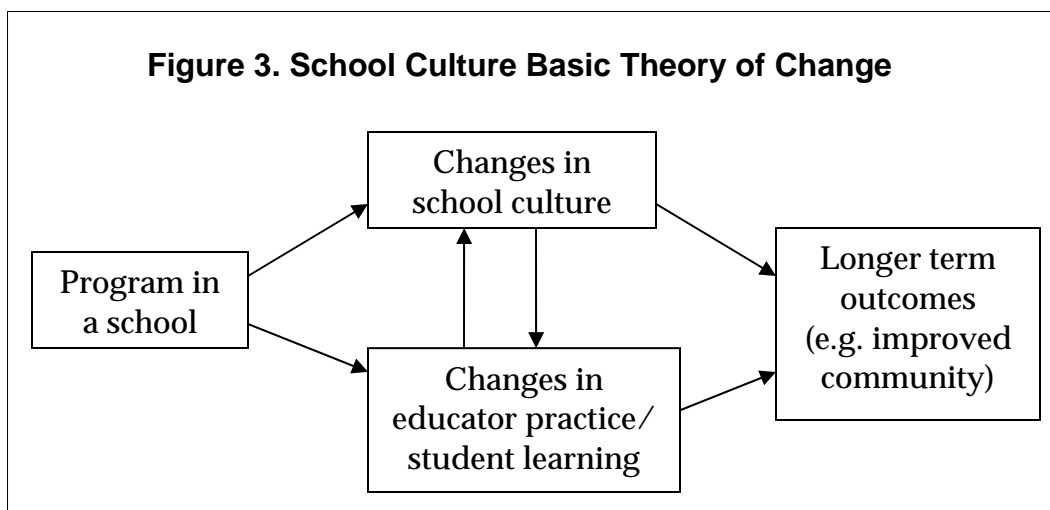
evaluation aspect my dissertation research shares some design and content elements with a much larger scale investigation that found that “enhanced democratic participation can be an effective lever for systemic organizational change” in large urban school systems (Bryk, et al., 1998, as cited in Yin, 2004, p. 128).

There are several broad themes in the school culture literature that are generally consistent with PEEC findings and program theory. Culture is central to both school and business success. According to Deal & Peterson, “[t]he culture of an enterprise plays the dominant role in exemplary performance. Highly respected organizations have evolved a shared system of informal folkways and traditions that infuse work with meaning, passion, and purpose” (1999, p.1). There are also some associations between school culture and student academic achievement, an important dimension of the place-based education strategy. Schoen (2005) compared three pairs of matched schools that differed in the amount of improvement they demonstrated over a two year period. In all three cross-case comparisons, the school with the more effective and unified culture was also the school that demonstrated the most growth in student achievement. While school culture is only one part of the big picture in school change or education reform, like place-based education it can function as an umbrella for many things. Buck et al. (1992, p. 8) found that “[s]chool culture for teachers does not alone lead to beneficial outcomes for students.” This is consistent with both the program theory and evaluation findings of PEEC, and also serves as a sober reminder to not get too wrapped up in reifying the abstract concept of school culture.

Schoen (2005) offers several generalizations about successfully changing school culture that are broadly consistent with the underlying approach of PEEC programs, perhaps especially so for the whole school change models.

- The beliefs and norms of faculty have a substantial effect on the success of change efforts;
- Cultural change is a gradual process, it takes years to complete; and
- Planned change requires much effort, and those on the front line need support in a lot of ways. (p. 265)

School culture literature that aligns or affirms the general theories of change of PEEC programs is gradually being incorporated into discussions about PEEC program design and implementation. In short, it seems that school culture is a factor that can be directly impacted by programs or other interventions while it simultaneously interacts in a reinforcing feedback loop with behavior changes of educators and students, perhaps as displayed in Figure 3 below.



Leadership and place-based education

Of the three anticipatory themes invoked for this dissertation, the literature on leadership far outstrips that on school culture or place-based education in terms of sheer size and depth of theoretical articulation. The field of leadership studies has spawned numerous text books (e.g. Yukl, 2002; Northouse, 2001), handbooks (Bass 1990), critical overviews (Rost, 1993) and even encyclopedias (Hiebert & Klatt, 2002; Goethals, Sorenson, & Burns, 2004) aimed at cataloguing all the different theories of leadership that have been written about. And these catalogues primarily address theory that self-identifies as leadership, leaving out of the canon much literature that deals with human behavior that could be construed as implicated in the leadership equation, even though it is not talked about that way. Like the literature on school culture and place-based education, the field of leadership studies exhibits strong conviction about the existence of the phenomenon despite a dizzying variety of ways the phenomenon can show up in actual social or organizational settings.

Connections *could* be made between almost any theory of leadership and the research context for this dissertation. I choose, however, to limit this review to a discussion of three ideas that seem to resonate particularly well with the research context for this dissertation. Each one emphasizes a different dimension of the change process. Each has implications for leadership practice, though the primary thrust of the idea comes from other fields of study.

Leadership for ecological sustainability. If any scholarship (whether it is leadership, ecological, or both) is going to genuinely support progress toward a

sustainable future, it will likely include, build upon, or emulate the work of David Orr (1992, 1994, 2004a). Orr's contributions to the leadership dimension of sustainability are perhaps best described in terms of the concept of "adaptive work" (Heifetz, 1994). Orr identifies the tough challenges to which leaders and followers must ultimately adapt. For instance, he lays out five progressively deeper causes of the sustainability crisis (individualism, the myth of perpetual growth, a dominion mentality, the evolutionary consequences of the agricultural revolution, and a possible fatal flaw in our adaptiveness as a species), and then challenges us to understand and transcend them (Orr, 1992, pp. 3-21). Similarly, he identifies the six ways that education must adapt in order to meet the sustainability crisis.

Sustainability education must: be fully embedded across the entire curriculum; intentionally draw upon all disciplines; embody a dialogue with local place; address lifestyle issues; include sensory experiences; and be more applied than theoretical (1992, pp. 83-95). These are not routine, "technical" issues. They will require leadership that can facilitate major transformation in values and practices on large scales.

Orr's most recent book, *The Last Refuge: Patriotism, Politics, and the Environment in an Age of Terror* (2004a), provides the sharpest articulation yet of the adaptive work that lies ahead. In this book he articulates four leadership challenges for sustainability. This is where Orr tends to move beyond other ecological or place-based education literature. He explicitly places the focal point for next action steps in the domain of leadership. For instance, Orr is well known for spearheading the

design and construction of a new environmental science building at Oberlin College where he teaches. This building puts into practice much of what he has to say about ecology and leadership, as it generates more energy than it uses and processes all its own waste while collecting and cleaning its own water and air. The structure is built almost entirely from local materials and labor, and, in short, is a living example and laboratory for how to build a sustainable future. Surely this is a wonderfully model of embodying place-based education and positively impacting the culture of his school and community in the process. Yet, when giving a recent talk on "Greening the Campus" he opened by saying: "I'm going to talk about politics instead of greening the campus" with the central theme being "we need to rethink what leadership is all about" (2002).

Orr provides eloquent and lofty calls to "imagine a world in which we expect our leaders to be knowledgeable people who meet each year not to talk about economic growth, but about ecological and human health -- a more complicated and pressing subject" (2004a, p. 130). This is because "once separate, the human family is fast becoming one family. Divided by nationality, ethnicity, religion, wealth, and power, we are nonetheless joined by evolution, ecology, morality, and increasingly by sheer necessity" (2004a, p. 127).

It is reasoning along these lines, coupled with a broad and deep mastery of the scholarship from many fields, that has led Orr to become one of the literary champions of a new movement with far reaching positive consequences. He is leading the call for a Constitutional Amendment to ensure the rights of current and

future generations to a healthy and balanced environment (2004b, pp. 18-25).

Because of the leadership he has displayed as a scholar he has become sought as a political advisor. He was invited by the White House in 2001 to be the lead author of a task force charged with drafting a document to help frame and improve national environmental policy. Building on a report from the Central Intelligence Agency which claims that "[i]t is time to understand 'the environment' for what it is: the national-security issue of the early 21st century" (Kaplan, cited in White, 2001, unnumbered document), Orr's task force laid out a clear case for the interconnectedness of "national security, energy policy, climate, the environment and economic development" (Orr, 2004a, p. 141). This argument is especially relevant to the "war on terror" that is used so often to frame the international debate. In the words of Orr's commission: "The events of 9/11 highlighted the obvious fact that actions taken by one nation, people, religion, or corporation ripple throughout the entire world, but those most affected seldom have any vote or voice, and future generations have none at all" (p. 127). The cool reception this task force received from official White House representatives has sparked in him further recognition that he no longer wishes "...to work on insignificant changes at the margins of the problem" (p.19). The solutions must be as systemic as the problems.

The intentional intertwining of ecology, justice, and political leadership can inspire hope in the hearts of sustainability leaders and citizens. Orr is one of the leading scholars who is making explicit the case for our species' ability to leave a legacy to future generations that includes the possibility of a quality of life similar to

current standards. This is, after all, essentially the high dream of place-based education and, to a perhaps equally deep by less explicit extent, our entire educational system. The picture Orr offers is full of hope but it is also quite somberly realistic. In short, the work of David Orr provides a clear articulation of the broad geo-philosophical context that provides the most expansive frame for the work of place-based education.

Psychology of behavior change. In his most recent *State of the Union Address*, United States President George W. Bush claimed that “... we have a serious problem: America is *addicted* to oil” (Bush, 2006, emphasis added). To be clear, this political rhetoric is neither original in substance nor reliable evidence of fact. It may, however, be an indicator that mainstream American society *might* be getting ready to recognize ecological and social problems in terms of behavior patterns that are addictive, i.e. irrationally pursued despite the known harmful consequences to oneself. Prochaska, DiClemente, and Norcross (1992) have researched the psychology of self-initiated and professionally facilitated change of addictive behaviors, notably around issues of cigarette smoking, weight loss, and alcohol abuse. They found that:

Modification of addictive behaviors involves progression through five stages – precontemplation, contemplation, preparation, action, and maintenance – and individuals typically recycle through these stages several times before termination of the addiction. (p. 1102)

They conclude that “... the underlying structure of change is neither technique-oriented nor problem specific” (p. 1110). How might an understanding of these stages of change inform the practice of instituting change through place-based education?

Perhaps the most powerful lesson here for place-based educators (or educational leaders looking to create positive change in their school’s culture) is simply that the changing of behavior patterns does not happen all at once. It happens in increments, and reversion to prior stages is normal and to be expected. Thus, success might be more accurately and usefully measured in terms of progression along a continuum of stages than solely in terms of having achieved the end goal in a linear, lock step, theoretically predictable progression.

A second potentially transferable insight is that intervention results can be most effective when tailored to the psychological stage a client is at. For instance, “[a]ction-oriented therapies may be quite effective with individuals who are in the preparation or action stages. These same programs may be ineffective or detrimental, however, with individuals in precontemplation or contemplation stages” (Prochaska et al., 1992, p. 1106). Perhaps schools, teachers within schools, groups of students, individual students, or even whole communities could be evaluated in terms of their stage of change with respect to adopting a culture of ecological sustainability or PBE-style interdisciplinary collaboration. That data could then be used to target the delivery of PBE programs to the known stage of readiness.

Diffusion of innovations. The main ideas summarized in the following paragraphs represent only a few of the many interesting ideas contained in three very different books about diffusion of innovations theory: a 500+ page scholarly review of over 5,200 publications, aptly titled *Diffusion of Innovations* (Rogers, 2003); a general synthesis and extension of the key concepts, engagingly written for general audiences and called *The Tipping Point* (Gladwell, 2002); and an extremely practitioner-oriented application of the ideas to a specific context entitled *Crossing the Chasm: Marketing and Selling High-tech Products to Mainstream Customers* (Moore, 1999).

The term “diffusion of innovations” refers to the process by which a new idea or technology becomes increasingly used by a specified group of people. A tiny sampling of the list of fads, trends, policies, and revolutions whose key elements can be described by the diffusion of innovations process includes things like: the popularity of Hush Puppies or other fashion trends; increasing use of computers, the internet, and cell phones; use of citrus to control scurvy in the British navy; use of hybrid corn in Iowa; or even major political events such as Paul Revere’s midnight ride, the dismantling of apartheid in South Africa, or the fall of the Berlin Wall.

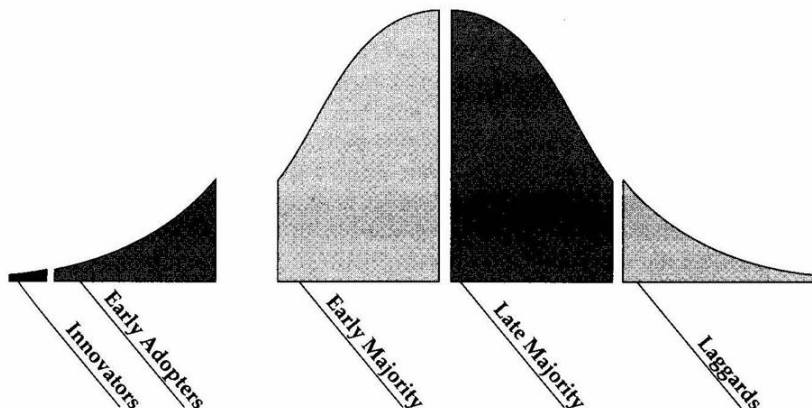
Considering the spread of effect of place-based education programs within a given school (or within the field of education in general) as another case of the general diffusion of innovations process has both descriptive and prescriptive power. Analysis of both qualitative and quantitative data from evaluations of PEEC programs (Powers, 2004; Duffin, Powers, Tremblay, & PEER Associates, 2004) lends immediate support to the notion that participants in PEEC programs can be fairly

accurately (if somewhat loosely) described in terms of “adopter categories.” Viewing the design and implementation of place-based education programs through the lens of diffusion of innovations theory and research could potentially help speed up and deepen program impacts as well as inform decisions about how to most efficiently use limited financial and time resources.

The first main idea is that people respond differently to new ideas and technologies based upon individual psychological and/or demographic characteristics. When faced with the uncertainty inherent in considering the adoption of a new technology or way of doing things, people tend to fall into one of the “adopter categories” described in Figure 4 below. The distribution of people in a given population tends to follow a normal, bell-shaped pattern with the early and late majority categories each comprising about a third of the population, and the innovators, early adopters, and laggards collectively making up the remaining third of the population. The stages of change idea presented earlier (Prochaska et al., 1992) could be seen as a specific case of a diffusion of innovations process focused at the scale of the individual.

Figure 4. Adopter Categories (Moore, 1999, p. 17)

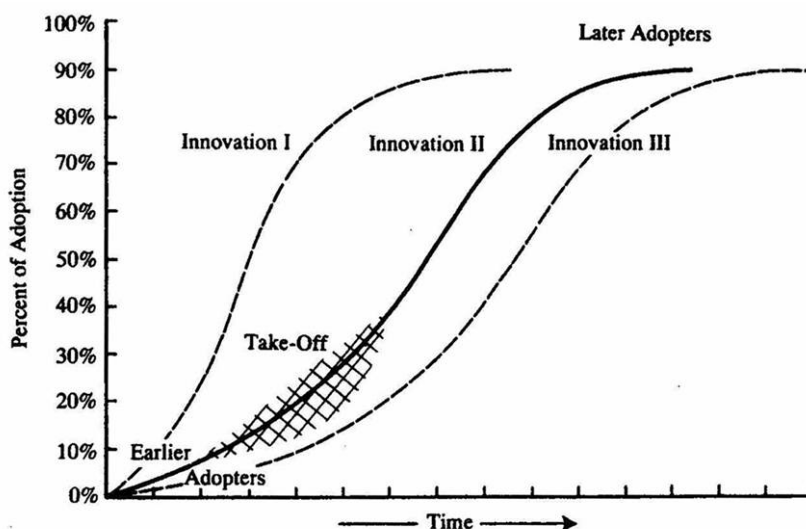
The Revised Technology Adoption Life Cycle



This general idea of adopter categories leads directly to perhaps the most important overall prescription for those planning to create a change. Whether it's a place-based education program, a change in school culture, or a fashion fad, one should intentionally target their implementation/ marketing strategy based upon the core wants and other unique characteristics of each adopter category.

The second main idea is that for successful innovations the rate of adoption through time in a given population tends to follow a fairly predictable S-shaped curve pattern. Diffusion proceeds very slowly at first, then reaches a “critical mass,” “tipping point,” or “take-off” period of rapid spread, then levels off at some more “permanent” level of adoption. Conceptual frameworks associated with epidemics and contagiousness are often applied to this S-shaped diffusion pattern. Rogers (2003) describes the tipping point as typically happening when the adoption rate is between 10-20% of the target population. Gladwell notes the “Rule of 150” (2002, p. 175) which purports that innovations tend to tip after a sub-group of about 150 people in the larger social group have adopted.

Figure 5. General Diffusion Curve (Rogers, 2003, p. 11)



The third main idea is that diffusion is a highly subjective *social* phenomenon, meaning that word of mouth, reputation, and context are critical factors affecting the rate and depth of adoption of new practices. This is where some of the most useful applications of the theory come from, because it is about *how* the diffusion actually happens. The sustainability of a place-based education project (in an educational context) or the making of large profits (in an entrepreneurial business context) is all about breaking into the early majority and then successfully transitioning through into the late majority. Below are four things to think about when planning for innovation and change.

First, change tends to be discontinuous. Despite the charts above, graphs of real change over time tend to look more like staircases than hockey sticks. This is largely because change happens relatively easily *within* adopter categories in which people tend to share the same interests, concerns, and networks, but moving *between* adopter categories is far more difficult. The biggest gap is the “chasm” between early adopters and early majority because the pragmatic early majority tends not to trust the judgment of the visionary early adopters. Many innovations fail to tip because they fall into this chasm before establishing a hold in the early majority. Moore (1999) suggests that the D-Day invasion of Normandy provides an effective analogy for strategically crossing the chasm. Place-based education supporters may, however, prefer to think in terms of a more nature-oriented analogy such as protecting endangered spotted owls, California gnatcatchers, or coho salmon. By focusing political advocacy or ecological restoration resources on these single keystone

species, efforts will hopefully lead to preserving of habitat for the bulk of other species (i.e. the "early" and "late" majority) that depend on the same habitat. The lesson from this category is to focus most or all of one's resources on a strategic "beach head" or "keystone" in the early majority, i.e. a very tightly defined sub-segment that has many connections within the larger early majority category.

Second, specific types of people tend to make an innovation tip. These are the networkers who know and are known widely (but not necessarily deeply) within many *different* sub-groups. These are the opinion leaders who are esteemed because they embody the implicit cultural and group norms and so become key reference points for others in their identity group. The rare people with extraordinary depth of content knowledge and the enthusiasm to share it can also be key ingredients in the recipe for successful diffusion. Strategically, these people tend to be good targets for a "D-Day" or "keystone species" type invasion into the early majority.

Third, context matters. How an innovation is perceived has a major impact on how likely it is to be adopted. The two most influential perceived attributes of innovations are "relative advantage" (i.e. the extent to which the new idea is thought to be better than the old way of doing things), and "compatibility" with existing values, cultural norms, and past experiences of the potential adopter. Further, when interpreting human events and behavior we tend to reach for "dispositional" rather than "contextual" explanations, overestimating the contribution of individual character traits and underestimating the influence of situation and context. This is sometimes referred to as Fundamental Attribution Error (Gladwell, 2002, p. 160). The

bottom line here is to remember that diffusion is a social process, and is dependent on group social interactions.

Finally, “re-invention” tends to be a good thing. When members of a target population have the ability to change, adapt, and otherwise influence the new idea itself during the process of adopting it as their own, innovations tend to diffuse more rapidly and are more likely to be sustained.

Figure 6. Adopter Category Summary Chart

Adopter category	Descriptors from Moore, 1999 from Rogers, 2003	Core wants	Strategies for working with them
Innovator	Enthusiast Venturesome	<ul style="list-style-type: none"> • Straight facts, truth, no tricks • Be first 	<ul style="list-style-type: none"> • Don't expect immediate “profits” • Look for ones who can garner R&D support by virtue of being close to the “big boss”
Early adopter	Visionary Respect	<ul style="list-style-type: none"> • Breakthrough technologies • Pursue a dream • Project orientation 	<ul style="list-style-type: none"> • Maintain frequent contact • Manage unrealistic expectations • Chunk innovations into discreet products or phases
Early majority	Pragmatist Deliberate	<ul style="list-style-type: none"> • Incremental, predictable, measurable progress 	<ul style="list-style-type: none"> • D-Day analogy • Keystone species • Focus, focus, focus effort on strategic networkers and opinion leaders
Late majority	Conservative Skeptical	<ul style="list-style-type: none"> • Smooth, easy change • Discount prices 	<ul style="list-style-type: none"> • Work the bugs out first • Plan for a customer service orientation
Laggard	Skeptic Traditional	<ul style="list-style-type: none"> • Keep status quo 	<ul style="list-style-type: none"> • Actively listen for “Emperor's New Clothes” phenomena (e.g. the Amish v. modern agribusiness) • Otherwise try to neutralize influence

There are two additional ideas that warrant mention at this point. First, diffusion of innovations research has been critiqued for having a pro-innovation bias that too often assumes the perspective of the change agency rather than the

individual adopter. Thus it is wise to remember that almost all innovations have undesirable, indirect, and unanticipated consequences. Additionally, innovators should be encouraged to pay attention to and mitigate for ways that the general nature of innovations can tend to widen gaps between haves and have-nots.

Summary: hitched universes

At its core, this dissertation is about trying to understand how some educators at a particular school experienced a change in group norms of thought and behavior. In order to have a fuller grasp of the intellectual context for this endeavor, this chapter explored existing literature on the three main anticipatory themes entangled in this dissertation. Place-based education (the first theme) is the type of program intervention that the subject school engaged in. The particular PBE program involved provided the empirical data and conceptual soil from which the idea of a tipping point in school culture (the second theme) emerged. Finally, the concept of leadership (the third theme) appears to be a factor in the kinds of change reported at this school.

The literature about these three themes shares at least two overall characteristics. From a theoretical structural perspective, these are all fields of study that are emergent and contested in terms of defining the core phenomena. From a content perspective, all three fields of study are really about the process of change in social or organizational systems. This dissertation intended to make a unique contribution to the literature by explicitly looking at the intersection of the themes of place-based education, school culture, and leadership. The methods used for this investigation also provided a measure of innovation.

Chapter 3: Methodology

I keep six honest serving men

They taught me all I knew:

Their names are What and Why and When

And How and Where and Who.

(R. Kipling, as quoted in Patton, 1997, p. 298)

Holding tensions, embracing paradoxes, crossing boundaries

Every aspect of the data involved in this dissertation (even the sentence you are reading right now) is tainted with tension or peppered with paradox of some ilk or other. This chapter three tells a series of short stories about the data of this study. The issues addressed range from the most metaphysical to the most mundane. My intent is to give you, the reader, enough information to make your own critical judgment about the research methods that underlie the portrait presented in chapter four. For this task I have borrowed the service of Kipling's men described above, each of whom is willing to lend their name to a different category of data-related generative tensions that, taken together, map out the methodological terrain of this study.

"Who" cares about this data?

The process of prioritization can transform tension between competing parts into right relationship within a coherent whole. Such was the case when considering

the many stakeholders of this dissertation. I do intend for this investigation to serve the scholarly discourse, but practitioner use is the highest priority for me.

I use the phrase “who cares?” as a shorthand reminder that “in utilization-focused evaluation, the primary criterion by which an evaluation is judged is *intended use by intended users*” (Patton, 1997, p. 63, emphasis in original). CO-SEED staff identified the primary audience for the 2005-2006 evaluation report as “school board members and superintendents at sites that are finishing their third year of CO-SEED” (CO-SEED staff, personal communication, August 3, 2005). An explicit assumption was that products that are compelling to this stakeholder group would likely also be compelling for other intended users such as principals, policy makers, funders, and program staff who are recruiting new schools for PBE interventions. In any case, administrative decision makers remain the highest priority intended users for this study, even though it is the judgment of program staff who serve as the physical bearers of the product to these end users.

Portraiture, like utilization-focused evaluation, has a strong stakeholder orientation. The highest criterion for success for a research portrait is the affirmation of authenticity from three audiences: the actor/subject, the critical reader, and the aesthetic sensibilities of the researcher/artist. Authenticity is achieved when the portrait elicits a response of “yes, of course...” as opposed to “yes, but...” (Lawrence-Lightfoot & Davis, 1997, p. 247). For this study, achieving authenticity in the eyes of the actors at the Haley school was a means to the end of meeting the highest priority goal of generating a useful program evaluation document.

One criterion for the trustworthiness of constructivist research studies as described by Lincoln and Guba in their 1985 publication, *Naturalistic Inquiry* (cited in Schwandt, 2001, p. 258), is the credibility of the data collection process. I used a member checking process to address that criterion explicitly. I circulated the penultimate draft of the research portrait (i.e. chapter four of this dissertation) to key actors/subjects involved in CO-SEED at Haley in order to explore the extent to which I have accurately captured *their* expressions of meaning. I also sought feedback on this draft from two skilled, critical readers who were not familiar with the particular research context. Chapter five of this dissertation discusses in more detail some of the ways that this feedback affirmed both the authenticity and utility of the portrait, as well as highlighting the interesting interactions between the methodology and method I used.

The formal ethical review processes, plans, and products for this study embody the institutional level of the “who cares?” phrase. Approval from the Antioch University Institutional Review Board was secured and all relevant documents are presented in the Appendices of this dissertation. The archival data included in this study was collected under the auspices of my private consulting firm. Prior authorization by the client program’s host institution, Antioch New England Institute of Antioch University New England, was sought as an additional measure of non-required authorization, but ultimately that institution declined to make a ruling, citing a lack of internal organizational capacity.

In any case, for educators and other adults who participated in conversations or semi-structured interviews for this study, their informed consent was audio recorded rather than signed on paper. This process was less intrusive and cumbersome in the busy practitioner context of the elementary school setting, and was familiar to most respondents because of their previous experience with me as a program evaluator at their school. Details of the key content of my introductory script for these evaluation conversations are documented in the interview guide in the Appendices.

For the principal, a more formal consent letter was signed. This letter specifically authorized me to do informal observations and conversations with relevant adults or students in the school context, and documented the process for her choice about whether I should use a pseudonym or her real name in the research portrait.

Additional steps were taken to appropriately honor participant voice in this study. Quotes from other people besides the principal were attributed by role in ways that protect the speaker's individual identity as much as possible. A passive consent letter was sent home to parents, informing them that their students may be asked to complete a survey, speak with an evaluator, and/or be photographed doing CO-SEED activities. Further, once the near final version of the portrait was drafted, the CO-SEED staff person confirmed with the school secretary that a signed copy of a parental active consent letter was on file at the school for each child shown in each of the photos included in the portrait. These measures, with the exception of

the principal-specific informed consent letter, were in place for the archival data that was reviewed as part of this study. All data will be kept on file in my home office for as long as the CO-SEED program remains an evaluation client of mine, at which point the data will be destroyed.

These institutional authorizations were important but they were far less influential for the actual implementation of this study than the intrinsic empathetic regard for actors/subjects that I brought to the situation as a foundational requirement of the portraiture process. “The portraitist tries to imaginatively put herself in the actor’s place and witness his perspective, his ideas, his emotions, his fears, his pain” (Lawrence-Lightfoot & Davis, 1997, p. 146). It was particularly important for me to have a rock solid commitment to this kind of personal care for the actor because portraiture’s essential strength follows from the depth of relationship, rapport, and reciprocity between researcher and actor. It was my responsibility as researcher to always honor and manage these boundaries in order to do no harm. I fully embraced “the keeping of this covenant [that] requires that the boundaries declared between self and other admit intimacy even as they forbid trespass” (p. 160). My personal commitment to embodying this approach contained but also expanded well beyond the formal requirements of the official Institutional Review Board process.

“Why” these methods?

I think of the methodological choices involved in my dissertation as resting upon a three-legged stool, with the research question, the research context, and the

researcher stance each representing one of the legs. The sturdiness of the foundation of my research depends upon having a harmoniously aligned, balanced fit between these three features of the research design. The following paragraphs describe how utilization-focused evaluation (UFE) (Patton, 1997) and portraiture (Lawrence-Lightfoot & Davis, 1997) interweave as they informed each of the three legs of my research design.

Brief summary of approaches. As described in the previous section, UFE was the overarching methodological framework for this study. This means that all aspects of the design and implementation were geared toward making the evaluation useful to specific, high priority stakeholders of the CO-SEED program.

With UFE established as my methodological framework, the method I used to implement that framework was portraiture as formally described and displayed in the work of Sara Lawrence-Lightfoot and Jessica Hoffman Davis (1997; Lawrence-Lightfoot, 2000; Lightfoot, 1983; Davis et al., 1993), and as embodied by other narrative, story-telling research forms that strike me as very similar to portraiture, even if they are not formally self-identified as such (Fadiman, 1997; Terkel, 1999, 1997). “Portraiture is a method of qualitative research that blurs the boundaries of aesthetics and empiricism in an effort to capture the complexity, dynamics, and subtlety of human experience and organizational life” (Lawrence-Lightfoot & Davis, 1997, p. xv). It is an attempt to paint a picture with words that captures the essence of the subject, much like a painter tries to do when painting a person. This approach

freely admits, even emphasizes, the subjective nature of the relationship between researcher and subject.

The research question. The formal statement of the question guiding the construction of my research portrait was ‘How have place-based education, school culture, and leadership interacted at the Haley Elementary School over the last several years?’

UFE was an appropriate methodological response to this research question primarily because what was at stake are several levels of decisions about whether, to what extent, and how to continue with place-based education at Haley after CO-SEED’s formal tenure. The intended use of this evaluation was to inform those decisions.

There are some fairly straight forward reasons why the portraiture method was well-suited to the content of my research question. Place-based education, school culture, and leadership are all about context, and the operative dynamics of the contexts invoked by these themes are nuanced, extremely multiply determined, and hard to pin down. In portraiture “we cannot overemphasize the importance of context” (Lawrence-Lightfoot & Davis, 1997, p. 31). The “messiness and complexity of the natural environment” is seen as a “resource for understanding,” as opposed to as a “source of distortion” (p. 12). Also, as I described in previous chapters, using portraiture methods to address my research question was unique within the scholarly literature from a methods perspective. I broadened the type of methods

used to describe school culture and leadership, and extended the range of topics addressed by the portraiture method.

On a metaphysical level, portraiture is “framed by the phenomenological lens” (Lawrence-Lightfoot & Davis, 1997, p. xvi). My question about social and organizational change at the Haley school provided a fitting subject for the kind of curiosity that initially sparks a phenomenological investigation. My question emerged organically from previous UFE work that I and my colleagues had conducted. Our data suggested the existence of a kind of tipping point phenomenon in some schools’ culture after a couple years of systematic PBE intervention. This tipping point hypothesis grew from a positivistic analysis and interpretation of teacher-level data from 338 educator surveys spanning 55 schools and four different place-based education programs (Duffin, Powers, Tremblay, & PEER Associates, 2004). But even if this preliminary hypothesis did turn out to be “true” from the perspective of a correspondence theory of truth, the existing quantitative data could not really tell us much of interest about the rich details of what this kind of culture change really looks like in an actual site, or how it is experienced by people in a given school or community. Subsequent qualitative inquiry (Duffin, Powers, & PEER Associates, 2005) was consistent with the idea that place-based education and school culture may be linked by a kind of tipping point dynamic, but the story was still cast in broad, impressionistic strokes. I wanted more detail.

As I considered various qualitative approaches for researching these themes, I was initially guided by an intention to directly test the tipping point hypothesis. However, the deeper I looked, the more I saw that the “complexity and aesthetic of human experience” (Lawrence-Lightfoot & Davis, 1997, p. 4) implicated in the phenomena of place-based education, school culture, and leadership begged for a research approach that could more robustly accommodate and integrate multiple perspectives, adhering to a coherence theory of truth. The further I investigated portraiture as a potential method to answer my research question, the more resonance and coherence I discovered between portraiture methods and all three legs of the methodological stool/foundation of this study.

The research context. The dominant feature of my research context that I keep returning to is that it occurred as part of a practitioner-oriented, utilization-focused program evaluation effort. At each turn, portraiture emerged as consistent with this overarching purpose. The research portrait that resulted from this dissertation has broadened and deepened the range of evaluation products that the CO-SEED program staff have at their disposal for telling their story. Of particular note among intended uses is the goal of supporting conversations with CO-SEED’s primary funder, whom they anticipate will appreciate the stylistic accessibility of the research portrait format.

In general, the format of a research portrait product is more likely to be used in this particular research context because of its expressly lay person-oriented narrative style. “With its focus on narrative, with its use of metaphor and symbol,

portraiture intends to address wider, more eclectic audiences” (Lawrence-Lightfoot & Davis, 1997, p. 10). Other research methods such as variations on grounded theory (Clarke, 2005), other branches of phenomenology (Manen, 1990; Moustakas, 1994), or more generic theme coding approaches (Miles & Huberman, 1994) could have also been used effectively to gain useful insight about my research question. However, I determined that the processes and products involved in these other approaches did not resonate as strongly with the style and needs of the specific intended users in this program evaluation context.

Portraiture also reflects the CO-SEED staff’s own constructivist, practitioner paradigm. For instance, when first exploring the possibility of using portraiture as a method for the Haley school and/or other CO-SEED sites for the 2005-2006 evaluation report, one CO-SEED staff member wrote:

Stories communicate through archetypes common to all of us which connect to the reader on a number of levels ranging from the concrete descriptions and plots to the unconscious and symbolic meaning behind the struggles and challenges facing the characters in the stories. The fact that the stories are true and are connected to the data makes the data more real...at least to me (C. Toy, personal communication, January 9, 2006).

On a logistical level, the interpretive, boundary crossing, flexible frame of portraiture made it an appropriate if not elegant fit for the temporal structure of the data available in this research context. Discussion of this central pillar of the

rationale for the alignment between portraiture and my research context fits more cleanly into the section below titled “When did the relevant data occur?”

The researcher stance. The creative, artistic force driving the portraiture approach simply resonates more strongly with my own temperamental preferences as a researcher than the processes of other qualitative methods I considered. I also like portraiture because it is consistent with my ecological systems worldview and because it directly engages my intense appreciation for an artistic perspective on life.

Further, there is nothing in portraiture that is fundamentally inconsistent with my a priori commitment to utilization-focused evaluation. The pragmatist stance from which my UFE stance derives is a direct extension of my own former role/stance in my chosen career field. Perhaps ironically, during the first dozen years of my career as an environmental education practitioner I developed a systematic disregard for academic research. I only wanted information that was immediately relevant and directly applicable to my day to day practice as an educator or administrator. Research results and methods rarely made it through this self-imposed and largely pre-conscious information screening process, except when the occasional piece of apparently confirmatory research-based evidence happened to come across my desk. Entering the world of doctoral scholarship required me to find an acceptable relationship with the academic discourse that I had previously so summarily scorned as mostly irrelevant and esoteric. UFE turned out to be a perfect fit for me because it provided a formal, intellectually rigorous, and academically

acceptable system for focusing on real decisions by practitioners and policy makers. I now see my servant leadership (Greenleaf, 1998) role with respect to the field of place-based or environmental education as providing trustworthy qualitative, valid quantitative, and always high integrity research-based evidence to inform critical thinking about the field.

Summary of “why.” Each of the three legs of the methodological foundation upon which this dissertation rests reflects a fortunate and fitting harmony between utilization-focused evaluation as an a priori methodology and portraiture as a method for operationalizing it in this case. Perhaps this complementary fit between portraiture and UFE flows from the way that a paradox lives at the core of each of these approaches to social science research. When UFE privileges an emphasis on particular local decisions and de-emphasizes more generalizable knowledge, it runs the risk of losing touch with the larger social science enterprise of which it is a part. Portraiture attempts to blend aestheticism and empiricism, yet the goal of art is to make the explicit implicit, whereas the goal of science is to make the implicit explicit. These somewhat paradoxical essences make for porous intellectual boundaries, amenable to creative adaptation to both universal themes and particular human stories.

By combining UFE and portraiture, I encountered a rich field of methodological possibilities and boundary crossings that reflected and even embodied the inherent complexity of place-based education, school culture, and leadership. “It is in the resolution of this generative tension between the requirements of responsible research

and the potential of artistic expression that the portraitist will successfully create an aesthetic whole” (Lawrence-Lightfoot & Davis, 1997, p. 37).

One interesting way in which this tension expressed itself was in the choice of format for presenting the final research portrait which is chapter four of this dissertation. Double-spaced, single-sided manuscript pages with detailed references, pre-defined criteria for graphics appended to the end of the narrative, and consistent heading styles are extremely useful guidelines if the intended use of a document is facilitating scholarly discourse across a wide range of disciplines. Thus all the chapters of this dissertation except chapter four and Figure 7 below follow strict APA format (American Psychological Association, 2001). The portrait in chapter four, however, has a different intended use, which is circulation among administrators and practitioners in public school settings. For this audience, single spacing, double siding, footnotes, and flexible graphic layout are more appropriate. Beyond that, I took the aestheticism that is at the core of the portraiture method and extended it beyond the bounds of the narrative text to incorporate the visual look and feel of the portrait as well. The need for the final portrait to function as a stand alone piece also guided my choice to honor the authorship protocol of my consulting firm, and add PEER Associates, Inc. as a second author on the cover, and named in the footer, even though I designed and implemented the entire investigation myself.

At nearly every turn, the choice to simultaneously honor the essence of both UFE and portraiture engendered a more thorough and conscious decision making process for me as a researcher.

“Where” is the best place to find appropriate data?

The decision about which PBE site to focus this dissertation on was intertwined with the decision about which methods to use. The sequence and rationale unfolded as follows.

The core curiosity that intrigued me, my colleagues, and my clients centered on this idea of a tipping point phenomenon that had emerged from looking across the two whole school change model programs in the Place-based Education Evaluation Collaborative. I chose to focus on one of those programs, CO-SEED, because it presented more possibilities for synergistic integration with existing program evaluation plans for the current year. For instance, the timing worked out in such a way that I could do a practice portrait of one of the four CO-SEED sites to be evaluated this year prior to doing the portrait that became this dissertation. This practice portrait provided CO-SEED staff with a tangible example of what they were being invited to support. It showed them how portraiture methods could be consistent with their utilization-focused needs, and it thus it functioned as a pilot study for this dissertation.

Through extensive conversation and negotiation between myself and CO-SEED staff, we identified three reasons to focus my dissertation portrait on the Haley school and its principal. While a different CO-SEED site may represent a more integrated and extreme version of the place-based education tipping point hypothesis, we decided that the Haley school probably represented a more dramatic turnaround in a more typical school setting. Thus, the Haley story is potentially more transferable to

more school contexts. A second rationale was that the leadership style of Haley's principal was likely to lend itself to a more contained and focused data collection process, appropriate for the scope of this dissertation. Lastly, choosing the Haley school site as the place to invest additional dissertation-oriented time and intellectual resources created a pleasing balance among the current group of CO-SEED sites in terms of the range of peripheral, value-added activities provided above and beyond the prescribed CO-SEED contract with the participant schools.

"When" did the relevant data occur?

One of the most noteworthy features of the data included in this study was the opportunity to blend archival data with newly collected data. This added a longitudinal dimension to the data interpretation. Three threads of data were collected and analyzed. New Data Thread A refers to the set of semi-structured interviews and other documentary data that would have been collected as part of the regular program evaluation contract at this site, regardless of whether or not this site was the focus my dissertation. New Data Thread B refers to the set of more in depth conversations that focused primarily on the leadership story of the Haley principal. The Archival Data Thread is the set of interviews, surveys, and other documents that have been collected, analyzed, and reported during the previous two years of CO-SEED program evaluation at this site. See Figure 7 below for a summary of the data collected and analyzed for this investigation.

Figure 7. Sources of Evaluation Data for CO-SEED Haley School Site, 2003-2006

	New Data Thread A	New Data Thread B	Archival Data Thread
Interviews/ Conversations (Approx. total = 60)	<i>Program year 3 wrap up interviews, 6/7-8/06: 9 Teachers (singly, or in pairs), 1 CLC Representative, 5 parents (focus group), 1 CO-SEED program staff, 4 5th grade students (focus group)</i>	<i>Leadership exploration interviews, 6/7-14/06: 2 in-depth conversations with Principal (in person and by phone), 1 former Parent Council Member (by phone), 1 Director of supporting organization (by phone), 1 veteran Teacher</i>	<i>Program year 1 pre-interviews, 11/3-4/03: 16 Teachers (mostly in grade level or subject teams), 1 Principal, 1 Education Director of CLC, 1 CLC Representative Program year 1 follow up interviews, 5/27/04: 8 Teachers (in pairs), 1 Principal, 1 Education Director of CLC Program year 2 check in interviews, 6/8/05: 9 Teachers (singly, or in small groups), 1 Principal and 1 Education Director of CLC (together)</i>
Sample Type	Representative of school/ program staff	Cascading, theoretical	Representative of school/ program staff
Content Focus	Primary: evaluation of CO-SEED program; Secondary: leadership story of principal	Primary: leadership story of principal; Secondary: evaluation of CO-SEED program	Evaluation of CO-SEED program
Data Handling	All recorded, transcribed, exhaustively analyzed	All recorded, transcribed, exhaustively analyzed	Previously recorded, transcribed, analyzed, reported (some exhaustively, some informally); All re-viewed for longitudinal perspective, reflection
Observations, Documents, Other	Monthly reflection forms and SEED team mtg. minutes (Sep 04-Jun 06), survey results (23 educators, Apr 06, 4 th /5 th graders, May-Sep 06), grade level planning documents, professional development data, science kit use data	Observations of student science fair, focus groups/informal presentations re: science fair projects from 2 nd , 3 rd , and 5 th graders, School On The Move prize application, observation of “meet the new principal” session	Observation of SEED team meeting, observation of one classroom, monthly reflection forms (7 from CO-SEED staff, Oct 03-May 04; 2 from CLC staff, Sep, Nov 03), SEED team meeting minutes (13, Oct 03-Jun 04), survey results (58 community members, Sep 03; 21 educators, Oct 03; 66 4 th /5 th graders, May 04), prioritization activity results, grade level planning documents, year end staff reflections, data on science fair, teacher involvement in hands-on science activities, student performance on statewide standardized tests

Combining archival and new data for this study placed me right at the center of a philosophical tension between various branches within phenomenological inquiry. The question centers on whether I should have (or could have!) “bracketed” the prejudices and assumptions that I had as a result of two years prior involvement in the evaluation of CO-SEED at the Haley school. Did my relationship with archival data limit my ability to see and interpret the new data with a fresh attitude?

LeVasseur (2003) describes how this debate has played out in the field of nursing research. I see her observations as transferable to consideration of the ontological tension inherent in the temporal dimension of the data for my particular research context. She claims:

The most significant difference between Husserl and the existentialists who followed him was that the existentialists held that essence is not separable from existence...This difference constitutes one of the essential methodological points between Husserl’s phenomenology, which was an attempt to describe the essence of phenomena, and the work of the existential and interpretive phenomenologists, such as Heidegger, who followed. In existential and hermeneutic phenomenology, bracketing is considered, ultimately, an untenable project. (p. 415)

I followed the more interpretive phenomenological stance, believing that my “existence” as human evaluative instrument already tainted with the data and interpretation of two years of previous program evaluation was not eradicable. On

the contrary, I think that my previous work *enhanced* my ability to see the essential aspects of culture change that were at play in this context.

LeVasseur also offers a potential way to resolve the “dialectic between...momentary new impression[s] and our old understandings” (p. 419) through redefining the attitudes to which bracketing ought to be applied. She suggests:

One way to reconcile phenomenological reduction and bracketing with Husserl’s theory of intentionality, which it seems to contradict, is to regard bracketing as extending only to our natural attitude, that is, to the ordinary lack of curiosity with which most of life is lived. (p. 417)

This approach invokes the hermeneutic circle of questioning prior interpretations as a way to move progressively closer to a new interpretation which can again be questioned in infinite regress.

LeVasseur’s solution is consistent a portraiture approach. Portraiture uses the terminology of “researcher preoccupations” and “anticipatory schema” to situate the researcher at the nexus of openness to new curiosity and willingness to make subjective interpretation based on old understandings. By making my “anticipatory schema” explicit in the introduction of this proposal, I attempted to exemplify what Lawrence-Lightfoot & Davis describe as a “central paradox” of the beginning phase of developing a research portrait. “The articulation of early presumptions does not inhibit or distort her clear vision; rather it is likely to make her lens more lucid, less encumbered by the shadows of bias” (1997, p. 186). Portraitists do intentionally step

out of their “natural attitude” of every day awareness and into a more philosophic (in this case, aesthetic) attitude as both LeVasseur and Husserl suggest. Portraitists, however, embrace rather than bracket that philosophic attitude, consistent with LeVasseur and existentialists, but divergent from Husserl’s position. This is essentially the approach I took in this dissertation.

While analyzing the new data for this dissertation I also re-read archival transcripts, field notes, and reports with a portraitist’s curious eye for triangulating the emergent themes that inhered in the new data threads. To be clear, I did consciously rely on the “prejudices” that I had developed from my previous evaluation experience at this site. I had interviewed most of these actors two or even three times over the last two years, and systematically analyzed that data using relatively straightforward thematic coding techniques (Miles & Huberman, 1994). In short, this helped me more clearly place many actor comments in a historical and idiosyncratic context.

My approach was also consistent with portraiture’s focus on in depth relationships. In the words of Lawrence-Lightfoot & Davis, “Portraits are constructed, shaped, and drawn through the development of ...productive and benign relationships...It is in the building of relationships that the portraitist experiences most pointedly the complex fusion of conceptual, methodological, emotional, and ethical challenges” (p. 135). This requires “watching, listening to, and interacting with actors over a sustained period of time” (p. 12).

From a utilization-focused evaluation perspective, building this year's evaluation upon the foundation of interpretations and relationships developed from the two previous years of program evaluation was plainly pragmatic, and led to a more useful product. So, once again, the methodological demands of portraiture and UFE reinforced each other, binding my research question, research context, and researcher stance together into a coherent, holistic design.

“What” type of data to collect?

Figure 7 above suggests some of the different types of logic used in determining the data to collect in each thread. The sample chosen for New Data Thread A essentially followed a pre-post logic, building off of the Archival Data Thread. In each of these threads, the specific schedule of who to be interviewed and when was decided upon by the CO-SEED staff person with consultation and guidance from me to encourage that the sample was as representative as possible of the range of perspectives within the population of educators at the Haley school. New Data Thread B, however, followed a cascading, theoretical sampling model more typical of portraiture, with openness and flexibility of the plan and agenda being the dominant guides. Lawrence-Lightfoot & Davis describe this as an “iterative...dynamic process of receptivity, negotiation, and accommodation” (1997, p. 186). Generally speaking, this process is wonderfully resonant with Patton's admonition to utilization-focused evaluators to be “active-reactive-adaptive” (1997, chap. 6, pp. 117-146).

I also used New Data Thread B as an opportunity to bring more balance to the data set as a whole in terms of the tension between emotionalist (Gubrium & Holstein as cited in Silverman, 2005, p. 10) versus constructionist (Denzin & Lincoln as cited in Silverman, 2005, p. 10) models. The Archival Data Thread represents a subtle personal bias towards emotionalism I have exhibited in my professional and scholarly work. I have tended to focus interpretative energy primarily on participants' own expressed views of their experience and their conscious understanding of what it means to them. Thus, interviews have been a preferred data source. This model is essentially consistent with a phenomenologist perspective.

A constructionist model, however, tends to place more emphasis on observational data and the researcher's interpretation of observed behaviors of subjects/actors. A stylistic bias towards this model is exemplified in some of the teachings of case study artist Robert Stake (1995). Yielding to my own dialectical interactionist (Greene & Caracelli, 1997) tendencies, I included more observational data in New Data Threads A & B than I have in previous years of program evaluation at this site. While interviews were still the dominant data source for this study, I was able to triangulate that emotionalism with proportionately more observational data collected from the perspective of an intentionally constructionist mindset. I followed Lawrence-Lightfoot & Davis' advice this year more than I have in the past: "It is also most important to leave space for unscheduled time to roam the halls and speak spontaneously with actors on the scene" (p. 166). In fact, I was

surprised at how much of this more informal observational data ended up being included in the final research portrait.

Drilling down past Figure 7 to the next level of detail in terms of what type of data to collect, the interview guide presented in the appendix of this proposal shows a long list of main questions and additional prompts. Taken at face value, this guide appears heavily structured. In practice, though, I used these questions more as suggestions or reminders to myself. My primary intention was to engage actors in conversation, hopefully approaching something like candid dialogue that reflects a deep rapport. So, the interview guide is more indicative of my own researcher preoccupations than it was a prescription for data collection.

Having committed firmly to the coherence theory of truth that forms the epistemological foundation of portraiture's phenomenological frame, I became less concerned about the specific format of what type of data to collect, and more concerned with the extent to which the data further elucidated the essential aspects of the situation. Thus, it was perfectly natural to take the quantitative data and analysis strategies that had sparked the idea of a school culture tipping point in the first place, and re-introduce them directly into the body of the research portrait. Despite the purely positivistic paradigm we tend to associate with statistical formulations, this particular portrait could easily accommodate both descriptive and inferential statistical analysis as additional sources of data to discover and reveal the essential phenomenon at play in the context. This use of multiple-methods was a

logical, if perhaps atypical, embodiment of the way that portraitists intentionally seek triangulation among story sources for articulating emergent themes in the data.

My choice to integrate quantitative data into a qualitative portrait was also driven by the utilization-needs of program clients who feel compelled to ‘speak in numbers’ in order to establish entry level legitimacy in the minds of policy makers who are guided by the *No Child Left Behind* frame.

“How” to analyze the data?

This latter phase of dealing with the data is where the portraiture method had its strongest imprint on my dissertation. Although I used Nvivo 7 qualitative software (QSR, 2006) to initially organize and analyze data from interview transcripts, field notes from observations, researcher memos, and text from other documents, the spirit and practice of my analysis process was highly fluid and ultimately guided by my own unique blend of empiricism and aestheticism. The resulting research portrait depicts the strongest or most provocative emergent themes, based upon my sifting and melding of the resonant metaphors, repetitive refrains, and dissonance within the data into an aesthetic whole (Lawrence-Lightfoot & Davis, 1997). As a portraitist, I claim the right to have my analysis guided by my artistic instincts as I listen for the stories of goodness and imperfection embedded in the data. This right, however, is balanced by my responsibility to be tough as well as generous, skeptical as well as receptive, and, in the final analysis, accountable to the actors’ and readers’ stamp of authenticity.

In portraiture, “the identification of emergent themes does not reduce the complexity of the whole; it merely makes complexity more comprehensible” (p. 215). At the same time, “the researcher must set aside her need for control, order, and stability and submit to the complexity and instability of real lived experience” (p. 191). To add yet another level of tension to the process, I also transgressed what Boje (2001) presents as a distinct boundary between story and narrative, thus exposing my analysis to charges of creating a “terrorist discourse..., [a] narrative [that] degrades storytelling, replacing it with new plots and more cohesion than inheres in the field of action” (p. 122). It is a bold, potentially arrogant claim that a portraitist can, “through structuring an aesthetic whole, recognize and represent order in what insiders may perceive as disorder” (Lawrence-Lightfoot & Davis, 1997, p. 36). Ultimately, this is simply the interpretive risk an artist must take, even when the material is fully grounded in empirical social science research.

Summary: Paradoxical, tension-filled wholes

Who, Why, Where, When, What, and How have helped me organize the myriad types of paradoxes that permeated the conception, collection, and construal of data for this study. These types of tensions, paradoxes, and boundary crossings are, however, the source and spark for what makes portraiture a particularly exciting method of research. For me, these were generative tensions that embraced my aesthetic drive for unity and balance, and allowed the research portrait to reach beyond the confines of a narrower framing of academic research. I attempted to create a “balanced composition, [in which] all factors of shape, direction, location,

etc. are mutually determined by each other in such a way that no change seems possible, and the whole assumes the character of ‘necessity’ in all its parts” (Arnheim, as cited in Lawrence-Lightfoot & Davis, 1997, p. 33).

Turn this page and you will find chapter four, consisting exclusively of the stand alone final research portrait of the Haley school. It is presented exactly as it was to the actors and clients at the site. Chapter five of this dissertation presents evidence that key actors and clients have blessed the authenticity and utility of the document as written. As the author, I can also confidently claim that the portrait strikes a satisfying balance between the wide range of empirical data I collected and my own sense of aesthetic wholeness. The remaining judge of the essential merit of this portrait is you, the critical reader.

Chapter 4: Evaluative portrait of Haley Elementary



Portrait of an Urban Elementary School: **Place-based Education, School Culture,** **& Leadership**

*An Evaluation of **Project CO-SEED**
At the **Dennis C. Haley Elementary School**
2003-2006*

Prepared for:

**Antioch New England Institute
& the Place-based Education
Evaluation Collaborative (PEEC)**

Prepared by:

**Michael Duffin
& Program Evaluation and Educational Research
(PEER) Associates, Inc.**

September 19, 2006

CO-SEED is part of the Place-based Education Evaluation Collaborative (PEEC), a unique partnership of organizations whose aim is to strengthen and deepen the practice and evaluation of place-based education initiatives.

PEEC programs (and organizations) include the CO-SEED Project (Antioch New England Institute); the Community Mapping Program (Vermont Institute of Natural Science, in partnership with the Institute for Technology Development, and with previous support from the Orton Family Foundation); the Sustainable Schools Project (Shelburne Farms, and the Vermont Education for Sustainability Project); the Litzsinger Road Ecology Center (Missouri Botanical Garden); and A Forest for Every Classroom Project (Shelburne Farms, The Northeast Natural Resource Center of the National Wildlife Federation, The Marsh Billings Rockefeller National Historical Park, The Conservation Study Institute, and Green Mountain National Forest). In addition, the Upper Valley Region of the New Hampshire Charitable Foundation provides funding and support for several of these programs through its Wellborn Ecology Fund, as well as financial, administrative and staff support for collaborative evaluation and research efforts.

NOTES:

Thank you very much to the individual teachers, administrators, students, community members, and CO-SEED staff who so graciously participated in this evaluation.

A special note of appreciation goes to Jean Dorcus for her willingness to participate so fully and openly in this study. Best wishes to her for a peaceful retirement, despite all she has worked through.

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This report was authored by Michael Duffin of PEER Associates, Inc. Principals for PEER Associates Michael Duffin and Amy Powers can be contacted at Amy@PEERassociates.net or Michael@PEERassociates.net.

EXECUTIVE SUMMARY

Project CO-SEED's primary purpose is to help schools and communities work together to simultaneously strengthen academic achievement, community vitality, and environmental quality. CO-SEED⁴ is a project of Antioch New England Institute of Antioch University New England in Keene, NH, and has been implemented at twelve sites since 1998. The project works with a given site for three or more years, providing funding for a half time staff person from a local community organization and mini-grants, as well as facilitation of a community visioning event, a steering committee, and professional development for school staff.



The subject of this report is CO-SEED's work at the Dennis C. Haley Elementary School in the city of Roslindale, MA, a part of Boston. CO-SEED's official tenure there lasted from September of 2003 through July of 2006. Each year CO-SEED conducts extensive program evaluations, and all reports are made available on the web at http://www.peecworks.org/PEEC/PEEC_Reports/. As part of this year's evaluation, I spoke with Haley staff, parents, and students about their work with CO-SEED over the last three years, and also sought to place that within the larger context of the ten years of leadership by the retiring principal. The complete list of interview, survey, and document data reviewed for this report is summarized in Table H7 in the Appendix.

The format for presenting my evaluation findings is a narrative portrait. Portraiture⁵ is a particular type of qualitative research method that intentionally blends the aesthetics of narrative artistry with the rigor of empirical research. It is an attempt to paint a picture with words that captures the essence of the subject, much like a painter tries to do when painting a person. This approach freely admits, even emphasizes, the subjective nature of the relationship between researcher and subject. This allowed me to usefully capitalize on the relationships I have developed during evaluation interviews at the Haley over the last three years.

This report on the Haley site will be folded into a larger report that summarizes quantitative and qualitative evaluation findings for four different CO-SEED sites (including Haley), all of which wrapped up their three years with CO-SEED in the 2005-06 school year.

⁴ The word "CO-SEED" stands for Community-School Environmental Education.

⁵ See Lawrence-Lightfoot, S., & Davis, J. H. (1997). *The art and science of portraiture*. San Francisco: Jossey-Bass.

This is a story about how an external program, a willing and ready school community, and a skillful school leader can amplify each other to achieve a shared vision under challenging conditions. The main themes of this narrative portrait are:

- The schoolyard and other local natural areas have become extremely popular places for teaching and learning, and have inspired increased parent involvement.
- Science has been enthusiastically embraced by most teachers and students, especially in connection with the annual “science spectacular” symposium.
- New outdoor and science teaching norms have combined with existing strengths around student discipline, innovative literacy education, and a strong partnership with the Boston Nature Center to create a very strong, coherent school culture.
- In sum, over the last decade the Haley school has transformed from an under-subscribed school in chaos and lacking focus into a vibrant, highly sought, model environmental school.
- The leadership of Jean Dorcus as principal was a critical factor in Haley’s success. Her style is characterized by listening, calmness, and action.
- The next few years will provide a critical test of the sustainability of the Haley’s place-based education culture. Most people are cautious but confidently hopeful that the good work will continue and even grow.



- Recommendations emphasize institutionalization of what has worked well, continuation of longitudinal evaluation, and suggestions for transferring lessons to other schools.

ABOUT THE HALEY

The Dennis C. Haley Elementary School serves approximately 300 students, grades K-5, and is located on a busy highway in Roslindale, MA that connects Boston proper with the urban areas south of Boston. Because the Boston Public Schools system allows parents to have some choice in which school their child attends, many of the Haley School's students do not live in the immediate neighborhood. Haley has an unusually large schoolyard for an urban school, with a grass field, play equipment, and a constructed wetland, all recently renovated or created in partnership with the Boston Schoolyard Initiative. School uniforms are mandatory, breakfast is offered free to all students, and the school is officially designated as a "Peace Zone." The place-based education support of the CO-SEED project has helped the Haley School to deepen its pre-existing mission to become a model environmental school.

Demographically, approximately two-thirds of the students are identified as African American, one-quarter as Hispanic, and the remainder as White, Asian, or Native American in decreasing percentages. Approximately two-thirds



the 31 staff are described as White and one-quarter as African American, with two staff members identifying as Hispanic, and one as Asian.

Demographic trends are changing in recent years, especially in the incoming Kindergarten cohorts.

The Haley School began its three year CO-SEED journey in the fall of 2003. The Community Learning Center (CLC)

partner organization is the Boston Nature Center (BNC), a Mass Audubon program headquartered at a nature preserve within walking distance of the school. Before CO-SEED started at the Haley, BNC had been placing a naturalist in the school part time for two years as part of their own pilot program to establish in depth relationships with Boston schools.

Jean Dorcus was brought in as the principal of Haley in 1996 to reverse a period of rapid decline in the quality of the school. By the time she retired in 2006, the school had changed dramatically in many ways. It was curiosity about how such changes happened that inspired me to combine my evaluation of the CO-SEED program with my doctoral study in leadership and organizational change.

BOOTED OUT THE DOOR

The schoolyard at Haley has become a key component of the curriculum. The list of learning adventures conducted in the schoolyard just this year alone is long and varied (See the Appendix for a Project Summary). For instance, the Kindergarteners explored their five senses in the herb garden they planted. The second graders displayed an impressive ability to organize and verbalize the knowledge they gained from exploring, identifying, and categorizing insects they found in the schoolyard. For the science unit on the 'structure of life,' the third grade compared and contrasted detailed sketches they made of critters from the mini-wetland with critters they had found in other parts of the schoolyard. Most grades used the schoolyard for nature journaling or other writing assignments, including the systematic observations recorded by first graders for their 'changes over time' unit that incorporated a winter solstice celebration. Special needs students used the physical structures in the schoolyard to study math and play games to sharpen basic social skills. There was bird watching, animal tracking in winter, weather stations, bulb planting, worm beds, wetland soil investigations, and more. Educators spoke of the "huge difference" in the amount of learning activity going on in the schoolyard now compared to a few years ago. One educator described CO-SEED's legacy as "moving from indoors to outdoors...they really have booted us out the door to explore what is right here on the grounds of the school."



The schoolyard seems to be connected to student behavior beyond the more formal academic curriculum as well. Educators reported observing healthier outdoor play in the schoolyard at recess, with fewer behavior issues and the recent emergence of more nature oriented play. I experienced this myself when I arrived at the Haley in early May this year to observe the Science Spectacular event. While walking toward the front door, two students (maybe first graders) intercepted me and, unprompted, began enthusiastically explaining to me how they were "catching flying ants to grow a colony!" It struck me as particularly interesting that these students were conducting their explorations in cracks in the paved courtyard part of the schoolyard as opposed to the grassy field or other more "natural" areas. When I mentioned this encounter to the principal, she countered that she liked spring time because some students begin spending their recess time catching crickets to feed the bearded dragon lizard that lives in a terrarium in the school lobby, thus dispensing with the need to buy crickets at the pet store.

In summarizing this past school year, one educator said: “Kids now see the garden as something you don’t just run in to get the ball. They appreciate it as a different space. My own kids have mastered how to use the garden.” Another claimed: “We can see 50 kids playing basketball and they are organized and cooperating.” The principal credited the schoolyard as one factor influencing social behavior: “Once the kids had a nice place to be outside, they respected each other differently, they played differently.”

The parents I talked to appreciated how “the schoolyard is very attractive and really tied to the curriculum.” Parents have formed a large portion of the more than 50 people who show up at the “School Yard Fix Up” events that now occur once or twice a year. These enthusiasm-generating and highly productive clean up events are one of the major activities organized with the help of the “Visual Identity” committee. This group of mostly parents and a few staff members works to improve the appearance of the school and to help motorists whipping along American Legion Highway to realize that this stretch of road really is a school zone. During the summer of 2005, the Visual Identity group commissioned the city mural crew to paint the front part of the school building using images from the natural world as a way to highlight the school’s environmental theme. This group also has plans currently under way to design and install a decorative “theme” fence along the busy road. This work centering on the schoolyard is an example of the “sort of parent involvement [that] led to a lot more people coming to the parent council. It gives people something to organize around.” In short, Haley’s schoolyard has become a place that brings educators, students, and their parents together.

The grounds of the Haley Elementary school were not always such a vibrant and inviting place. In previous decades, parts of Haley school grounds was known as an after hours hot spot for prostitutes and other shady business.

A parent told the following story when asked to capture the “essence” of the Haley school:

“A couple weeks ago the first graders put in a big perennial garden with probably about 60 different plants. I’ve been gardening my whole life, and there’s really a particular way to plant a plant. And so, these kids, I’d sit them down, and I would start to show them how to plant the plant. And they were totally with it.

I said ‘Do you have a garden at home?’ ‘No.’ ‘How do you know this?’ ‘Well, because we do this all the time.’ They knew about handling plants and how they worked and what the parts of the plant were, and what sorts of things were in the soil.

Trying to get them to dig a hole without gently taking every single worm and moving it to another part of the garden is just exhausting! Where most kids find a grub and they are going AHHAH!!! [in fright/disgust], these kids were beside themselves with excitement because they found this Japanese beetle grub.

So, that was one really wonderful moment for me to see all these kids who really don’t have much interaction with the environment outside of their school have such an understanding of it. And they’re only seven and six years old.”

Now there are shade trees for quiet reflection, several different gardens and planting zones, a weather station, a colorful play structure surrounded by an attractive fence adorned with nature and philosophy quotes, a basketball court, grassy play field, constructed wetland, and a growing list of other learning-oriented features.

Many of these physical renovations happened as part of the Boston Schoolyard Initiative. In 1996, the Haley was one of the first schools chosen to receive funds from this city wide public-private partnership. Re-building the schoolyard as an outdoor classroom was one of the first key steps the Haley took toward becoming a model environmental school. It seemed to the Boston



Schoolyard Initiative staff that the Haley had the interest and commitment to make the schoolyard into more than just a place to play. Another selling point was that the Haley was beginning to build strong partnerships with other community partners such as the Boston Nature Center (BNC).

Today, use of the outdoors for learning at Haley is not limited to the schoolyard. The BNC is a 67 acre nature preserve, community garden, and environmental learning center run by Mass Audubon and located just up the street from the Haley. The words people used to describe having access to this “second classroom” included “incredible,” “phenomenal,” “wonderful,” “huge,” and other

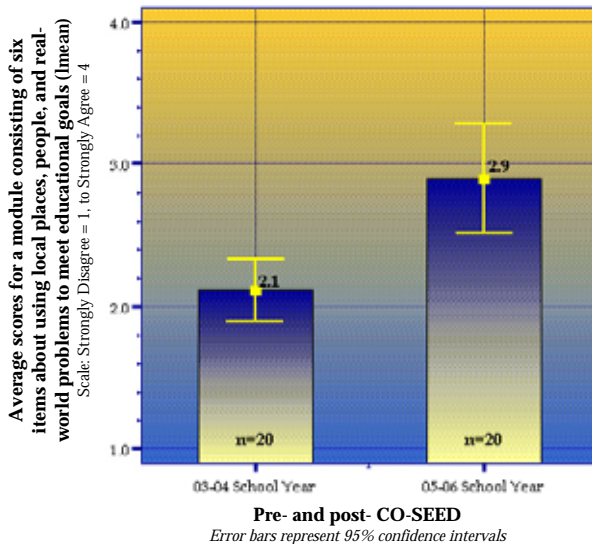
expressions of gratitude and fortune. One educator explained: “I just see more people saying ‘Oh, I am taking my class to the Boston Nature Center.’ Before it was a major field trip and now it’s just ‘I have 30 minutes so I am going to go over there.’” A nearby cemetery has been used extensively for nature and social studies explorations as well.

What I heard and saw about use of the outdoors for learning at the Haley is very consistent with data



from surveys⁶ designed to gather insight into intended outcomes of the CO-SEED program. Figure H1 shows large, statistically significant gains⁷ in this area over the course of CO-SEED's three years working with the Haley.

Figure H1. Educator Use of Local Resources
From CO-SEED educator surveys, 2003-06, HALEY SITE ONLY



While CO-SEED was credited with being the “catalyst,” “glue,” and the “right type of program at the right time” to facilitate dramatic changes in educator practice, the prior groundwork was almost certainly essential.

Ten years ago most of the inside of the school was one big open space. It felt like the bowling alley that the building used to be. The climate was noisy and chaotic, despite efforts by teachers to use bookshelves and cabinets to create enclosed classroom-like spaces. It

was clear that the “school without walls” philosophy that Jean Dorcus inherited when she became principal in 1996 was not working. So, with carefully crafted consent from her teaching staff and the parent council, walls were built after her first year.

Seven more years of hard work getting the school in order set the stage for the place-based education principles that CO-SEED brought to the table in 2003. Now, in 2006, with the emergence of a culture that strongly encourages and supports using the schoolyard, the grounds at the Boston Nature Center, and other outdoor places as the curriculum and context for learning, it seems that Haley has become a bigger and better kind of “school without walls.” While the inside walls of the school building may have gone up, the outside walls of the building have (metaphorically) disappeared. One educator summed up the effect on her students:

“The best thing bottom line is the fact that our students are experiencing a whole ‘nother section of the city. Where they come to school is different from where they live, and when they come to our school they get to venture out from the school and explore the environment that is near by. Having that experience hopefully will translate to them going home and feeling more comfortable exploring any environment.”

⁶ Surveys were administered to educators and students in the fall of 2003, just as CO-SEED began, and then again to educators in the spring of 2006, as CO-SEED wrapped up its formal three year tenure. Student post-surveys were administered in fall 2006. Complete survey data and copies of survey instruments are presented in the Appendix of the full 2005-2006 CO-SEED report.

⁷ Increases in group means of greater than one standard deviation, non-overlapping confidence intervals, $p < .01$.

SCIENCE SPECTACULAR

The annual science fair has “driven a lot of the outdoor classroom activity.” During 2003-2004, CO-SEED’s first year, the education director of BNC and the Haley principal pushed for a major restructuring of the science fair. The CO-SEED staff person and the BNC teacher naturalist then led the charge for implementing the changes. For the previous several years, students had done individual projects at home, with final products often reflecting canned activities from a book or the internet or the level of help a student received from his or her parents. In the new symposium format, students designed and carried out research projects in teams during regular class time, with a special emphasis on inquiry and with strong encouragement to choose projects with an environmental focus. This switch meant a lot of extra work for already overburdened classroom teachers, but the higher quality of projects and, especially, the enthusiasm of the students ultimately convinced people that the extra work was worth it.

“The Boston Nature Center has really done wonderful things to change the way science instruction is taking place at the Haley.”
– Superintendent of Boston Public Schools to the BNC education director just over a year into CO-SEED’s tenure at Haley

The 2004-2005 school year saw continued momentum with the new format. Refinements included renaming the event to the “Science Spectacular,” bringing in more parents and adults to participate in student presentations, tying research questions more closely to grade level units and the Boston Public Schools science kits and standards, systematizing inquiry process guidelines, and, perhaps most importantly, expanding the planning and preparation for the event into a whole year process starting in September. Some educators began to “get out of the notion that the science fair is only a one month deal... [and, instead] do kind of three little mini expos and then put it all together as ‘my big whole year.’” There were some negative feelings about deciding at the last minute to expand the presentations all the way down to the Kindergarteners, and some people noted that some of the student questions were not as



researchable as they could be. But overall, end of year evaluation interviews were notably lacking in discussion of the science fair related time stress that educators had talked about so much in the previous year’s interviews.

By 2005-2006, the science spectacular seemed to really hit its stride. People described it as

“much more inclusive and powerful,” “unbelievable,” “much more integrated,” “having more of a focus,” “every single group right on with their questions,” and “executed a lot more smoothly.” For all grades except one, the content of the science fair investigations (e.g. decomposers, earth materials, wetland soils and plants, to name a few) connected back to the schoolyard or other outdoor natural settings. Classroom teachers had shared language for and commitment to the basic process of scientific inquiry. By this point, the Haley’s science specialist had really become the “main force for implementation,” an important piece for the long term sustainability of the practice.



The science fair, science in general, and teaching outdoors have all reinforced a teaching philosophy at the Haley that is “not just an environmental perspective, [but] an integrative approach to education.” Whether it is approaching social studies by comparing New England weather and culture with foreign countries, using nature journals to practice a new writing genre in writer’s workshop, or using CO-SEED funds to purchase new non-fiction reading books with environmental themes to support the literacy program, the “expectations have changed because it is expected that you integrate outdoor education in all of your subjects.” Some classroom teachers are “skeptical,” even “sick to death” of the way that interdisciplinary integration can morph from an elegant idea in theory to, in practice, just “more pressure” from “the noose called MCAS”⁸ or No Child Left Behind or other stressors. But CO-SEED, the Boston Nature Center, and the Haley staff seem to have found a way to make it work. In the words of the principal: “[CO-SEED] is over and as you can see, we’re in a really, really good place. The teachers are saying they’re comfortable with the science curriculum. They’re comfortable with the integration of work.”

Nearly everyone I talked to mentioned how important it was to have the two full days of professional development and planning in grade level teams. These “ritualized planning” events really allowed the science and other place-based curriculum to take shape. They occurred in a distraction-free environment away from the school, and generated fruitful dialogue (“Some people’s ideas are better than others... I learned a lot, and that got me excited to try different things”). In addition to creating space for classroom teachers to “plan lessons in a concrete way, not just ideas, but real planning,” these days fostered further “camaraderie” and “collegiality” among a teaching staff that feels increasingly “on the same page.” According to the principal, “the best thing you can do for teachers is give them time to plan.”

⁸ Haley is subject to the high stakes, standardized tests known as the Massachusetts Comprehensive Assessment System, or MCAS for short.

The payoff for the Haley's hard work on science, interdisciplinary integration, and shared planning time is the way the curriculum hooks in students, educators, and even parents. Many educators said things like "The minute I said it was time for science, it was like Wow!, I almost had to hold [my students] back because they were so excited." The science specialist, who has the opportunity to work with all of the students in the school as he rotates through the classes, claimed: "I have seen the children change in their attitudes towards science. They are much more excited about science. They are more intensive. It is much more meaningful to them." Educators claimed their students are "more motivated, asking better, more critical questions" and

"I have friends who have kids my son's age, and they don't even know the science thing. I was impressed with what [son's name] learned... in the 3rd grade [with] their little science project. He knows what he's talking about. It's not just like all fluff."

– Haley Parent

"see[ing] themselves as scientists, observers, and they see that as an important, important thing."

I was fortunate enough to receive personalized presentations of this year's science fair projects from small groups of second, third, and fifth graders during one of my evaluation visits.

Despite my own personal fascination

with and training in earth science and ecology, I must admit that I was surprised at the level of brimming enthusiasm the second graders expressed about their sand, silt, and gravel projects. I was also reminded of the trial and error process of scientific investigation when listening to the fifth graders who unflinchingly presented the results of their experiment that suggested that moss grows better without sunlight. I asked each group what they would do to make the school a better place for learning. One second grader said "I would talk more about science," while another said "I would let the kids go on the field trips three times a week." A third grader responded with "bring like scientists and stuff to the school, so we could learn off of them." My overall impression was of students who were unusually engaged and familiar with science for their ages.

Apparently, attitudes about science at Haley are contagious. One of the more recent additions to the classroom teaching staff talked about her own personal experience: "Science has really been a focal point here at Haley. It's really impressive ... As a

"My son keeps talking about the fact that he really loves nature, he really loves science. I think he's more aware of it since he's been here [at Haley]."

– Haley Parent

teacher, science was not my favorite thing to teach, but I love it now... My attitude toward science has changed, and it's because of Haley." Another classroom teacher echoed the sentiment in a slightly different way when asked to sum up her thoughts about her three years with CO-SEED:

“It’s been a very, very, very, very, very wonderful thing for me personally, in terms of how I approach education, in terms of getting excited about inclusive integrated education. It’s been wonderful for me because this is my passion. I do environmental stuff in my outside life. It’s been nice to do it in my professional life, too.”

As with educator practice change with respect to using local resources for teaching, the stories I heard about student and educator engagement and enthusiasm are clearly mirrored in the CO-SEED survey data as well. Figures H2 and H3 show large, statistically significant gains⁹ for these outcomes over the course of CO-SEED’s three years at Haley.

Figure H2. Educator Engagement/Growth
From CO-SEED educator surveys, 2003-06, HALEY SITE ONLY

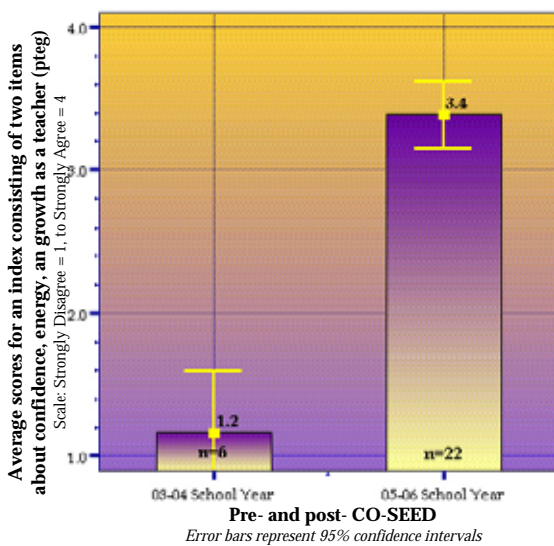
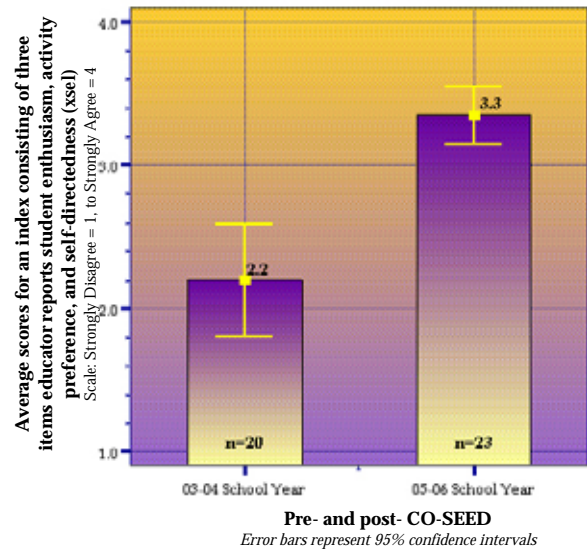


Figure H3. Student Engagement in Learning
From CO-SEED educator surveys, 2003-06, HALEY SITE ONLY



It appears that cultural dimensions around curriculum, parent/family choice, and demographics are reinforcing each other at the Haley. Students are assigned to particular schools within the Boston Public Schools system based on a combination of parent choice and lottery. In the mid 1990’s, not enough parents throughout the zone in which the Haley resides requested that their child be placed at the Haley. As a result, many new or moving students from that zone were simply assigned to the Haley because it was under-subscribed and had spaces available. This year, after the first round of selection and assignments, all the slots for new students at the Haley were filled by students whose parents had selected Haley as their first or second choice. (I talked to one parent who had an ordered list that was sixteen schools long). Historically, the demographic composition of the Haley community did not accurately reflect the full ethnic diversity of Boston as closely as one might hope. The principal noted, however, that “the last two years, the kindergarten classes coming in are a very even mixture. It’s black, it’s white, it’s Hispanic, it’s Asian. It’s nice. Parents are seeing [Haley] as a good place to be.”

⁹ Again, increases much greater than one standard deviation, non-overlapping confidence intervals, $p < .01$.

On one level, this emerging cultural shift can be traced directly to the work of CO-SEED, the Boston Nature Center, and the Haley to support science through local exploration. One of the most common reasons parents gave me for choosing the Haley was its science and environmental theme. Thus, it is not particularly surprising that many of the newer members of the Haley community are proactive and intense advocates for their children's education. It is also clear that like-minded parents and neighbors talk to each other and influence each other's choices about schools. The demographic shift occurring at the Haley reflects how the school is attracting a wider range of socio-economic backgrounds. It also appears that many of the new Haley families reflect the more white, middle-class demographic that is the stereotype for some particular neighborhoods within the Haley's zone. This does seem to hint at important questions about larger social forces swirling around terms like equity, diversity, gentrification, and urban multiculturalism. To be clear, the answers to these questions are far beyond the data and scope of this evaluation. But the mere emergence of these questions seems to be potential evidence that place-based education *can* have the power to affect schools at the level of their core culture.



SCHOOL WIDE

Every adult I talked to at Haley made some affirmative reference to the strong culture that has fairly recently coalesced at the school around various components of place-based education. For example, one explained Haley's environmental theme and integrated curriculum by saying "I think the mentality is like really part of our identity. It's who we are." Another claimed that "The whole CO-SEED project has really been a school wide project, so we all collaborated on it." The principal noted that even the "few teachers who weren't on board 100% are doing more now...

"With the help of CO-SEED it had really made the environment a part of our every day learning and observations for our teachers as well as our students."

– Haley Educator

[Getting] the teachers really on board with CO-SEED was really a big goal, to make sure that that was happening." Some educators respectfully mentioned that a few folks "just don't 'do' nature," but that did not seem to be any kind of point of contention, and the clear message from pretty much everyone was that "there's a lot of staff who are much more excited about this than previously." On the recent CO-SEED educator survey, 15 out of the 17 Haley respondents agreed (6 of them "strongly") that "Place-based education is a part of the cultural fabric of our school." In any case, there is ample evidence that the "'Ahh ha' moments [around place-based education] are slowly but surely infiltrating all of the other minds of the other teachers."

Culture is a notoriously ineffable phenomenon, whether in schools or other social groups. Sometimes it shows up as explicit norms, rituals, or rules. Oftentimes, however, it remains difficult to precisely pin down in words despite its palpable presence. I saw this at the Haley in the way that most of the people I pressed to explain Haley's culture used generic syntax like "it" and "this work" to identify the general bundle of their experiences around CO-SEED, science, and Haley's approach to curriculum and the environment. The following long quote from a parent displays this same quality of grasping to articulate something powerful yet intangible. It is also an example of how cultural coherence can end up being readily perceived by new members of a community.

"I think there's a real feeling of being in a special place [at Haley]. That's actually something that my husband and I talked about a lot when we were looking for schools, and we looked at private schools and public schools. We realized that the schools we were drawn to were ones where you walked in and you had this feeling of specialness. Like they had defined their culture, it meant something to the children. It wasn't enforced by harshness, but expectations were high and kids knew that there was a certain mission and what that was about. And I've really seen that with my daughter. Everything from how she's supposed to behave towards her teacher, towards other kids, to all of the stuff that's really gotten emphasized this year around recycling and the environment. She feels like she's in a special place. It's not just school. There's a real sense of we have a mission, we have a purpose, we enjoy ourselves. And what we do really means something, not just to ourselves, but to the world around us. There's huge pride [in the students] and in parents as well."

The school wide recycling initiative that took root in 2005-2006 is a good example of how a strong culture can perhaps make the difference between something happening or not. Previous attempts to set up a recycling program at the Haley had started and sputtered, but not sustained. This year, the Haley's speech pathologist somewhat reluctantly accepted the task of coordinating the creation of a school wide recycling program as a way to build upon the planning work some Haley staff had done at the most recent CO-SEED summer institute. Despite some more fits and starts, and after several recycling oriented contests and celebrations, the program has reached the point that some educators now claim it as one of the most important legacies of the CO-SEED program. One said: "If I asked ten children, nine out of ten would be able to say at least why the three R's are important, why we actually pay attention to that kind of thing." It is typically quite difficult to sustain efforts like this that require "beyond class time." It seems likely that the maturation of Haley's culture and identity around its environmental theme was a major factor in allowing this innovation to diffuse throughout the school.



As with outcomes discussed in earlier sections of this portrait, survey data about school wide culture change was very consistent with what I heard and saw in the more strictly qualitative data. The analysis and argument in this case, though, is more technical and requires a different mindset and language, and so I present the number story in the sidebar at right and on the facing page. In short, the Haley educator survey data provides further support and refinement for the “tipping point” concept that has emerged in previous evaluations from CO-SEED and the Place-based Education Evaluation Collaborative (PEEC). Patterns in that survey data made most sense if we hypothesized that some of the intended educator practice behaviors were being transmitted *within* and *between* the teaching staff more than from the PBE program to the teaching staff. In other words, intended place-based education practices seemed to become embedded in the school culture. Further, it was the schools with a track record of a couple years of systematic place-based education programming that showed the clearest evidence of crossing some kind of “tipping point” in the school culture.

Building upon this survey data analysis strategy, it seems that the Haley culture has “tipped” toward intended practice change, but likely still needs at least some kind of CO-SEED-like mechanism in order to fully sustain the effect. But, rather than thinking of this tipping point as a simple, binary, almost static point that you either cross or don’t, it probably makes more sense to think in terms of a more dynamic transition from more to less (maybe not ever entirely zero) need for the external mechanism of a CO-SEED-like intervention.

Inferential statistical analysis of the complete set of 44 educator surveys from the Haley CO-SEED site (21 from 2003, 23 from 2006) suggested a new refinement to the tipping point hypothesis. The four key steps in the supporting argument are presented below.

Step 1: Pre-post. *Differences in group means between when CO-SEED started and when it finished are large and significant for nearly every intended outcome. The strength and consistency of the pattern suggests that major changes occurred over time through the school. See Figures H1, H2, and H3 above, as well as the complete pre-post data in Table H9 in the Appendix. The notes at the bottom of Table H8 in the Appendix reference the fact that the educator survey instrument was revised between pre- and post- measures. This is one more reason to guard against taking the pre-post measures by themselves as the final arbiter of this phenomenon.*

Step 2: Aggregate dose-response. *A dose-response analysis of the complete set of Haley educator survey data (i.e. the responses from 2003 combined with the responses from 2006) also suggests very large, positive, statistically significant change toward nearly all intended educator practice outcomes. When educators reported less “dosage” of CO-SEED, they also tended to report lower levels of intended outcomes. At the same time, educators with higher dosage tended to report higher outcomes. This dose-response pattern, represented by a best fit line going from lower left to upper right, suggests that CO-SEED dosage is an active ingredient in the observed outcome. See Figure H4 at right and Table H10 in the Appendix. Also see CO-SEED Final Reports from 2003-2004 or 2005-2006 for more details about the dose-response strategy.*

Step 3: Post-only dose-response. *A dose-response analysis of the subset of 2006 responses only shows a very consistent pattern as well. For nearly every outcome measure, the size of the effect (represented by*

the ΔR^2 variable, also known as percent variance) is about half of that observed for the same outcome in the complete set of educator surveys. The level of statistical significance is also less by a fairly consistent amount, too. If the culture at Haley had totally “tipped” toward all the intended place-based education practices such that it could be sustained without any CO-SEED-like mechanism, then the educators with zero or low direct dosage of CO-SEED would report the same high outcomes that are reported by the CO-SEED veterans, and the dose-response correlations would be close to zero. The best fit line would flatten out. In fact, the best fit line is flatter, but just not totally flat, suggesting the ‘tipped-but-not-yet-totally-sustained’ interpretation presented above. See Figure H5 at right and Table H11 in the Appendix.

Step 4: Pre-post comparison of zero dose respondents. In 2003, all 21 respondents had a CO-SEED dose of zero because the program had just started. By the spring of 2006, only 4 of the 23 respondents reported a CO-SEED dose of zero, with the others spanning a range all the way to the maximum of four. For comparing the group means of the zero dose respondents between 2003 and 2006, the Overall educator practice module serves as an excellent outcome measure to illustrate the pattern that persists through nearly every outcome. This measure represents a combination of 12 different survey items and is thus more reliable and conservative. In 2003 the mean for this aggregate outcome was 1.9 (n=20, SD=.51). By 2006, the zero dose group of respondents reported a mean of 2.8 (n=4, SD=.60). For a visual approximation of this difference, look at the difference between where the best fit regression line intersects the y-axis in Figure H4 versus Figure H5. Even though the 2006 average is not as high as it would have been if CO-SEED-like practices had entirely permeated the school culture, it is important to note that the 2006 average is more than one and a half standard deviations higher than for the comparable group in 2003.

Figure H4. Overall Educator Practice Change

From CO-SEED educator surveys, 2003-06 aggregate, HALEY SITE

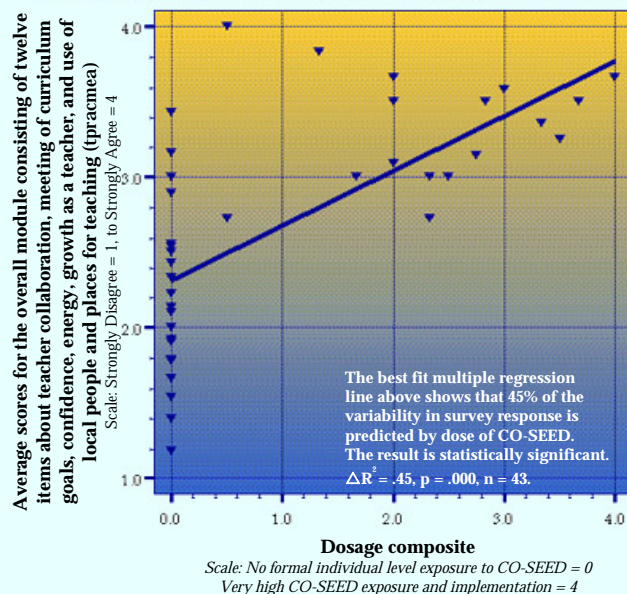
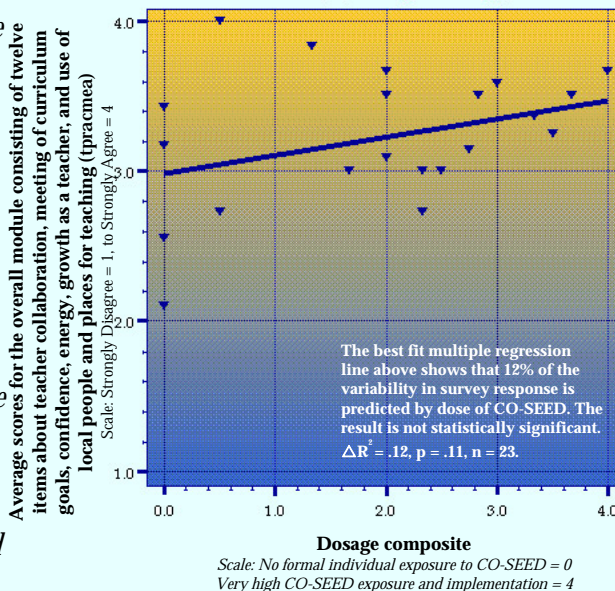


Figure H5. Overall Educator Practice Change

From CO-SEED educator surveys, 2006 (Post-only), HALEY SITE



In looking at this survey data, it is tempting to get caught up in our societal obsession with numbers as representing “hard” or somehow more “true” data. It *is* true that the preceding sidebar analysis shows a way to directly quantify the extent to which the culture at Haley appears to have tipped toward an intended goal. Further, that interpretation is strengthened by the fact that two fundamentally different types of statistical analysis (i.e. pre-post and dose-response) point to essentially the same story. But what is most compelling is that the numbers tell us pretty much exactly the same thing as the narrative data.

In addition to the descriptions and quotes presented above, many of the educators I spoke with claimed a new level of personal “ownership” of these intended educator practices. One told me that “This year [CO-SEED and BNC staff names] were seen more as consultants. It was a good thing to see that we were fine actually handling it ourselves.” The same sentiment was echoed by the educator who said: “Not that I don’t appreciate the help, because I sure do. It is welcome any time. But I also feel that I can handle it independently at this point.” In short, the survey numbers add a different and complementary texture to the overall portrait of the school culture at Haley.

Science, the environmental theme, curricular integration, the schoolyard, parent involvement, student engagement in learning... many of these things have “spiraled through CO-SEED” to create a whole that is greater than the sum of its parts. There now exists a school wide culture within which people recognize and identify with common values in a way that was not nearly as evident three years ago. The principal said: “I’m just very, very fortunate that



CO-SEED came along when it did, because if it didn’t, I think it would have totally changed the structure of where we went. To tell you the truth, that’s how important I think it was.” But what happened before CO-SEED’s arrival in 2003 to lay the groundwork for such an emergent transformation?

VIGILANCE OVER TIME

Exploring the story of Haley's decade-long transformation from a chaotic school without a focus to a vibrant, highly sought, model environmental school added richness and depth to something we already knew from previous evaluation of CO-SEED at other sites, i.e. that administrative support matters a lot. Jean Dorcus' leadership as principal was exemplary in many ways. In keeping with her highly team-oriented approach that could be aptly called servant leadership, Jean is, however, very quick to share the credit with her colleagues and partners by saying things like "I have teachers who give me 100%." Further, she frequently emphasizes the way that all the good work has been the result of really listening to teachers and parents, and authentically sharing responsibility for the slow but steady crafting of the school's culture and mission. But, across the board, when I asked people about the bigger picture of Haley's recent successes, it was Jean Dorcus who was described as "the driving force," and the person who would always "carry out ideas," and "get things done."

"You have to really, really, really build that relationship with the staff. I think that is probably the most crucial thing because you're the leader in the building, but you're certainly not the only one out there. You have all these people working with you that get the job done. It has to be a team."

- Jean Dorcus, Haley Principal

People respond positively to Jean's "very open door policy" and welcoming style where "you can ask her anything, you can suggest things, and she takes it all into consideration." The following affirmation from one educator was literally the closest thing I ever heard to a critical comment about Jean, and it was offered more in a spirit of appreciation than criticism:

"I think over time people sort of picked up on her style of responding to discipline issues. Not everyone liked it. A lot of people would have preferred a firm hand initially. I think for the most part people have molded themselves a little more towards her style of a leader."

One parent told the following story when asked to share a moment that captured the essence of the Haley:

"A couple months ago I came in to pick up my daughter at the end of the day and I needed to speak to Ms. Dorcus about something. So I walked in and my daughter's sitting in one of those little chairs outside the office, and she's got this baggie full of dirt and earthworms and stuff that she dug up out of the ground and she wants to put them in the garden at home. And I said, 'Well, I don't think they're going in my car'...So then we went in to speak to Ms. Dorcus about some piece of business, and all she could focus on is this bag of worms [that my daughter is holding]. Then she goes into her closet and digs out a terrarium. I'm thinking 'this is great.' My immediate



thought was 'don't get my car dirty.' Yet here's my daughter, she doesn't mind getting her hands dirty because the worms are just so exciting. She's not here at the school to just be clean in her uniform. She's really supposed to be digging into the earth and investigating and figuring out what's going on. And the principal was as excited about this bag of worms as my daughter was. Not everybody has that kind of enthusiasm for earthworms, but it was definitely the curriculum at work."

In all of my evaluation conversations with Jean, as well as my casual observations of her interactions with students and staff, I, too, witnessed the kind of steady calmness infused with passion and vision that people in the Haley community consistently attributed to her. Once, I inadvertently interrupted her in her office to find her seated face to face with a very young student across her desk, hands folded respectfully in front of her, speaking and listening with the air of respect that might normally be reserved for an adult professional. While preparing for the big International Dinner celebration this year, I found her in the kitchen wearing oven mitts, peeling off the tin foil of a pan of lasagna getting ready to serve it. During the Earth Watchers¹⁰ meeting that I observed three years ago, it was obvious that teachers and parents respected her presence but were not intimidated about expressing their concerns. When a parent said to the group "I want to be perfectly honest with you, I am sitting here thinking, what the heck are you saying here?" Jean responded with "If you listen to us, we are as mixed up as you. People are shooting all over the place here. We need to focus."

Jean's leadership style is very balanced. She attends simultaneously to the task at hand and to the people involved. She is driven by a grand vision, but she is patient with slow, incremental progress. She gives direction and initiates major strategic efforts, while actively seeking collaboration, feedback, and consensus. She takes risks but she never skimps on respect.

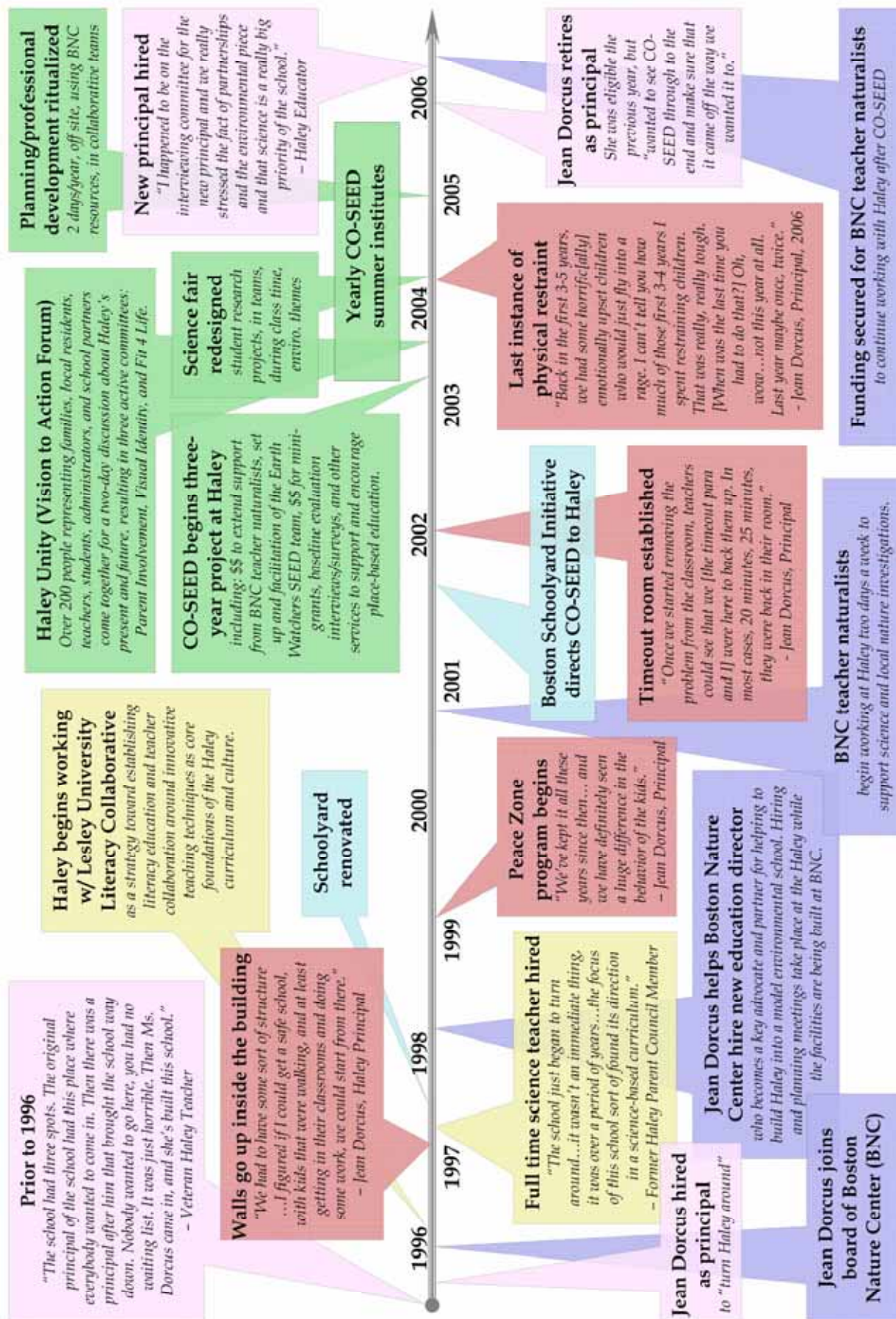
Jean Dorcus is well-loved by the Haley community. Her retirement in the spring of 2006, after ten years of service as Haley's principal, was a bittersweet experience for her staff. They want the best for her as a person, but will sorely miss the support they have come to count on from her. One educator summed it up: "She's gotten the school back its name, and has surrounded her school with a staff that works hard and takes a lot of pride in what they do every day. And so I think her legacy is the fact that she rebuilt this school."

In many ways, it seems that CO-SEED was a capstone project which Jean used to finally bring her long held vision of a model environmental school into full shape. As documented above, her temperament and leadership style were certainly facilitative factors. But what were the key activities, programs, and events that together laid the foundation for the flowering of the place-based education program that Jean sought and found in CO-SEED? The following Figure H6 maps out the key events and themes that, according to Jean and others, marked the defining architecture of Haley's recent history.

¹⁰ Earth Watchers is the name of the Haley SEED team, which is essentially a steering committee for the CO-SEED program consisting of representatives from the school staff, parents, and local community partners, and facilitated by CO-SEED staff.

Figure H6. Timeline/Jigsaw of Defining Events During Jean Dorcus' Decade of Leadership at The Haley

Events are color coded by theme: pink=discipline/behavior; yellow=curricular focus; light blue=schoolyard; darker blue=CO-SEED. Many culture changes culminated during CO-SEED's tenure, but the foundation was laid by several years of prior intentional, interconnected culture building work.



Three things stand out to me in reflecting on Figure H6. One is that Jean Dorcus was the initiator of each of the major themes depicted here. She had a vision of experiential education around environmental themes, *and* she had the ambition to carry them out. In her words:

“...environment, recycling, conservation..., this is something that I’ve always thought about. It’s something really good to get kids involved with...I said ‘We need to distinguish ourselves a little bit from the rest of the crowd.’”

A second key element of the history puzzle is the way that each theme is about intentionally nurturing a school wide culture. I mentioned to Jean that a group of fifth graders I had spoken with had all unequivocally told me that the best things about the Haley were “feeling safe” and the way that the Peace Zone teaches “everybody to respect each other.” She reflected:

“They’ve been hearing it [the Peace Zone pledge] for so long, those exact words in every room, they say a pledge every day, that they have internalized it. I think that’s the important piece. And that is really how we discovered the importance of school wide programs versus just every class doing their own thing. The literacy program became school wide, the Peace Zone program became school wide, math became school wide by the district. So that was really the way it was going to work. And the way Haley was going to make itself stand out as a team is by working together and making things school wide and adapting them as needed to be.”

The third thing that ties these various themes together into a coherent picture of school culture is respect for the time it takes to make lasting change. When I asked the director of the Boston Schoolyard Initiative to explain why he thought the Haley had been so successful compared to other schools, he noted that “in the Haley’s case the commitment was clearly there, and has remained there. So it’s sort of that vigilance over time to build something.” Over the last decade Jean learned some things about the pace of system change. In her words:

“[In the beginning] I saw it as a three year plan. I thought ‘Three years and we’ll have this settled, no problem’... [Now] I never see change as a two or three year process. I’d say three to five years. It didn’t take me long to realize that three to five years was definitely going to be five to seven years. And it’s still going. We’re at a good place. When I think of the Haley, I think of the line plot coming up the curve and going up. There’s always been a few dips in there, when things fall back a little bit. So, we’re heading up, and I think that’s the important piece. There’s always room for progress. Our school is certainly not where they need to be right now, but we’re working on it. And it’s a priority, so we’ll get there.”



REMAINS TO BE SEEN

The essence of the CO-SEED program is systems change. The CO-SEED logic model (see Appendix) names the program's ultimate aspirations for community level changes of improved environmental quality, increased social capital, and a balance between environmental quality and economic vitality. The basic idea is to help young people understand, care about, and have the skills to eventually create those community level changes. In practice, the intermediate step is whole school change, the details of which are roughly captured in the collection of the over thirty outputs and outcomes described in the CO-SEED logic model. Substantial progress has been made at the Haley on nearly all of those outputs and outcomes during CO-SEED's three years at the school. These changes have manifested in a school culture that seems to be both cause and effect of the focused attention on becoming a model environmental theme school. Frankly, it is hard to



imagine realistic scenarios in which the partnership between CO-SEED, the Boston Nature Center, and the Haley Elementary school could have been more effective in meeting their shared goals (except, of course, having had vastly more financial and time resources at their disposal). But the Haley story does not stop in 2006.

Change tends to happen in stages. In the broadest terms, we could think of three stages for a CO-SEED-type program: readiness, implementation, and sustainability.¹¹ For CO-SEED at the Haley, the readiness was very much there, evident in the work Jean Dorcus and her staff did between 1996 and 2003. They established clear discipline processes and expectations, renovated the schoolyard, used literacy and science as the foundations for a strong integrated curriculum, and created a powerful working partnership with the Boston Nature Center. The implementation stage has gone extremely well, too. Through the additional resources of CO-SEED, the Haley was able to really make teaching outdoors (in the schoolyard and other local natural areas) an expected and supported norm. Science (especially through the annual science fair) has become a main attraction of the curriculum for both teachers and students. Parents have become deeply involved in the school in new ways, even initiating major demographic shifts in the school population through the mechanism of parent groups organizing to collectively choose to bring their students to the Haley.

¹¹ I have come to this three stage model from a general reflection on CO-SEED evaluation across many sites and several years, seen in light of theory and research on tipping points, diffusion of innovations, and psychological stages of change (see pages 20-25 of the *2003-2004 CO-SEED Final report* for more details on this literature).

The next few years will be a critical test of the sustainability stage of CO-SEED's work at the Haley. Raising the bar of that challenge is what one person described in the spring of 2006 as the "quadruple whammy:" Jean Dorcus retiring as principal, the science specialist's pending retirement in January 2007, CO-SEED's formal three year tenure ending, and the Boston Nature Center model calling for scaling back on the teacher naturalist's level of involvement with the school.

Some progress has already been made in mitigating these challenges. During the summer of 2006, funding was secured to for BNC to continue to place a teacher naturalist at the Haley for two days a week. Additionally, the Haley moved to the final round of selection for winning the prestigious Thomas W. Pazant *School On The Move* Prize. This prize awards \$100,000 to a single school within Boston Public Schools to recognize and sustain the exemplary work it has demonstrated.



Regardless of these and other efforts to raise funds to support Haley's continued place-based education work, it was the issue of the new principal that most people talked about when I pressed them for their predictions about sustaining CO-SEED's work at the Haley. Many people mentioned how "the Earth Watcher's group, along with all faculty and parent groups are involved with the hiring process of the new principal." Further, "these groups are determined to hire someone who will not only continue the work that has been done over the past seven years, but to expand upon it." People seemed very satisfied, even excited, about the person who was ultimately hired to be Haley's next principal. In a telling show of the sense of empowerment around this work that has emerged within the Haley community of teachers and parents, one person predicted that "if there is no fluctuation with staff I think we will be able to nurture [the new principal] and guide him to make the right the decisions and lead the school and push the school ahead, further ahead." Most classroom teachers were notably cautious when I asked for their predictions of the future under new leadership. A refrain I heard many times was "it remains to be seen." Striking a balance somewhere between amusement and resignation, one person said: "I have been teaching in Boston way too long to have [predictions]." Still, the clearly dominant theme was of hope and confidence that recent improvements would not only continue but grow.

The sense of enthusiastic inquiry and experimentation that has come to be the norm for students at Haley's science spectacular was mirrored in the summary reflections of the director of the Boston Schoolyard Initiative: "The Haley really is a model within the system. For better or worse, we're going to be looking at it to see how sustainable these things really are. It's critical in that."

RECOMMENDATIONS

The following recommendations are divided into categories based upon who might make best use of them.

For decision-makers at the Haley

Continue the day long planning and professional development sessions at the Boston Nature Center

These have come to be relied on for planning the science fair and other integrated place-based education projects, as well as for deepening the sense of collaboration and collegiality amongst the teaching staff. It is worth repeating the quote from Jean Dorcus: “The best thing you can do for teachers is give them time to plan.” Responsibility for facilitating these days could possibly come from within grade level teams themselves, or from identified mentors within the teaching staff.

Continue to support an active Earth Watchers committee

The Earth Watchers SEED team really did function as intended in the CO-SEED model. It provided a centralized, monthly vehicle for coordinating, planning, and deciding upon place-based education projects throughout the Haley community. It is conceivable that facilitation and chairing of this group could be taken up, perhaps on a rotating basis, by some of the teacher leaders within the Haley staff or even from particularly dedicated and skilled parents.



Attend the 2007 CO-SEED summer institute

It is unfortunate that it was not possible for the new principal to attend the 2006 summer institute. These institutes inspire CO-SEED schools with ideas and affirmation from other CO-SEED sites, as well as providing high intensity planning time for major place-based education initiatives slated for the coming school year. By the summer of 2007, the timing could be perfect for Haley’s new principal, new science specialist, and possibly a few key members of the teaching staff to reconnect with the CO-SEED community. Perhaps funding for this could be secured through a combination of CO-SEED funds, school budget allocations, and outside grants.

Continue the mini-grant process through the Earth Watchers team

The Earth Watchers team developed a very effective mechanism for distributing mini-grants for CO-SEED related projects. Even though funding for that is no longer available through CO-SEED, perhaps there are existing resources within the school purchasing budget that could be run through the fairly refined Earth Watchers selection process. This mechanism allows for even a few tens or hundreds of dollars to potentially make the difference between a classroom teacher doing or not doing an exciting, hands-on, place-based project.

For decision-makers on the CO-SEED staff

Consider making the CO-SEED staff person available as a consultant

While the CO-SEED staff person will no longer be available to play the role of facilitator for the Earth Watchers committee or the professional development days at the Boston Nature Center, it could be very helpful if resources were found to allow the CO-SEED staff person to provide some minimal level of consultation around strategies and agenda crafting for these events on an on call basis. Another variation on this idea is the “transition to sustainability coaches” concept that was presented in more detail in the 2004-2005 informal evaluation report for the Haley CO-SEED site.



Continue having the BNC naturalist fill out the monthly project summary form

Simply keeping track and documenting all the various place-based education projects occurring within the school can be a powerful and useful process. (See the Appendix for an example of the completed form for 2005-2006.) When these types of projects become a normal part of the school culture, it can become easy to forget how many and how exciting these projects are. Documenting them in simple list form can help with that. This form could be shared periodically with the whole school electronically, at staff meetings, or on a bulletin board display.

Systematically examine longitudinal trends in Haley MCAS science scores

The Haley site CO-SEED evaluation data from interviews, observations, and surveys, shows clear evidence of increased quality and depth of science education. Given the high stakes testing nature of the current educational policy context, it would be important to explore to what extent these local evaluation findings triangulate with standardized testing data. In some ways, such an investigation could be potentially considered as a test of the ability of the MCAS tests to reflect locally relevant and compelling results of improved science instruction. In order to account for the work that the Haley school did in order to become truly ready for a CO-SEED like program, such an investigation should consider trends over the last ten years, not just from the last three years when CO-SEED was at the Haley.

Do follow up evaluation interviews and surveys in two or three years

In order to document the sustainability stage of this systemic change effort, consider investing in another round of evaluation similar to what has happened each year during CO-SEED’s tenure, but wait for a few years to see how well the Haley has weathered changes in leadership and funding support. As for the sample, it would be interesting to include educators at middle schools attended by graduates of the Haley Elementary school, to gather their opinions about how Haley students compare with students from other schools.

For decision-makers at other schools or programs

Use place-based education to enhance existing strengths

The place-based education (PBE) philosophy and techniques that CO-SEED brought to the Haley with such success did not start from a blank slate. The Haley already had a nicely renovated schoolyard but then used PBE to turn it into a vibrant extension of classroom learning. The Haley had an existing relationship with a nearby nature center, but PBE provided the curricular focus for making more and better use of this resource. The annual science fair had been happening for years, but PBE resources helped transform it into a more powerful vehicle for deepening Haley's existing commitment to science. So, rather than thinking of PBE as a whole new program or approach, first assess what elements of your school are strong and/or under-utilized, and then explore ways to use PBE concepts and activities to amplify or add new dimension and depth to what is already there.

Use themes to promote coherence in school culture

The overall school culture at Haley is characterized by unity and collaboration, but this dynamic is present at many smaller levels of organization as well. Curriculum is organized around themed, interdisciplinary units. Each grade level chooses a common research question to explore for the science spectacular. The science spectacular event is used as a theme of sorts to tie together multiple sub-projects throughout the school year. One factor contributing to the Haley's success is the way that all of these levels of thematic tie-ins refer back to the central school mission and identity around being a model environmental school. The school wide theme encourages collaboration, efficiency, depth, and unity. The emphasis on school wide approaches to behavior (i.e. the Peace Zone) and literacy also reinforce the cultural coherence of school and its place-based education themes.

Use leadership as a primary selection criteria for deciding whether or not to pursue whole school change through place-based education

Previous CO-SEED evaluation efforts have identified the importance of strong administrative support for the success of the project, and this evaluation of Haley further confirmed this. Three characteristics of the Haley principal were particularly important to CO-SEED's success at this site, and could be used as criteria to assess the readiness of other schools to engage in CO-SEED-like projects. First, the principal had a specific, pre-existing commitment to the values of environmental and community sustainability which are central to place-based education. Second, she had strong political capital within her own school community. This kind of school change effort requires the buy in of a wide range of stakeholders, and the Haley principal had built up a strong and necessary reservoir of trust, respect, and team mentality among her staff and the parent community before CO-SEED arrived on the scene. Third, the Haley principal had the administrative skills to successfully guide a complex, creative, and unpredictable change process. A significant lack in any of these three areas (values, political capital, or administrative skills) could limit the effectiveness of this type of program.

APPENDICES

Table H7. Sources of Evaluation Data for CO-SEED Haley School Site, 2003-2006

	New Data Thread A	New Data Thread B	Archival Data Thread
Interviews/ Conversations (Approx. total = 60)	<i>Program year 3 wrap up interviews, 6/7-8/06: 9 Teachers (singly, or in pairs), 1 CLC Representative, 5 parents (focus group), 1 CO-SEED program staff, 4 5th grade students (focus group)</i>	<i>Leadership exploration interviews, 6/7-14/06: 2 in-depth conversations with Principal (in person and by phone), 1 former Parent Council Member (by phone), 1 Director of supporting organization (by phone), 1 veteran Teacher</i>	<i>Program year 1 pre-interviews, 11/3-4/03: 16 Teachers (mostly in grade level or subject teams), 1 Principal, 1 Education Director of CLC, 1 CLC Representative Program year 1 follow up interviews, 5/27/04: 8 Teachers (in pairs), 1 Principal, 1 Education Director of CLC Program year 2 check in interviews, 6/8/05: 9 Teachers (singly, or in small groups), 1 Principal and 1 Education Director of CLC (together)</i>
Sample Type	Representative of school/ program staff	Cascading, theoretical	Representative of school/ program staff
Content Focus	Primary: evaluation of CO-SEED program; Secondary: leadership story of principal	Primary: leadership story of principal; Secondary: evaluation of CO-SEED program	Evaluation of CO-SEED program
Data Handling	All recorded, transcribed, exhaustively analyzed	All recorded, transcribed, exhaustively analyzed	Previously recorded, transcribed, analyzed, reported (some exhaustively, some informally); All re-viewed for longitudinal perspective, reflection
Observations, Documents, Other	Monthly reflection forms and SEED team mtg. minutes (Sep 04-Jun 06), survey results (23 educators, Apr 06, 4 th /5 th graders, May-Sep 06), grade level planning documents, professional development data, science kit use data	Observations of student science fair, focus groups/informal presentations re: science fair projects from 2 nd , 3 rd , and 5 th graders, School On The Move prize application, observation of “meet the new principal” session	Observation of SEED team meeting, observation of one classroom, monthly reflection forms (7 from CO-SEED staff, Oct 03-May 04; 2 from CLC staff, Sep, Nov 03), SEED team meeting minutes (13, Oct 03-Jun 04), survey results (58 community members, Sep 03; 21 educators, Oct 03; 66 4 th /5 th graders, May 04), prioritization activity results, grade level planning documents, year end staff reflections, data on science fair, teacher involvement in hands-on science activities, student performance on statewide standardized tests

Table H8. Activities and projects connected to CO-SEED at the Haley 2005-2006

<i>Grade(s)</i>	<i>Unit</i>	<i>Project or Activity</i>	<i>CO-SEED role</i>	<i>When</i>
1 st	Organisms	Bulb planting in garden	\$ for bulbs	October
3 rd	Structures of Life	Nature Journaling	Led lessons on-site & at BNC	Ongoing
5 th	3 R's initiative	Class experiment: 'what is biodegradable?', lead up to 3 R's initiative	Led inquiry-based experiment, supplied materials	October
2 nd	Insects	Boston Natural Areas Network field trip to local riverway	Set-up field trip	October
4 th	Animal Studies	BNAN for field trip to local estuary	Set-up field trip	October
5 th	Ecosystems, food webs	Trip to BNC	Led the trip, also other BNC staff	Oct 28 & Nov 15
1 st	Air/Weather, Organisms	Trip to BNC	Led the trip, also other BNC staff	Nov 10
K	Senses	Trip to BNC	Led the trip, also other BNC staff	Oct 28
3 rd , SR1	Structures of Life	Decomposition experiment in schoolyard	Set-up, led intro for experiment	Throughout the year
2 nd	Insects	Insects that live in the schoolyard	Co-taught class, supplied materials	Oct. 28
K	Senses	Using a Birdsong Identifier to discuss sound	Bought Birdsong Identifier, ID posters	
LLD	Animal Studies	Stellaluna, Bat craft	Participated in workboard	Oct. 27
LLD	Insects	Ants	General support	Nov.17
SR2	Biodegradable experiment	Making paper	General support	Nov. 29
2 nd	Insects	Insect Unit Assessment	General support	Nov. 22
All	Animal Studies	Bird watching	\$ for posters and birdsong players	Nov. 7
3 rd	Structures of Life	Comparing/contrasting underground critters from schoolyard & crayfish	General support	Dec 2
3 rd	Physics of Sound	Intro to the Physics of Sound Unit	General support	Dec. 16 th
SR2, LLD	Animal Studies	How do animals prepare for winter?	General support	Dec 13 th & 15 th
SR1	Organisms, Life Cycles, Structures of Life	Hermit crabs	\$ for hermit crabs	December

<i>Grade(s)</i>	<i>Unit</i>	<i>Project or Activity</i>	<i>CO-SEED role</i>	<i>When</i>
1 st grade	Air/Weather, Changes over time	Winter Solstice (incl. teachers, parents, science specialist, CLC staff)	General support	Dec 21 st
LLD	Organisms, Structures of Life	Planting bulbs in the classroom	General support	Dec 20 th
K	Organisms	Intro to Organisms Unit	General support	Dec 2 nd & 9 th
School-wide		Browne Fund meeting (incl. Principal, two parents, CLC staff, others)	General support	Dec 20 th
1 st , 2 nd , IT teacher, SAR1		Art Workshop with Young Achiever's Art teacher	General support	Dec. 8 th
3 rd	Sound, Seasonal Observations	Field Trip to BNC	Led the trip, also other BNC staff	Jan 13 th
2 nd , SR1	Pebbles, Sand, Silt	Schoolyard exploration & collection	General support	Ongoing
1 st	Organisms	Observing bulbs in classroom grow stations	General support	February
LLD	Organisms in Winter Air/Weather	Snowshoe in the schoolyard	General support	Feb 14 th
SR2 & 3 rd	Water, Structures of Life	What lives in Lake Hibiscus and the BNC pond?	\$ for water tables, air pumps	Ongoing
K	Animals 2x2	Land snails Science Specialist	\$ for land snails	March
SR2, 4 th , 5 th		Farms for City Kids trip	CLC staff assists	Mar 20- 24
1 st	Organisms	Worm bin habitats	General support	Ongoing
5 th	Ecosystems	Sci Fair Projects	CLC staff assists, leads field trips	Apr 6- May 4
All	Schoolyard clean up (incl. parents, teachers, CLC staff, CO-SEED staff)		Man power and materials	May 19
Whole school	Haley Unity Vision to Action Forum follow up	School Fence and Mural City Mural Crew, Parent Visual Identity Committee	Original VAF, BNC consulted on Mural design	All Year
All	Science	Science Spectacular All staff, BNC, CO-SEED	Support teachers, set up, student mentoring	May 3-5
5 th	Science	Sharing Science Projects with Dearborn Teachers	Transportation, event organization	May 26
2 nd	New plants unit	Planting in beds behind school	Planting assistance	May 26
K	Wood & Paper	Field trip to BNC	Led trip	May 26
3 rd		Decomposition experiment results	Led class	June 9

Table H9. Summary of Average Pre-Post Survey Changes Between 2003 and 2006 for CO-SEED Educator Surveys from the Haley Site

Variable (items included)	Sept 2003 [†]			June 2006			$\Delta\bar{X}$
	N	\bar{X}	SD	N	\bar{X}	SD	
Dose composite (calculated from = d1,d3,d4)	21	0	0	22	1.9	1.3	+1.9**
Other place-based ed. training (calculated from d1v-y)	0	-	-	22	.32	.85	-
Overall educator practice (overall module=p1,p2,p3,p4,p5,p6,l1,l2,l3,l4,l5,l6)	20	1.9	.51	23	3.2	.49	+1.3**
Use of local resources (L module = l1,l2,l3,l4,l5,l6)	20	1.9	.51	20	2.9	.81	+1.0**
Use of local places (llp index = l1,l4)	19	1.8	.51	19	3.1	.78	+1.3**
Use of local people (llpeop index = l2,l5)	20	2.0	.61	17	2.7	.97	+.7*
Service learning (lsl index = l3,l6)	15	1.9	.80	18	2.6	.97	+.7
Improving educator craft (P module = p1,p2,p3,p4,p5,p6)	6	1.3	.61	23	3.4	.46	+2.1**
Meeting curricular goals (pcg index = p1,p4)	3	1.7	1.2	22	3.2	.52	+1.5
Educator collaboration (ptc index = p2,p5)	0	-	-	23	3.6	.54	-
Educator engagement/growth (pteg index = p3,p6)	6	1.2	.41	22	3.4	.53	+2.2**
Reports of student performance (X module = x1,x2,x3,x4,x5,x7,x9,x10,x11,x12)	20	2.8	.62	23	3.0	.30	+.2
Student engagement in learning (xsel index=x1,x5,x12)	20	2.2	.83	23	3.3	.48	+1.1**
Student academic achievement (xsaa index=x2,x6,x10,x11)	20	3.0	.73	23	3.1	.44	+.1
Student civic engagement (xsce index = x3,x7)	19	2.7	.67	23	3.0	.56	+.3
Student stewardship behavior (xsbb index = x4,x8)	0	-	-	22	2.9	.53	-
Student test scores (xts index = sq. root of x9*x10)	0	-	-	14	2.1	.58	-
Reports of whole school improvement (W module = w1,w2,w3,w4)	0	-	-	23	3.3	.39	-
School culture, people (wpeop index = w1,w3)	0	-	-	23	3.4	.42	-
Environmental quality (wenv index = w2,w4)	0	-	-	23	3.1	.58	-
Place-based ed is part of school cultural fabric (item = w5)	0	-	-	17	3.2	.66	-
Perceptions of community improvement (Y module = y3,y4,y5,y6,y7,y8,y9,y10)	0	-	-	23	2.9	.34	-
Community civic engagement (yce index = y3,y6)	0	-	-	23	3.0	.45	-
Community environmental quality (yeq index = y4,y7)	0	-	-	23	2.8	.42	-
Community planning/decision process (ypdm index=y5,y8)	0	-	-	22	2.8	.72	-
General community quality (ygen index = y3,y4,y5)	0	-	-	23	2.8	.59	-
Program adds value to community (ypav index=y6,y7,y8,y9)	0	-	-	22	3.0	.46	-
Connection to community (CONCOM module = l1,l2,l4,l5,x3,x7,y3,y6)	20	2.1	.57	23	3.0	.53	+.9**

[†] Survey instrument was revised shortly after Sept. 2003, and only items that were very similar to the new version were retained. In 2006, the alignment between old and new items was revisited and the following items were eliminated for pre-post calculations in an effort to make the claims that much more conservative: l1c, l1d, l2c, l2e, l5d, x4c, x6d, x3c, y5c, and y5d. This explains the absence and/or low N for many of the pre- measures. **NOTES:** Table row shading loosely represents the level of data reduction, i.e. modules are light gray, overall modules are dark gray. Outcome scale range = 0 to 4; **N** = sample size; **X** = mean; **SD** = standard deviation; $\Delta\bar{X}$ = change in mean between pre- and post- measures; * = significant at $p < .05$; ** = significant at $p < .01$.

Table H10. Summary of Data for 2003-2006 CO-SEED Educator Surveys for the Haley Site, Relating CO-SEED Dose to Intended CO-SEED Outcomes

Variable <i>(items included)</i>	N	\bar{X}	M	SD	ΔR^2	F	df
Dose composite <i>(calculated from = d1,d3,d4)</i>	43	.99	0	1.3	-	-	-
Other place-based ed. training <i>(calculated from d1v-y)</i>	22	.32	0	.85	.18*	4.5	20
Overall educator practice <i>(overall module=p1,p2,p3,p4,p5,p6,l1,l2,l3,l4,l5,l6)</i>	43	2.7	2.7	.72	.45**	33	40
Use of local resources <i>(L module = l1,l2,l3,l4,l5,l6)</i>	40	2.5	2.5	.77	.23**	11	38
Use of local places <i>(llp index = l1,l4)</i>	38	2.6	2.5	.82	.43**	27	36
Use of local people <i>(llpeop index = l2,l5)</i>	37	2.4	2.3	.84	.25**	11	35
Service learning <i>(lsl index = l3,l6)</i>	33	2.3	2	.94	.07	2.2	31
Improving educator craft <i>(P module = p1,p2,p3,p4,p5,p6)</i>	29	2.9	3.2	1.0	.43	20	26
Meeting curricular goals <i>(pcg index = p1,p4)</i>	25	3.0	3	.78	.32**	10	22
Educator collaboration <i>(ptc index = p2,p5)</i>	23	3.6	4	.54	.27*	7.4	20
Educator engagement/growth <i>(pteg index = p3,p6)</i>	28	2.9	3	1.1	.43**	19	25
Reports of student performance <i>(X module = x1,x2,x3,x4,x5,x7,x9,x10,x11,x12)</i>	43	2.9	2.9	.43	.08	3.6	40
Student engagement in learning <i>(xscl index=x1,x5,x12)</i>	43	2.8	3	.87	.31**	18	40
Student academic achievement <i>(xsaa index=x2,x6,x10,x11)</i>	43	3.0	3	.56	.07	3.2	40
Student civic engagement <i>(xsce index = x3,x7)</i>	42	2.9	3	.61	.06	2.6	39
Student stewardship behavior <i>(xsbb index = x4,x8)</i>	40	3.2	3	.59	.07	2.8	37
Student test scores <i>(xts index = sq. root of x9*x10)</i>	14	2.1	2.1	.58	.00	.06	12
Reports of whole school improvement <i>(W module = w1,w2,w3,w4)</i>	23	3.3	3.3	.34	.06	1.2	20
School culture, people <i>(wpeop index = w1,w3)</i>	23	3.4	3.3	.42	.01	.20	20
Environmental quality <i>(wenv index = w2,w4)</i>	23	3.1	3	.58	.06	1.2	20
Place-based ed is part of school cultural fabric <i>(item = w5)</i>	17	3.2	3	.66	-.12	1.9	14
Perceptions of community improvement <i>(Y module = y3,y4,y5,y6,y7,y8,y9,y10)</i>	34	2.6	2.7	.59	.40**	20	31
Community civic engagement <i>(yce index = y3,y6)</i>	23	3.0	3	.45	.07	1.6	20
Community environmental quality <i>(yeq index = y4,y7)</i>	23	2.8	3	.42	.10	2.2	20
Community planning/decision process <i>(ypdm index=y5,y8)</i>	22	2.8	3	.72	.01	.18	19
General community quality <i>(ygen index = y3,y4,y5)</i>	23	2.8	2.7	.59	.04	.79	20
Program adds value to community <i>(ypav index=y6,y7,y8,y9)</i>	22	3.0	3	.46	.08	1.5	19
Connection to community <i>(CONCOM module = l1,l2,l4,l5,x3,x7,y3,y6)</i>	23	3.0	3	.53	.16	3.8	20

NOTES: Table row shading loosely represents the level of data reduction, i.e. modules are light gray, overall modules are dark gray. Outcome scale range = 0 to 4; **N** = sample size; **X** = mean; **M** = median; **SD** = standard deviation; **ΔR^2** = % of outcome variability accounted for by dose composite; * = significant at $p < .05$ /(# of component indices); ** = significant at $p < .01$; **F** = regression test; **df** = degrees of freedom.

Table H11. Summary of Data for 2006 Only CO-SEED Educator Surveys for the Haley Site, Relating CO-SEED Dose to Intended CO-SEED Outcomes

Variable (items included)	N	\bar{X}	M	SD	ΔR^2	F	df
Dose composite (calculated from = d1,d3,d4)	22	1.9	2.2	1.3	-	-	-
Other place-based ed. training (calculated from d1v-y)	22	.32	0	.85	.18	4.5	20
Overall educator practice (overall module=p1,p2,p3,p4,p5,p6,l1,l2,l3,l4,l5,l6)	23	3.2	3.2	.49	.12	2.8	20
Use of local resources (L module = l1,l2,l3,l4,l5,l6)	20	2.9	3	.81	.04	.69	18
Use of local places (llp index = l1,l4)	19	3.1	3.5	.78	.21*	4.4	17
Use of local people (llpeop index = l2,l5)	17	2.7	3	.99	.12	2.1	15
Service learning (lsl index = l3,l6)	18	2.6	2.5	.97	.00	.01	16
Improving educator craft (P module = p1,p2,p3,p4,p5,p6)	23	3.4	3.5	.46	.23*	5.9	20
Meeting curricular goals (pcg index = p1,p4)	22	3.2	3	.52	.21*	5.0	19
Educator collaboration (ptc index = p2,p5)	23	3.6	4	.54	.27**	7.4	29
Educator engagement/growth (pteg index = p3,p6)	22	3.4	3.5	.53	.10	2.2	19
Reports of student performance (X module = x1,x2,x3,x4,x5,x7,x9,x10,x11,x12)	23	3.0	3	.30	.07	1.6	20
Student engagement in learning (xsel index=x1,x5,x12)	23	3.3	3.3	.48	.07	1.6	20
Student academic achievement (xsaa index=x2,x6,x10,x11)	23	3.1	3	.44	.06	1.3	20
Student civic engagement (xsce index = x3,x7)	23	3.0	3	.56	.05	1.0	20
Student stewardship behavior (xsbb index = x4,x8)	22	2.9	3	.53	.06	1.3	19
Student test scores (xts index = sq. root of x9*x10)	14	2.1	2.1	.58	.01	.06	12
Reports of whole school improvement (W module = w1,w2,w3,w4)	23	3.3	3.3	.39	.06	1.2	20
School culture, people (wpeop index = w1,w3)	23	3.4	3.3	.42	.01	.20	20
Environmental quality (wenv index = w2,w4)	23	3.1	3	.58	.06	1.2	20
Place-based ed is part of school cultural fabric (item = w5)	17	3.2	3	.67	.12	1.9	14
Perceptions of community improvement (Y module = y3,y4,y5,y6,y7,y8,y9,y10)	23	2.9	2.9	.34	.14	3.2	20
Community civic engagement (yce index = y3,y6)	23	3.0	3	.45	.07	1.6	20
Community environmental quality (yeq index = y4,y7)	23	2.8	3	.42	.10	2.2	20
Community planning/decision process (ypdm index=y5,y8)	22	2.8	3	.72	.01	.18	19
General community quality (ygen index = y3,y4,y5)	23	2.8	2.7	.59	.04	.79	20
Program adds value to community (ypav index=y6,y7,y8,y9)	22	3.0	3	.46	.08	1.5	19
Connection to community (CONCOM module = l1,l2,l4,l5,x3,x7,y3,y6)	22	.32	0	.85	.16	3.8	20

NOTES: Table row shading loosely represents the level of data reduction, i.e. modules are light gray, overall modules are dark gray. Outcome scale range = 0 to 4; **N** = sample size; **X** = mean; **M** = median; **SD** = standard deviation; ΔR^2 = % of outcome variability accounted for by dose composite; * = significant at $p < .05$ /(# of component indices); ** = significant at $p < .01$; **F** = regression test; **df** = degrees of freedom.

CO-SEED Logic Model

Through the implementation of comprehensive place-based education we will contribute positively to school improvement, environmental stewardship behavior, community vitality, and environmental quality



Chapter 5: Reflective afterword - methods

Upon completion of my research portrait of the Haley Elementary school, I re-convened the six serving men that I had borrowed from Rudyard Kipling in chapter three and we had a little after-action debrief. The reports of Why, Where, When, and What were succinct and straightforward. Essentially: smooth epistemological sailing, no big news to report. Who and How, on the other hand, had a stimulating dialogue about the results of this innovative blending of utilization-focused evaluation (Patton, 1997) methodology with portraiture (Lawrence-Lightfoot & Davis, 1997) methods. Below is a brief summary of the main points.

“Who” cares about the data?

UFE and portraiture share the trait of defining the criteria for success in terms of the perceptions of the users of the final product. From the portraiture perspective, the technical merit of this study should be judged by the extent to which actors, researcher, and critical readers each feel that the product authentically captures the essence of what is going on at the subject school site. From the UFE perspective, the worth of the study should be judged by the extent to which the research portrait is actually used by the stakeholders of the place-based education program in question. I was able to collect some feedback on the penultimate draft of the Haley portrait which shed some initial light on these questions of authenticity and utility.

The easiest opinion to consider was that of my own aesthetic sensibilities as a researcher. At every stage of the process, from the research design, through the data collection, analysis, and writing of the portrait, I felt centered and balanced at the watershed between empiricism and aestheticism. Knowing that I would be held rigorously accountable to the empirical data via the transparency of my analysis process created comfortable and firm boundaries within which I felt free to find the most creative, compelling, and accurate expression of the data. One simple example of this was the Timeline/Jigsaw graphic (Figure H6) I created. I wondered how to portray the interconnected set of ideas, actions, and relationships that seemed to have set the stage for the school culture changes that emerged during CO-SEED's three year tenure at the Haley. In order to most concisely and effectively present the essence of the situation, I felt like I needed color, shape, and the flexibility to freely blend commentary and quotation. Portraiture allowed that room to maneuver. In a similar vein, I used formatting, photos, and other layout techniques to bring the piece into what felt like coherent unity at the level of the portrait as a whole. It is interesting to note that my own judgment of the authenticity of the resulting portrait, though strongly affirmative, was provisional until I heard back from the main actor at the site.

The first person to review the draft portrait was Jean Dorcus, the principal of the Haley from 1996 to 2006, and the central character in the Haley story. Her response to the draft was clear and affirming:

Michael, Great job, accurate, good photos, logical and easy to read. I like this dissertation narrative style. For that reason, I think referring to me as Jean is fine. There are many instances when you use my full name, so I think it's OK.

I especially liked the timeline ---seeing 10 yrs of work set up this way made it very clear, and although I am a linear thinker, I never got to set it up in this manner. All principals should receive such a document when they retire. Good work! EdVestors [a potential funder] would certainly benefit from reviewing this - hope we get a chance to present it to them. At any rate - it's a wonderful document and will be put to good use. Thank you!

Below are a few comments. Please call or email me with questions. Thanks again, Jean. (Jean Dorcus, personal communication, September 6, 2006)

The next most important arbiter of the authenticity of the portrait was the CO-SEED staff person who works with the Haley site, because he was both a main actor in the portrait as well as one of the primary evaluation clients. His comments were as follows:

In general I think this looks great. It reads beautifully and is both smooth and compelling. It tells the story very accurately... I had a few edits in there, [and] a couple of main points [we need to talk about]... In general though I think it reads great and will be a tremendous asset if they get to the next

phase in the school on the move thing [i.e. EdVestors, the potential funder].

(Bo Hoppin, personal communication, September 16, 2006)

The third audience that a successful portrait must satisfy is that of the critical reader. One level of formal recognition of this is the approval of my doctoral dissertation committee. If you are reading this page, then such approval has been granted. However, in preparation for this formal review I sought the feedback of a friend who makes his living as the editor of the daily newspaper for the region in which I live. He offered a short list of helpful suggestions for how to clarify the purpose and context for someone who is not familiar with details of the CO-SEED program. I also enlisted the editorial support of the principal of another urban Boston CO-SEED site to help me make sure that the paragraphs where I deal with cultural and demographic trends at the Haley were appropriately accurate and sensitive.

As a whole, the feedback I received on the draft left me feeling very confident of the authenticity of the product, which is the key criterion for success of the portraiture method.

The above feedback from key actors at the site also suggested ways that the portrait will be useful, which is the key criterion for success of my overall UFE methodological framework. Further evidence of this portrait's utility came from the director of the CO-SEED program, who is also a leading author in the field of place-based education. He described the draft in the following way:

It's the most user friendly form that the evaluation of CO-SEED has been in thus far. For the people at Haley it will help them be able to say 'This is who we are and this is what we want to preserve.' I think it will be useful for other schools, Boston Nature Center schools. This would be a compelling story so that they see 'This is what we need to do.' (David Sobel, personal communication, September 14, 2006)

In the early planning phases of this evaluation, the CO-SEED staff identified current and possible future funders as one of the highest priority users of their evaluation. Below is feedback on the Haley portrait from the Senior Program Officer at the foundation that has been the primary supporter of the CO-SEED project for the last six years:

I read the report - I think it was an elegantly written document with very useful and tangible insights into the leadership and school culture components that are essential to making this model stick. I also appreciate the quantitative data. It is useful for a funder like me because I can share it with my colleagues (both internal and external) - it is a good "validation" tool. I would love to have BPS [Boston Public Schools] administrators see this as well because the ideal situation would be if BPS sees this as a promising approach for certain schools. I want the demand to come from administrators AND principals not just the principals. (Mariella Tan Puerto, personal communication, September 22, 2006, EMPHASIS in original)

The above comment from this funder is important evidence of utilization success in and of itself, but it also sheds light on another, more subtle element of this innovative combination of UFE and portraiture. She singles out the quantitative data component of the portrait as the piece that makes the product as a whole useful for establishing policy dialogues with decision makers in her world. Regardless of the ongoing epistemological debate about the “true” validity of the quantitative paradigm, it seems clear that it is often the case that numbers really speak to people, especially in educational policy contexts. This comment is very consistent with the stakeholder prioritization conversations with clients that guided the overall construction of this study. Simply put, if this portrait had *not* included a quantitative component, the utilization of the final product would have been severely compromised.

I do not think it is coincidental that the authenticity requirements of portraiture and the utility requirements of UFE were able to successfully interweave for this investigation. I propose that the harmony arises from a deep epistemological similarity between the two approaches. Both share a rigid commitment to the *ends* of stakeholder approval while encouraging flexible application of the *means* to get there.

“How” to analyze the data?

In the moments leading up to the crafting of both the penultimate and final drafts of the portrait, I experienced a few small eddies at the confluence of the currents of UFE and portraiture. I offer three of these here, not as particularly

revelatory insights, but rather as modest signposts to others who may benefit from a preview of ways that portraiture techniques can interact with UFE needs.

First, the issue of framing (or, what my inner positivist might call the “unit of analysis question”). Portraiture has been applied at at least three levels of inquiry: the site or program (Lightfoot, 1988; Davis et al., 1993); an individual person as an exemplar of a category of achievement (Lawrence-Lightfoot, 2000); and deeper inquiries into an individual person (and thus society) known as “human archeology” (Lawrence-Lightfoot, 1994). The portrait in this dissertation was an attempt to simultaneously explore those first two levels: a program/site (CO-SEED at the Haley school); and an individual leader (Jean Dorcus as principal). I received feedback on the penultimate draft from multiple reviewers that suggested that the balance between these two purposes was not perfectly clear and/or was not exactly right in terms of the utilization needs of the clients. The issue was easily resolved in a way that satisfied all parties, demonstrating that it is possible to combine these levels of portraiture. However, given the choice in future investigations, I would opt for a single level framing, i.e. either program/site or individual person. That might liberate even more of the intrinsic power of portraiture to plumb the depths of human experience.

Second, some of the interesting subtlety of portraiture was blunted a bit by utilization needs. Specifically, the opening section of a portrait, sometimes called the “outside-in,” (Lawrence-Lightfoot & Davis, 1997, p. 61) often involves a more poetic and personalized setting of the macro context in a way that

intentionally but covertly foreshadows the emergent themes of the portrait that will follow. In the case of my dissertation, the specific intended evaluation utilization dictated that the opening pages take the form of a more traditional, parsimonious executive summary, complete with bulleted findings. Ultimately, though, the rich, story-like aspect of portraiture added far more than it detracted from the primary evaluative purpose of the piece.

Lastly, I experienced an interesting issue with regard to researcher voice. Portraiture requires that the author be present as a recognizable individual within the narrative. The purpose of this is to transparently present elements of the background and potential biases of the author so that the critical reader can have a reference point for their own assessment of authenticity. Further, the judicious insertion of autobiographical context from the author reinforces portraiture's embracing of a coherence theory of truth by acknowledging that researchers are people too, each with their own perceptual lenses, shaped by culture, context, and experience. Through the gift of critical feedback from one of the reviewers of the draft, I realized that inserting myself as researcher into the narrative even a little too much can have a counterproductive effect. Again, this issue was easily resolved with minor editing, and the intended balance was achieved.

But what was most interesting to me about this process was that it was the utilization needs that provoked the constructive feedback. For example, a comment was "whenever you slip into this type of language, I think it reads

weak” (Bo Hoppin, personal communication, September 16, 2006). The driving concern was how effective the product would be when used for evaluative purposes. Adapting portraiture for evaluative purposes like this may narrow the range of acceptable expression of the author voice. It is doable, but perhaps requires a finer grained honing during the final editing.

It should be noted that the evidence presented in the paragraphs immediately above primarily reflects an *intention* to use the evaluative portrait, as opposed to evidence of the *actual* use of the evaluation. This needs to be treated as preliminary evidence of successful attainment of UFE criteria. More systematic presentation of data about the actual use is beyond the scope of this dissertation, but I do remain professionally committed to informally following, supporting, and, where appropriate, encouraging the use of this evaluation product.

Summary reflection on methodological meshing, now and in the future

Each of the above examples of methodological processes highlights the collective nature of social science inquiry. Both UFE and portraiture rely on intense dialogue between the researcher, actor, and user of the product. With its reliance on establishing strong relationships, portraiture perhaps emphasizes dialogue a little more than UFE during the data collection phase of the life of the investigation. With an emphasis on use, UFE tends to lean a little more heavily than portraiture on dialogue during the final editing process. Committing to the tenets of *both* UFE and portraiture in this study raised the overall prominence

and amount of dialogue amongst stakeholders. This greater reliance on dialogue and connection is perhaps one of the most exciting ways that portraiture and UFE can be better together.

I would recommend the combination of these two approaches for research on other topics and in other contexts that (like my anticipatory themes of place-based education, school culture, and leadership) are both messy and operate within contested policy contexts. The messiness of a context invokes the need for dialogue among stakeholders, which is a key strength of both UFE and portraiture. The contested nature of a policy context is often an indicator that some key decisions are needing to be made. Again, this plays directly to the strength of both UFE and portraiture. The whole goal of UFE is to bring systematic data to bear on decisions of import. Portraiture attends to making the essential elements of the context into an accessible story, which can help clarify issues at hand for policy decision makers.

One category of messy, contested contexts that could be well informed by the combination of UFE and portraiture methods is school budget deliberations. If a school board is asking for empirical data to help make decisions about how to allocate precious resources, this should be a clue to a researcher that creating an evaluative portrait may well be worth considering. This could be especially true in situations where board members are made up of lay people and community members who tend to make decisions in terms of deeply held values. My portrait of the Haley Elementary school also demonstrated that quantitative

data can be integrated into a portrait, thus opening the door for perhaps a more comprehensive approach to discussions around meeting the spirit of accountability embedded in *No Child Left Behind*.

One future research project that would be interesting to pursue would be the application of an evaluative portraiture approach to the decision making process of one or a couple of school boards. What types of data and presentations of data actually impact the thinking of individual decision makers? Are there emergent themes that, once portrayed, could help education practitioners better understand how to strategically and optimally invest their energy in making the evidence-based case for what they consider to be best practices?

On a personal note, combining UFE and portraiture on this project has changed the way I will approach all evaluations in the future. Having traversed the creative ground of paying strict attention to the aesthetic wholeness of an evaluation product, it will be difficult to ever *not* bring that sensitivity to my future work. Even if my clients are not asking for a formal portrait, my application of portraiture principles and processes is likely to result in an ultimately more useful product by making the product more accessible. Portraiture has given me a more precise set of methodological concepts and guideposts to apply to future evaluations, including, especially, the importance of paying formal and explicit attention to the criteria of “yes, of course” authenticity (Lawrence-Lightfoot & Davis, 1997, p. 247).

The flexibility of portraiture allows it to be applied in various degrees of depth. While I would stop short of advocating that the core tenets of portraiture become formally incorporated into the stated goals of utilization-focused evaluation, I would definitely recommend that utilization-focused evaluators consider becoming familiar with portraiture methods and actively seek ways to bring a portraiture mentality to most evaluations they do.

Chapter 6: Reflective afterword – broader implications

Stepping back from all the methodological intricacies and even from the gratifyingly rich, local description of the activity at this one urban elementary school, I do feel compelled to very briefly mention some larger questions I see having to do with each of my three anticipatory themes: place-based education, school culture, and leadership. These observations embody the hermeneutic circle of ever receding horizons of understanding in that they center on the limitations of the generalizable applicability of the processes and products of this study.

Should place-based education be plural?

There is a way in which intense focus on a local place runs the risk of slipping down the slope toward provincial myopia. For instance, in my clamor to portray the rich detail of the internal workings of the Haley Elementary in this study, there was precious little mention of the larger social and natural milieu in which this particular place is embedded. Ultimately, the story of eight-year olds becoming engaged with the here and now of seasonal changes in their Boston school yard is not complete. The future arc of the story must eventually lead to and through citizenship behavior resulting in an ecologically just and sustainable city and world, even though those events remain as implied potentialities in the actual text of my evaluative portrait. This portrait was only a thin slice of larger story, and the reader is left to construct most of that story themselves.

It is possible that this portrait of an urban elementary school could be perceived as presenting an unduly innovative approach to education. Yes, the term “place-based education” is a recent arrival on the American educational scene, and yes, the story in this portrait is a particularly vibrant example of this contemporary pedagogical construction. But the deeper philosophical and cultural foundations of the practice of paying respectful attention to one’s local place as a way of establishing right relationship with more universal truths is hardly new. Indigenous cultures the world over have internalized the core tenets of caring for, teaching about, and learning from the unique expressions of the local landscape to a depth that reveals the “place-based education” described in this portrait as a merely modern and partial reconstruction of very old ways of knowing. The contemporary scholarly work of formally knitting this “new” pedagogy more fully onto its old and global roots is a task that has yet to be accomplished.

The point of place-based education is to use a focus on the particular as a means to connect to the universal, ultimately leading to the shaping of social behavior. So the task of place-based education is not fully complete until connections are made between the importance of *one* place on this planet, and all the important *other* places on the planet. In this sense, it might be more accurate (though perhaps less fluid) to call this approach “place(*s*)-based education.” No place is an island unto itself, perhaps not even this planetary island we call our home: Earth.

Cultural positioning

The question of how to appropriately position oneself as an “outside” researcher trying to observe and understand the inner workings of a social group’s culture is a perennial issue in sociological study. This dynamic was very much at play in how I positioned myself to enter into the culture of the Haley school as a researcher/evaluator/portraitist. The approach I took was to attempt to be a-theoretical (some might say “blind”) with respect to ethnicity, gender, and class, essentially leaving those dimensions of my relationship with participants as unspoken, implicit, and, hopefully, relatively neutral factors. This approach, while justifiable on certain pragmatic grounds, opens me up to legitimate criticism on important philosophical and methodological grounds.

The fact remains that I am a white male from the educated class, and thus present as belonging to the privileged in-group along the most important dimensions of social power. I was studying a culture in which most of the adults and children identify as ethnic minorities, and most of those adults (including the primary leader) are women. I was representing a functional professional role that carried additional power connotations as well. Despite several mitigating factors (e.g. my personal history of having grown up in a multi-racial family; my commitment to embodying portraiture principles of empathy and care; my conscious attempts to use my evaluator role as a vehicle for servant leadership; and my generally and genuinely open and curious demeanor), it would be very strange indeed if some characteristics of my power identity did *not* influence

what program participants shared with me and how I then interpreted their contributions. Because I did not make inquiry into this positionality a specific focus of my study, I have no data to present either confirming or denying the influence of critical dimensions of ethnicity, class, and gender on my research product.

What does the recognition of the above limitations of positionality mean for this current study and for future research in the area of place-based education and leadership conducted by me or others? At a philosophical level, it reminds us that the high dreams of ecological sustainability and social justice are not likely to be achieved one without the other. Methodologically speaking, it provides an example of how researcher silence on positioning with respect to dimensions of social power (akin to that which I employed in this study) can speak loudly. Methods and politics can never be fully separated. In the personal and professional realm, I leave this study more consciously committed to moving beyond my current levels of “cultural pre-competence” (characterized by the awareness of, but inadequate response to one’s own limitations when interacting with other cultural groups), and progressing toward something more like “cultural proficiency” (characterized by systematic, conscious, positive, affirmation of cultural differences) (Lindsey, Robins, & Terrel, 2006, p. 43).

The “L” word

As much as I hate to admit it, this study left me believing even more strongly that leadership really does matter. The empirical evidence of the

influence of Jean Dorcus on the direction and achievement of the Haley community is undeniable. The same is true, to a lesser extent, of individual leaders/staff members from CO-SEED and the Boston Nature Center.

In my intellectual tussle with the idea of leadership, I have tended to downplay the phenomenon. While it can be convincingly *described* (as I did in the Haley CO-SEED research portrait), this study left me not much better able to pragmatically *prescribe* leadership to my satisfaction. It is clear that Jean Dorcus embodied successful school leadership, but it is not clear how exactly one would go about replicating her leadership, except in the most general way. And recalling the concept of the Fundamental Attribution Error (Gladwell, 2000, p. 160), I am reminded that what I am seeing as leadership is probably less about character and more about context than I might at first think. This simply serves to further complicate the task of systematizing and prescribing leadership behavior.

So, recognizing and accepting that leadership matters may be good enough. It's a personal thing. It's a cultural thing. It's real but not contained.

As a researcher interested in uncovering the science and art of social change, I ignore or discount leadership at my peril. In fact, it seems to me that the practice of leadership (and thus the subsequent research into the phenomenon) is far more closely aligned with the world of art than of science. That does not excuse me, though, from the responsibility to study this important dimension of social change. Just because it is never likely to yield a universally

consistent formula does not mean that the pursuit of leadership patterns and blueprints is a waste of time!

Paying attention to dynamics related to leadership seems to make some choices clearer and easier to understand. For instance, reflecting on the essence of Jean Dorcus' leadership reminds me why I even care about leadership at all. It's the future orientation, fed by hope. For Jean, it is about helping children. In one of my evaluation interviews with her she said simply: "I see urban kids in Boston, kids reaching out, and I think: 'This is where I really need to be.'" For me it is about the possibility of a just and sustainable future for all of us. Observing kids in cities working on environmental themes (and maybe even helping them a bit through the influence of my research) seems like as good a place as any to start.

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Appendices

Appendix A: Notification of IRB approval

Monday, June 05, 2006 12:34:24 PM

Urgent Message

From: "Elizabeth Holloway" <eholloway@phd.antioch.edu>
 "Michael T. Duffin" <mduffin@phd.antioch.edu>
 Subject: IRB Approval
 To: Michael T. Duffin
 "Michael T. Duffin" <mduffin@phd.antioch.edu>
 Cc: "Carolyn Kenny" <ckenny@phd.antioch.edu>

Dear Michael:

As Chair of the Institutional Review Board (IRB) for Leadership and Organizational Change, Antioch University, I am granting you approval to conduct your dissertation research study titled, Portrait of an Urban Elementary School: Place-based Education, School Culture, and Leadership; A Doctoral Dissertation. Your study is approved based on the information presented in your Ethics Application including the Informed Consent for Participants and Parents.

Your study is approved from May 31, 2006 through to May 30, 2007. If your data collection should extend beyond this time period, you are required to submit a Request for Extension Application to the IRB.

Your study will be overseen by the Dr. Carolyn Kenny, Chair of your Dissertation Committee. Any variation in procedure in the treatment of the participants must be reported to Dr. and subsequently approved by the IRB through your submission of a revised Ethics application and Informed Consent.

Elizabeth Holloway, PhD
 Chair, IRB Committee
 Professor of Psychology
 Leadership & Organizational Change Program
 Antioch University
 Office: 805 898 0114
 Mobile: 805 637-2231
 FAX: 805 682 7979

Appendix B: Principal informed consent letter

272 Eaton Rd.
Swansey, NH 03446
May 24, 2006

RE: Informed Consent Letter

Dear Jean,

Thank you for agreeing to participate in the research study I am conducting for the dual purposes of evaluating the CO-SEED program and completing my dissertation in Antioch University's Ph.D. in Leadership and Organizational Change program. My goal is to create a narrative research portrait of the way that place-based education, school culture, and leadership have interacted over the past couple to several years at Haley Elementary. The purpose of this letter is to formally document your informed consent, first as an authorizing representative of Haley, and second as a personal agent.

The bulk of this study follows the same data collection format that you are familiar with from previous years of my CO-SEED program evaluation work at Haley. This includes semi-structured interviews with your staff, at the beginning of which they provide individual verbal affirmation that they agree to the purpose, intended use, and confidential (i.e. quotes: yes; identification: no) nature of their participation in the evaluation. Interviews are audio recorded (when permitted), and most of them are fully transcribed. Additionally, a passive consent letter will be sent home to parents, asking them to contact you if they do NOT wish their child to be photographed, interviewed, or to take a survey. Finally, spontaneous opportunities may also emerge for me to observe or interview participants or artifacts in the Haley-CO-SEED context, and your permission is sought for such, provided they are reasonably connected to this study.

The way this current round of data collection differs from past years is by the inclusion of the focus on the leadership story of Haley, which, presumably, is also very much the leadership story of Jean Dorcus. In addition to asking CO-SEED participants about their view of the leadership story of Haley during the regular evaluation interviews, I hope to have a couple of in depth conversations with you in order to get a deeper, richer, more personal understanding of the leadership story of Haley. As part of these conversations I will ask you to direct me toward interviewing some other people or observing some events in service of helping me understand the essence of the story. This may include my having conversations with selected professional colleagues, personal friends, or students of yours, or talking with other people who know you or your work. My conversations with you will happen at your convenience, and your total time involved should not be more than a few hours.

Because the research portrait product has the intended use of serving the evaluation needs of the CO-SEED project, the Haley school will be identified by name, and your role as principal will be obvious to anyone familiar with the school. I will

provide you with a final draft of the portrait, however, at which time you will be given the opportunity to decide whether you should be referred to by your real name, a pseudonym, or simply by your role as principal. Further, I will leave it to you to decide whether a pseudonym should also be used for the Haley School in my dissertation document. In any case, the school will be named in the version of the portrait that is presented in the public CO-SEED report.

I hope that you may develop a greater personal awareness of your own experience as a result of your participation in this research. The risks to you are considered minimal. There is only a small chance that you may experience some discomfort in the telling of your experiences. If you do, please contact me at any time at my home (603-357-3547) to discuss your reactions.

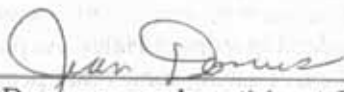
You may withdraw from this study at any time (either during or after the interviews) without negative consequences. Should you withdraw, your data will be eliminated from the study.

There is no financial remuneration for participating in this study.


All data used for generating this study will be kept on file in my home office for as long as the CO-SEED program remains a current or likely future evaluation client of mine, at which point the data will be destroyed.

If you have any questions about any aspect of this study or your involvement, please contact: Elizabeth Holloway, Ph.D., Professor of Psychology, Ph.D. in Leadership & Change, 150 E. South College, Yellow Springs, OH 45387, 805-898-0114, eholloway@phd.antioch.edu.

Two copies of this Informed Consent Letter have been provided. Please sign both, indicating that you have read, understood, and agreed to personally participate in this research, and that, as principal of the Haley school, you authorize the data collection described above. Return one to me and keep the other for yourself.


 Jean Dorcus, research participant, Haley principal

6/7/06
 Date


 Michael Duffin, researcher

6/7/06
 Date

Appendix C: Parent passive consent letter

Dear Parent,

This year, your child will be taking part in an exciting project that links your school with the local community. Project CO-SEED, a partnership between Antioch New England Institute and your school, supports students, educators and community groups to do place-based education.

We have been hired by the program to evaluate its impact on teachers, communities, and students. As part of that effort, we may be spending some time in the classroom talking with students and teachers, and documenting examples of their work.

We are requesting your permission to ask your child to respond to a brief, in-class, written survey. It asks students to think about their involvement with and connection to the place where they live. In addition, we may wish to talk with your child about his or her experiences with Project CO-SEED and possibly photograph your child engaged in sustainability projects. All the information gathered for this evaluation will be used by the program staff to improve their program model and keep a record of its impacts. All surveys, quotes or photos we utilize (for reports, fliers, presentations, or other uses) will remain anonymous.

If you are NOT willing to grant your permission, please sign the attached form and ask your child to return it promptly to the teacher who gave it to her/him. If we do not hear from you, we will assume your consent for your child's involvement in our evaluation efforts. If you would like to learn more about Project CO-SEED, please feel free to visit their web page at www.anei.org. If you have any questions about the evaluation, please call Michael at 603-357-3547. Thank you very much for your help.

Sincerely,
Michael Duffin
Amy L. Powers
Program Evaluators

Project CO-SEED Evaluation Parent Consent Form

Please check all that apply:

- ☐ I do NOT give my son/daughter permission to talk to a program evaluator for the Project CO-SEED, about his/her learning experience with place-based education, including doing surveys.
- ☐ I do NOT give the evaluators permission to take photos of my son/daughter participating in classroom and field trip activities.
- ☐ I do NOT give Antioch New England Institute permission to use my child's photos or quotes in their publications.

Child's Name: _____
Classroom teacher (teacher who provided this form): _____
School Name: _____
Date: _____
Parent's Signature: _____
Parent's Name: _____

Appendix D: Notification of photo permission

Friday, September 22, 2006 9:05:47 AM

Message

From: "Robert N. Hoppin" <bhoppin@antiochne.edu>
Subject: Re: photo permissions
To: Michael T. Duffin

Michael, This is to confirm that I have gone over all the photos in the Haley report with Mary, the Haley secretary, and we do have written active consent from all the parents for every student shown.

Bo Hoppin -- Project Director
Antioch New England Institute
c/o Antioch University New England
40 Avon Street
Keene, NH 03431
Work Phone -- (603) 357-3122 X205
Cell Phone (best availability) -- (617) 230-7801
Home Phone -- (860) 963-2650
Fax -- (603) 357-0718

Appendix E: Interview guide

Interview Guide, Spring 06, Haley site v2 - CO-SEED wrap up, MD dissertation

Intro:

- I'm an outside evaluator with PEER Associates, hired by CO-SEED for the last several years to help improve the program and help program staff and funders figure out how to best sustain the program. While this IS an evaluation of the CO-SEED program, it is definitely NOT an assessment of your performance.
- Main purpose today is to document the state of things for students, teachers, and the community as CO-SEED wraps up three years of a formal program presence here. I am especially interested in your observations about leadership in this school and/or any changes in the school culture you've seen over the past couple of years.
- Your participation in this interview is entirely voluntary. We can stop at any time (including now).
- Your responses are confidential in that names are never used. Quotes are used. Only evaluation staff will see raw data. The aim is to help you feel comfortable offering critical perspectives if you have them, because that is where some of the most useful learning comes from.
- Data from these interviews will be transcribed and systematically analyzed for inclusion in two documents: 1) a formal, public report on CO-SEED as a whole during 06; 2) my doctoral dissertation.
- Request permission to record, take notes, transcribe.
- Questions or concerns? (e.g. voluntary, confidential, purpose, use)

Main questions:

- 1) As you think back over the last three years here at Haley, what comes to your mind as the biggest CO-SEED-related AND non-CO-SEED-related successes in this school or community? *(Additional prompts: What were the key factors (e.g. people, timing, need, luck, etc.) that allowed these successes to happen? What is something about these events that is subtle or wouldn't necessarily be obvious to an outsider?)*
- 2) What about challenges over the last three years, both related to and not related to CO-SEED? *(Additional prompts: How might these challenges have been avoided or better dealt with? Were there any key lessons learned that emerged from these experiences, either for you or for others?)*
- 3) As you look ahead to the next couple years at Haley, what, if anything, might come to be seen as the legacy of CO-SEED? *(Additional prompts: What aspects of CO-SEED do you think are going to have the most lasting impact? Why? What would it take to make CO-SEED's work more sustainable for the long term? What advice do you have for other CO-SEED sites?)*
- 4) Do you experience Haley as having something that could be called a distinct school culture? If so, how would you describe it? *(Additional prompts: Are there symbols, unwritten rules, or behavior norms that weave through the way things happen here? Do you experience a difference between a culture for teachers and a culture for students? Do you see your teaching as in line or at odds with the main school culture? How would a new teacher learn the more subtle aspects of how they are expected to teach here?)*
- 5) Have you seen or felt any changes in Haley's culture in the time you've been connected with the school? *(Additional prompts: Can you tell me a story about a time you noticed a change? When did it happen? What else was going on at the time? Who was involved? How, if at all, has the CO-SEED summer institute related to the Haley school culture?)*
- 6) What is the most important thing to know in order to really understand the relationship between the school and the greater Haley school-community, however you define that? *(Additional prompts: What are some examples of projects or relationships that show this type of school-community connection? How has the relationship changed over the last several years? What caused any of those changes? What would parents say?)*
- 7) In what ways, if at all, have teachers changed the way they do things as a result of CO-SEED? *(Additional prompts: What are the biggest barriers to CO-SEED style teaching? What role do local people, places, history, land, or other local resources play in the way teaching and learning happens at Haley?)*

- 8) How would you characterize CO-SEED's impact on students (if any)? *(Additional prompts: Are there certain groups of students that have benefited more than others from focusing on place-based education? Are impacts either stronger or weaker for environmental or social behavior or more with regard to academic performance, or perhaps attitude or engagement of some sort?)*
- 9) Please tell me about the leadership of this school. *(Additional prompts: If you had to choose three words to characterize the leadership in this school, what would they be? Where does it come from besides the principal? What are the biggest challenges and the biggest opportunities facing Haley as a result of having a new principal next year? What (if anything) is Jean's legacy?)*
- 10) Are there any important points about CO-SEED or Haley that I should know about or that you are particularly curious about? *(Additional prompts: BNC relationship? Hiring new principal? Earthwatchers team? Schoolyard? Other?)*
- 11) Looking back over what we've talked about here, are there particularly things we should be especially careful to attribute to CO-SEED's influence or to NOT connect to CO-SEED?
- 12) Is there anything else that you'd like to share?

Additional questions for students:

- 1) Is there anything you would like to know about me or what I am doing here? Is it OK for me to record our conversation (I won't use your name in my reports)?
- 2) What do you like best about this school?
- 3) What is something interesting or important that you have learned about nature this year in school?
- 4) What have you learned about your neighborhood or the community outside your school?
- 5) What would make this a better school for learning?
- 6) What are your thoughts about nature or the environment? What do you think other kids in this school think about that?
- 7) Do you think science is a big or a little part of this school? How come? How much do you like or dislike science?

**THANK
YOU!!!**

Additional guiding questions about Haley's leadership story:

- 1) How has the Haley school changed over the last decade? *(Additional prompts: Physical space, inside and out? Staff composition and culture? Student activity and behavior? Community connections? Have there been defining moments or chapters? What do you see for the next ten years of Haley?)*
- 2) What have been the biggest contributors to/causes of change in the school? *(Additional prompts: Where has leadership come from besides the principal's office? Any examples of particularly good or bad luck? What role has timing played?)*
- 3) Jean, how have you changed personally and/or professionally over the last decade? *(Additional prompts: What have been the most valuable lessons you've learned? What would you do differently if you could do it all over again? What is your main advice for your successor?)*
- 4) Jean, what inspires you and your work? *(Additional prompts: Who are your heroes and role models? Do you have any theories or conceptual frameworks that drive your work as a leader? Where does your vision come from? What has been or is the biggest threat to achieving your vision? How do you take care of yourself?)*
- 5) Who else should I talk to or what else should I see in order to understand the leadership and change story of Haley? *(Additional prompts: Current or former colleagues? Friends, family, acquaintances? Documents, objects, or events that capture the essence of what we've been talking about?)*
- 6) Any summary thoughts or anything else to share?

Appendix F: Spring 2006 educator survey

CO-SEED Teacher/Staff Survey

*We recognize that teachers and school staff have many demands on their time and we greatly appreciate you completing this survey. Your frank feedback is very valuable for helping to improve the CO-SEED project. We also recognize that CO-SEED is not the only factor affecting your students. We appreciate your best guess on any items that may seem a little broad or not directly connected to the CO-SEED. This survey is a key part of a larger effort to measure the impact of place-based education programs, and so the question numbers and letters are not always in sequence. Please do not leave any blanks. **THANK YOU!***

Your individual responses will be seen only by the evaluation team, and your name will NOT be used in any report, publication, or discussion without your prior permission.

Your School _____ Your Name _____ Today's Date _____

<i>How much do you disagree or agree?</i> For each item, please circle only <u>one</u> number that best matches your opinion.	<i>Strongly Disagree</i>	<i>Tend to Disagree</i>	<i>Tend to Agree</i>	<i>Strongly Agree</i>	<i>Not sure or N/A</i>
For items P1-P6, if you are not a classroom teacher, think of replacing the words "I" or "me" with "the teachers I work most closely with."					
P.1 CO-SEED helps me meet local, district and/or state learning standards.	1	2	3	4	0
P.2 I collaborate with other teachers for curriculum planning.	1	2	3	4	0
P.3 I feel energized and confident while teaching about the local environment and/or community.	1	2	3	4	0
P.4 It is difficult to cover traditional subjects through CO-SEED.	1	2	3	4	0
P.5 The curriculum in our school is well-coordinated throughout the grade levels.	1	2	3	4	0
P.6 CO-SEED has helped me become a better teacher.	1	2	3	4	0
Y.3 In general, people in our community are actively involved in trying to make the community a better place to live.	1	2	3	4	0
Y.4 Our community is environmentally healthy.	1	2	3	4	0
Y.5 The key decision makers in our community have a good plan for addressing the important needs in our community.	1	2	3	4	0
Y.6 CO-SEED gets people (young and old) more involved in solving real life problems in our community.	1	2	3	4	0
Y.7 The quality of the environment in our community is improving as a result of CO-SEED.	1	2	3	4	0
Y.8 Through CO-SEED, students are collaborating with important decision makers in our community.	1	2	3	4	0
Y.9 CO-SEED may be nice, but it doesn't address real needs in our community.	1	2	3	4	0
Y.10 I am (or plan to become) actively involved in projects to improve the social and/or environmental quality of our community.	1	2	3	4	0
W.1 Our school staff shares a common vision for education about the environment and community.	1	2	3	4	0
W.2 Our school is environmentally healthy.	1	2	3	4	0
W.3 The sense of community within our school is fairly weak or non-existent.	1	2	3	4	0
W.4 Our school is active in natural resource conservation (water, energy, soil, air, solid waste).	1	2	3	4	0
W.5 Place-based education is part of the cultural fabric of our school.	1	2	3	4	0

<i>How much do you disagree or agree?</i> For each item, please circle only <u>one</u> number that best matches your opinion.		Strongly Disagree	Tend to Disagree	Tend to Agree	Strongly Agree	Not sure or N/A
Items X1-X12 refer to the group of students that you know best or work most closely with in your school or project.						
X.1	Our students are enthusiastic about learning.	1	2	3	4	0
X.2	CO-SEED may be nice, but it doesn't really improve student academic achievement.	1	2	3	4	0
X.3	Through their schoolwork, students gain a sense of responsibility for improving the local community and environment.	1	2	3	4	0
X.4	Through their schoolwork, students regularly take action to protect and improve the environment.	1	2	3	4	0
X.5	Students prefer CO-SEED-style activities to more traditional-style school activities.	1	2	3	4	0
X.6	I am satisfied with the quality of education in our school.	1	2	3	4	0
X.7	Students have a strong connection to the community where our school is located.	1	2	3	4	0
X.8	At home or outside of school, students regularly take action to protect and improve the environment.	1	2	3	4	0
X.9	Standardized test scores are an accurate indicator of student academic achievement.	1	2	3	4	0
X.10	CO-SEED helps students increase their scores on standardized tests.	1	2	3	4	0
X.11	CO-SEED is particularly beneficial for students with learning challenges.	1	2	3	4	0
X.12	Students are self-directed in their work on the CO-SEED project.	1	2	3	4	0

For each question, please circle only one number that best matches your opinion.

<i>How often do these things happen?</i> Items L1-L6 refer to the classrooms that you know best or work most closely with.		Two days per year or less	Three to six days per year	About one day a month	One day a week or more	Not sure or N/A
L.1	The school building and grounds (places outside of the classrooms) are used as places for learning.	1	2	3	4	0
L.2	Parents and/or other community members work directly with students on school-related projects.	1	2	3	4	0
L.3	As part of school, students work on real-world problems in their community, school buildings and/or school yard.	1	2	3	4	0
L.4	The content of classroom assignments and homework is directly connected to the local natural and/or urban environment.	1	2	3	4	0
L.5	Students learn about and/or interact with local cultural heritage, history and people through their schoolwork.	1	2	3	4	0
L.6	Students do community volunteering and/or service-learning work to satisfy their educational requirements.	1	2	3	4	0

D.1 For the following items, please put a NUMBER in the box below each activity description to indicate how many times you have participated in that CO-SEED-related activity OVER THE YEARS. Please type the actual number instead of spelling it. For example: "1" not "one", (but don't type the quotation marks). Put a 0 in the box if you have not taken part in that activity or if it does not apply to you. If the number of times is large or hard to quantify, just put your best guess. The idea here is to try and get an overall estimate of your level of involvement with CO-SEED and which types of support are most used. It might help to read through the whole list of activities first to jog your memory.

	Number		Number
a. CO-SEED summer institutes		k. conversations with community members or parents for CO-SEED business	
b. CLC staff leading activities for my whole classroom		l. activities led by CO-SEED sponsored community partners or parents	
c. CLC staff supporting/helping with lessons I lead in my classroom		m. meetings/conversations with Antioch staff	
d. quick, informal meetings or conversations with CLC staff		n. interviews with CO-SEED evaluators	
e. CLC or Antioch staff providing me with curriculum or content resources		o. other CO-SEED activity (please specify)	
f. school staff meetings or in-service days about CO-SEED		the next four items (v-y) refer to <u>other</u> place-based or env. education activities NOT directly associated with CO-SEED	
g. attended monthly SEED Team (or Theme Team) meetings		v. non-CO-SEED college or graduate level courses related to place-based or env. ed.	
h. CO-SEED sponsored release time for professional development		w. non-CO-SEED workshops/conferences/seminars related to place-based or env. ed.	
i. number of days an Antioch intern was helping in my classroom		x. non-CO-SEED place-based or env. ed. books/curriculum guides I've read	
j. applied for CO-SEED mini-grant		y. non-CO-SEED place-based or env. ed. articles/lesson plans I've read/studied	

D.12 Of the non-CO-SEED place-based or environmental education activities you listed in D.1v-y above, approximately what portion of these did you do *as a result of* being inspired by CO-SEED:

- a. none
- b. about a quarter
- c. around half
- d. maybe three quarters
- e. all
- f. I'm not sure/couldn't guess

For questions D3-D8, please circle the one answer that most closely applies.

D.3 For the current school year, I have had (or will have) my students working on CO-SEED-related activities:

- a. two days per year or less
- b. three to six days per year
- c. about one day a month
- d. one day a week or more
- e. I'm not sure/ doesn't apply to me

D.4 In terms of my overall curriculum plan for the current school year, CO-SEED is:

- a. a very small part of it, if at all
- b. a significant but contained unit
- c. a major part of it
- d. the core organizing structure
- e. I'm not sure/ doesn't apply to me

D.6 What subject do you teach:

- a. Not a teacher/ doesn't apply to me
- b. elementary classroom, integrated
- c. math
- d. science
- e. social studies/ history
- f. English
- g. foreign language
- h. physical education or health
- i. art or music
- j. technology
- k. Other: _____
- l. after school or other non-formal education project leader

D.7 My role in the school is:

- a. specialist
- b. student aide or paraprofessional
- c. administrator
- d. classroom teacher: elementary
- e. classroom teacher: middle school
- f. classroom teacher: high school
- g. other: _____

D.8 For how many school years have you been working in this school? (count the current school year as one)

- a. First year here
- b. 2-3 years
- c. 4-5 years
- d. 6 or more years

E.1 Please feel free to comment on your responses or other interests/concerns about CO-SEED.

The End. Thank you again for taking the time to fill out this survey!

*Please return this survey in the envelope provided to a CO-SEED staff person or to:
CO-SEED Evaluation, 272 Eaton Rd., Swanzey, NH 03446 or email to Michael@PEERassociates.net.*

Appendix G: Fall 2003 educator survey

The version presented below includes notes for translating this version into the indices and modules system used during 2003-04.

Your school _____	Today's Date _____
CO-SEED Teacher, Administrator, School Staff Survey <i>We recognize how many demands teachers have on their time and appreciate your completing this survey. Your thoughtful input allows us to maximize our efforts to provide effective and appropriate services to your school and others. Your answers will be kept confidential.</i> <i>Please do not leave blanks. Thank you.</i>	
Section 1: School and Community. Please use the four-point agreement scale on the right to answer questions 1-21.	
<i>Do you agree?</i>	<div style="display: flex; justify-content: space-between; font-size: small;"> <i>New item # for June 04 data entry</i> <i>Not at all!</i> <i>A little bit</i> <i>I most ly agre e</i> <i>This is very true!</i> <i>I'm not sure</i> </div>
1. In our school, students learn a lot about the local environment and nature.	L1c 1 2 3 4 0
2. In our school curriculum, students learn a lot about local cultural heritage, history and people.	L5c 1 2 3 4 0
3. In our school(s) there is adequate preparation for post secondary education or work after high school.	E100 1 2 3 4 0
4. Young people who choose to stay in this local area after high school will be able to find jobs they like.	E101 1 2 3 4 0
5. My community is more cohesive as a result of the Community Profile Meeting and the projects that resulted because of it.	E102 1 2 3 4 0
6. Meetings in our town are well attended.	Y5c 1 2 3 4 0
7. Meetings in our town run smoothly and efficiently.	Y5d 1 2 3 4 0
<i>Our schools have strong programs in...</i>	
8. ...academics	X6c 1 2 3 4 0
9. ...sports	E103 1 2 3 4 0
10. ...the arts	E104 1 2 3 4 0
11. ...local community studies	L5d 1 2 3 4 0
12. ...education about the environment	L1d 1 2 3 4 0
13. I am satisfied with the quality of education in our school(s).	X6 1 2 3 4 0
14. I am satisfied with the level of community member engagement in teaching students.	L2c 1 2 3 4 0
15. I am satisfied with our students' performance on state assessment tests.	X6d 1 2 3 4 0
16. I am satisfied with our students' enthusiasm for learning.	X1 1 2 3 4 0
1 of 4 →	

Do you agree?

	<i>New item # for June 04 data entry</i>	<i>Not at all!</i>	<i>A little bit</i>	<i>I most ly agree e</i>	<i>This is very true!</i>	<i>I'm not sure</i>
17. Our schools regularly engage students in community-based schoolwork*.	L3c	1	2	3	4	0
18. Community-based schoolwork helps students succeed at their academic work.	X2c	1	2	3	4	0
19. Community-based schoolwork helps prepare students to attend college.	E105	1	2	3	4	0
20. Community-based schoolwork helps prepare students to find employment after high school.	E106	1	2	3	4	0
21. Community-based schoolwork is an effective way of teaching basic academic skills.	X2d	1	2	3	4	0

**Community-based schoolwork is sometimes called project-based learning, service-learning or place-based education. Students, with their teachers and other community members, get involved in solving real-world problems in their communities (including the school building and school yard) using math, science, writing, reading and communication skills.*

Section 2: Your Teaching and Participation. Please circle one answer from the four-point agreement scale on the right to answer questions 22-29.

Do you agree?

	<i>New item # for June 04 data entry</i>	<i>Not at all!</i>	<i>A littl e bit</i>	<i>I mostly agree</i>	<i>This is very true!</i>	<i>I'm not sur e</i>
22. I often relate my classroom assignments and homework to the local environment.	L4c	1	2	3	4	0
23. I often relate my classroom assignments and homework to the local community.	L4d	1	2	3	4	0
24. I have gained new content understanding and/or new skills as a result of CO-SEED involvement.	P6c	1	2	3	4	0
25. As a result of CO-SEED involvement, I am more able to align my teaching with State Frameworks.	P1	1	2	3	4	0
26. There are many things my students can do to protect the local environment, including the school grounds.	X4c	1	2	3	4	0
27. My students have a strong connection to the community where my school is located.	X7	1	2	3	4	0
28. Through their schoolwork, students gain <u>skills</u> to make the community a better place	X3c	1	2	3	4	0
29. Through their schoolwork, students gain a <u>sense of responsibility</u> for improving the local community.	X3	1	2	3	4	0

Section 3: For each question, circle one number that best matches your answer. Use the five-point frequency scale on the right to answer questions 30-34.

How often?

	<i>New item # for June 04 data entry</i>	<i>Never</i>	<i>Not very often</i>	<i>A moderate amount</i>	<i>Very Regularly</i>	<i>Constantly or more often than not</i>	<i>I'm not sure</i>
30. Parents are invited into the school to work with students.	L2d	1	2	3	4	5	0
31. Parents are invited to view presentations or exhibitions of our students' schoolwork.	L2e	1	2	3	4	5	0
32. People from the community, <u>other than</u> parents, are invited into the classroom and the school to work with students.	L2f	1	2	3	4	5	0
33. The school grounds are regularly used as an educational resource to learn about the environment.	L1e	1	2	3	4	5	0
34. Students leave the classroom for learning activities in the community.	L1f	1	2	3	4	5	0

Section 4: Please write an answer to the following questions in the spaces provided.

35. Please describe any **school improvement, service-learning or community projects** you have worked on with your students in the past year. Then put a check mark (✓) in any of the columns to the right that apply to that project. *These are just a few examples: setting up school recycling; presenting info. at a town meeting; visiting a nursing home; working in a school garden; monitoring a river's water quality; improving a trail.*

Service-learning or community projects	Students chose the project? ✓	Students identified a solution? ✓	Project had academic component? ✓	Project included written or verbal reflection by students? ✓	Other community adults involved? ✓
<i>For June 04 data entry, treat this item as an open-ended response, writing all text in a separate MS Word file, and noting which columns are checked. Label each response with the appropriate id number that you wrote on the upper corner of the first page of the survey</i>					

Section 5: Please circle one answer for questions 36-40.

NOTE: new item #'s and/or response values for June 04 data entry are listed at the end of the item stem or response option in parentheses in red.

36. Circle the answer that most closely applies.

- I am a/an: **(D7)**
- a. specialist
 - b. student aid or paraprofessional
 - c. administrator
 - d. maintenance staff **(g)**
 - e. classroom teacher: elementary **(d)**
 - f. classroom teacher: middle school **(e)**
 - g. classroom teacher: high school **(f)**
 - h. other: _____ **(g)**

37. What do you teach: **(D6)**

- a. Not a teacher/ doesn't apply to me
- b. elementary classroom, integrated
- c. math
- d. science
- e. social studies/ history
- f. English
- g. foreign language
- h. physical education or health
- i. art or music
- j. technology
- k. Other: _____

38. Do you live in the same community where you teach? **(e107)**

- a. Yes
- b. No

39. For how many school years have you been working in this school? (count this as one year) **(D8)**

- a. First year here
- b. 2-3 years
- c. 4-5 years
- d. 6 or more years

40. How often do you contact or interact with the CO-SEED representative in your school (i.e. from Audubon, the Zoo, Hulbert, Appalachian Mountain Club, etc.)? **(D1d)**

- a. Several times each week **(40)**
- b. Once a week **(30)**
- c. Once every two weeks **(20)**
- d. Once every month or so **(10)**
- e. Twice a year **(2)**
- f. Once a year **(1)**
- g. I've never contacted him/her **(0)**
- h. I don't know who it is **(0)**

41. It is important for us to understand the degree to which you *are or have been* involved with CO-SEED. Please write a **NUMBER** in each of the following boxes in the right-hand column. Write 0 in the box if it does not apply to you.

	Number
a. How many required staff-wide CO-SEED events (such as an inservice day or staff meeting) have you attended? (D1f)	
b. How many optional, specialized CO-SEED training sessions (such as a facilitator's training) have you attended? (D1h)	
c. How many CO-SEED mini-grants have you applied for? (D1j)	
d. How many CO-SEED summer institutes have you attended? (D1a)	
e. For how many school years have you been a member of the CO-SEED Team (or Theme Team) that meets monthly in the evening? (D1g) (NOTE: Multiply their written response by 6, and enter that value in the SPSS file)	
f. Other CO-SEED involvement? Please note the # of times. (D1o)	

Thank you for taking the time to fill out this survey!

Please return this survey in the envelope provided to a CO-SEED staff person or to:

CO-SEED Program Evaluator

ANEI, 40 Avon Street, Keene, NH 03431

1 of 4 The End

Appendix H: Student survey, all years

The CO-SEED Project Student Survey

*We are interested in your ideas about the **environment** and your **community**.
By community, we mean everything in the town or neighborhood where you live, including people, nature and the built environment.
There are no right or wrong answers! Please answer every question and give your completed survey to your teacher. Thanks, we appreciate your help.*

How much do you disagree or agree? For each sentence, circle only the <u>one</u> number that best matches your answer. Please do not leave any blanks.	<i>Strongly Disagree</i>	<i>Tend to Disagree</i>	<i>Tend to Agree</i>	<i>Strongly Agree</i>	<i>Not sure or N/A</i>
<i>w.2</i> Our <i>school</i> is environmentally healthy.	1	2	3	4	0
<i>x.4</i> Our <i>community</i> is environmentally healthy.	1	2	3	4	0
<i>c.1</i> I feel like I am part of a community.	1	2	3	4	0
<i>c.2</i> I pay attention to news events that affect the community.	1	2	3	4	0
<i>c.3</i> Doing something that helps others is important to me.	1	2	3	4	0
<i>c.4</i> I like to help other people, even if it is hard work.	1	2	3	4	0
<i>c.5</i> I know what I can do to help make the community a better place.	1	2	3	4	0
<i>c.6</i> Helping other people is something everyone should do, including myself.	1	2	3	4	0
<i>c.7</i> I know a lot of people in the community, and they know me.	1	2	3	4	0
<i>c.8</i> I feel like I can make a difference in the community.	1	2	3	4	0
<i>c.9</i> I try to think of ways to help other people.	1	2	3	4	0
<i>c.11</i> I like it when I get to be absent on a regular school day.	1	2	3	4	0
<i>c.12</i> On my own time, I often study or read extra about the topics we're working on at school.	1	2	3	4	0
<i>c.13</i> In the last two months I have done something <i>with my classmates</i> to take care of my neighborhood or community.	1	2	3	4	0
<i>c.14</i> In the last two months I have done something <i>on my own time</i> to take care of my neighborhood or community.	1	2	3	4	0
<i>c.15</i> I enjoy learning about the environment and my community.	1	2	3	4	0
<i>x.6</i> My school is good at academics (literacy, math, science, social studies).	1	2	3	4	0
<i>x.10</i> The CO-SEED program helps me do better on tests and get better grades.	1	2	3	4	0

Items C1-C9 of this survey are taken with permission from The Civic Responsibility Surveys (1998), developed by A. Furco, P. Muller, and M. S. Ammon at the Service-Learning Research & Development Center, University of California, Berkeley.

<p><i>How often do these things happen?</i></p> <p>For items L1-N8, please circle only <u>one</u> number that best matches how often you do or see the things described.</p> <p>Please do not leave any blanks.</p>		<i>Twice per year or less</i>	<i>Three to six times per year</i>	<i>About once a month</i>	<i>Once a week or more</i>	<i>Not sure or N/A</i>
L.1	The school building and grounds (places outside of the classrooms) are used as places for learning.	1	2	3	4	0
L.2	Parents and/or other community members work directly with students on school-related projects.	1	2	3	4	0
L.3	As part of school, our classroom works on real-world problems in our community, school buildings and/or school yard.	1	2	3	4	0
L.4	Our classroom assignments and homework are about nearby nature and/or the city where we live.	1	2	3	4	0
L.5	In my school we learn about local people, culture and history.	1	2	3	4	0
L.6	Students in our school do community volunteering and/or service-learning work to satisfy our educational requirements.	1	2	3	4	0
N.1	I visit parks, playgrounds, forests, creeks, ponds or other natural areas by myself.	1	2	3	4	0
N.2	I visit parks, playgrounds, forests, creeks, ponds or other natural areas with friends, family or as part of a group.	1	2	3	4	0
N.3	As I go about my day, I notice plants and animals that I know a lot about.	1	2	3	4	0
N.4	I think to myself that I am glad to live in this community.	1	2	3	4	0
N.5	I stop and think about how things that I do are going to affect nature and the people around me.	1	2	3	4	0
N.6	I spend almost the whole day inside buildings, cars or buses.	1	2	3	4	0
N.7	I share my opinions about what should be done to take care of the community where I live.	1	2	3	4	0
N.8	I feel good about what this community will be like in the future when I am grown up.	1	2	3	4	0

For questions C10-D5, circle the one answer that best matches the way you feel.

C.10 This is how I feel about school:

- a. I do not enjoy school and what I'm learning is not important to me.
- b. Sometimes I learn useful things in school, but usually what I learn is not that important.
- c. I learn something important on most days. I can usually see how most of what I learn at school will be useful in my life.
- d. Almost everything I learn is important and useful. I enjoy learning at school every day.
- e. I'm not sure

D.3 This year, I have worked on (or will work on) CO-SEED-related projects. . .

- a. twice per year or less
- b. three to six times per year
- c. about once a month
- d. once a week or more
- e. I'm not sure/ doesn't apply to me

(please complete all three pages)

D.4 When I think of my overall learning at school this year, the CO-SEED project is:

- a. a very small part of it, if at all
- b. a regular part of it, but not too big
- c. a really big part of it
- d. the main thing we do
- e. I'm not sure

D.5 The amount of effort I put into doing CO-SEED-related activities this year is (or will be):

- a. fairly small or none
- b. about the same as other subjects or classes
- c. more than other subjects or classes
- d. way more than other subjects or classes
- e. I'm not sure

E.2 In the box below, please feel free to tell us anything else you think we should know concerning your opinions about the CO-SEED project, or learning about the environment or community.

Your Name _____

Your Teacher's Name _____ (who gave you the survey?)

Your School _____

Your Grade: (check one) ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12

Are you ☐ Male or ☐ Female? Today's Date _____

The End. Thank you for completing this survey.