

EVERYDAY GEOGRAPHY IN HUMBOLDT COUNTY SCHOOLS:
AN EXPLORATION OF PLACE-BASED EDUCATION

By

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B.S. Geography (Radford University, 2005)

A Thesis

Presented to

The Faculty of Humboldt State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts in Social Science

Environment and Community

August 2009

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ABSTRACT:

This thesis explores the use of Place-based education (PBE) in K-12 public schools. Specifically, I focused on the perceptions teachers have of PBE and the factors influencing the use of these approaches in K-12 schools. Place-based education is a cross-curricular and experientially based approach to studying any subject, providing students with an education grounded in what is familiar and forming a foundation for exploring global concepts and distant places. I relied on qualitative methods, guided by open-ended and semi-structured questioning, to interview 20 educators from eight middle schools within Humboldt County, California.

This study found PBE to be a new term among K-12 educators; however, participants revealed that PBE is not a new concept. While the term is not used, participants described PBE based upon their familiarity with its associated forms, outdoor education (ODE), environmental education (EE), and service-learning (SL). Participants identified campus- and field-based resources and guest speakers as prominent place-based resources. However, a variety of administrative, logistical, and academic barriers, such as money, distance to resources, and limited classroom time hinder the use of these resources. Participants identified grant writing, collaboration with colleagues, and guest speakers as examples of strategies to overcome the barriers to using place-based resources.

Although used, the community-based resources and activities described in this study are reminiscent of those used in EE, ODE, and SL, rather than PBE. Therefore, I propose four strategies to more fully implement place-based curricula in both urban and rural schools: The first is to develop a set of guiding principles that identify the goals shared among educators and community members. Second is the research and development of curricula that incorporate state standards in a place-based manner. The third strategy is to identify opportunities for pre-service and in-service training for teachers in PBE. The final strategy is to establish a community coordinator position within each school to serve as a liaison between the school and community.

This study recognizes that K-12 teachers already incorporate place-based related activities in their curricula. However, these activities are sporadic and are performed by those few passionate teachers that see the importance of using place-based resources and activities. In addition, PBE is not a practice that can be achieved by schools alone. This study identifies the need to create partnerships between the schools and their surrounding communities that are missing in many contemporary schools.

ACKNOWLEDGEMENTS

I would first like to extend my sincere thanks to my committee members for guiding me through this process. Corey, thank you very much for your patience and support, without which I would have been lost. Joy, your kind yet strict requirements were quite appreciated and made sure I completed a document I would be proud of. Nikola, your support helped keep me on track and reminded me that I was thinking too much. Again, thank you all for everything you have done and for the tremendous amount of support and patients that enabled me to complete this degree.

And to my Environment and Community family, thank you. After the first semester many of us wondered what we had gotten our selves into. However, if it were not for everyone in the 2007 E&C Cohort, this day would not have come. I would like to extend a special thanks to Chelsea Benson, Suzie Fortner, Katie Glover, and Dan Dempsey, my closest friends through this process. Your hard working and dedicated natures reminded me that I must also work hard. Without you I would have traveled this path alone.

I would next like to thank the teachers and administrators who kindly agreed to participate in my study. Without you none of this would have been possible. With your assistance, I gain a greater appreciation for educators everywhere and the struggle faced to ensure students receive the best education possible. And finally, I would like to thank my friends and coworkers at Alliance Redwoods who reminded me to have fun and provided me with the transportation that enabled me to defend and complete this degree.

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CHAPTER ONE

INTRODUCTION

The next class in the day, just after lunch, was herpetology. Already the students waded into a cool Georgia lake, stirring the detritus with their feet and nets in search of fish, tadpoles, and the unexpected. Many of the students who visit this particular nature center come from communities where outdoor experiences are limited. Some students come from places where they cannot see stars in the night sky. Now, for the first time, many of these students have had a chance to move beyond passively learning about the surrounding world from within four walls, to experiencing much of the same information presented in an active, real world context.

Herpetology is the study of reptiles and amphibians, a highly anticipated class for this group of students. During this class, the students learn about many of the species native to Georgia and the differences between them, while seeing, touching, or holding these very animals. While sitting on the floor, the students squirmed with curiosity about what they were seeing. After entering the room with the first snake, the excitement for many of the students quietly escalated; however, one teacher and one student left the room, timidly waiting outside for the next 30 minutes. When it was time to leave, the teacher asked me, knowing these experiences are both valuable and limited, when I was going to teach herpetology again because she and her student did not want to leave the nature center without having at least touched a snake.

The next morning the teacher and her student came to my herpetology class. This time both remained in the room through the entire period, although they could not bring themselves to touch a snake. After class, the teacher told me that she and her student would like to try again. She explained “How can I, as their teacher, ask my students to hold a snake when I can’t even share a room with one?” I brought out a baby corn snake, a common species native to the Georgia landscape. For the next 15 minutes I worked with the student and his teacher to take a big step to overcoming their fear, which, to this point, had hindered part of their educational experience. Gradually, both student and teacher were able to take the small snake from my hands and get a closer look at its orange body and the checkered belly from which it’s name derives.

It is hard to imagine what these direct experiences mean for our students and their education. These experiences are not just about touching a snake; they are about connecting with the outside world through an active and engaging learning process. Edward Relph (1976) explains that direct experience is the essence of connecting to and understanding the places in which we live. The experience of holding a snake creates a personally significant memory based on direct experience that is used to connect to key concepts from the class. This story illustrates one common approach to place-based education, which utilizes nature centers as a source of direct and meaningful experiences because many teachers lack the time and resources to provide such experiences themselves. It also demonstrates how place-based education can connect classroom learning to the places in which students and teachers live.

Place-based education (PBE) is a pedagogical approach that connects students' formal education to the places they live in and experience directly (Smith, 2002; Gruenewald, 2003; Sobel, 2004; Jennings et al., 2005). In addition, PBE employ's hands-on activities with problem-solving techniques to teach students content across language arts, science, math, and history (Sobel, 2004). Place-based education fosters students' academic excellence while allowing them to participate in, and contribute to, their community (Smith, 2002; Blank et al., 2003; Loveland, 2003; Volk & Cheak, 2003; Powers, 2004a; Sobel, 2004). In addition, PBE relies on the surrounding community and environment to inform the content and activities presented to the students.

Such opportunities, however, are becoming scarce within formal education (Smith, 2002; Gruenewald, 2003; Sobel, 2004). Current trends in education, based on state standards and high-stakes tests, appear to stand at odds with the methods used in PBE. State standards are designed as a guide for school officials and teachers to provide all students with an academically rigorous and competitive education. However, following the passage of the No Child Left Behind Act of 2001(NCLB), state standards became a tool for assessing student and school proficiency based upon a system of high-stakes testing. While the intention of state standards and NCLB—to ensure educational achievement for all students—is sound, the focus on high-stakes testing reinforces the idea that learning is only achieved in the classroom (Smith, 2002; Gruenewald, 2003). Furthermore, the pressures of accountability have led teachers to follow standards not as a guide, but as a checklist of what students need to know in order to perform well on state

tests (Gruenewald, 2003; Jennings et al., 2005). As a result, content is reduced to memorization of facts and figures and students learn to think like a test maker.

Although many of the critiques associated with the current interpretation of school reform are focused on state standards (Gruenewald, 2003; Jennings et al., 2005; Smith, 2007), the problems, more precisely, are tied to high-stakes testing. The intended purpose of state standards is to provide teachers with a guide for developing curricula. In fact, the California Department of Education (CDE) clearly states, the “standards describe what to teach, not how to teach,” encouraging school officials and teachers to “take these standards and design the specific curricular and instructional strategies that best deliver the content to their students” (CDE, 2000, p. iv). Therefore, PBE, as an educational framework, can provide students with an academically rigorous education that addresses state standards and contributes to the local community. However, it is a necessary first step, and the focus of this study, to identify the factors that prevent the wider use of PBE in K-12 schools.

In this study, I explore the perceptions of place-based pedagogies among educators in the Humboldt Bay region of Northern California. The participants in this study represent fifth through eighth grade in both public and public charter schools, and are subject to the same state mandates as other schools throughout the state. For this study, I focus on fifth through eighth grade for two primary reasons. First, this study spans the shift from self-contained classrooms found in K-6th grades to departmentalized classrooms found in 7th-12th grades. A self-contained classroom is a common classroom structure in K-5th or 6th grade, where all students remain with the same teacher for all

subjects (McGrath and Rust, 2002). This classroom structure allows the teacher to perform inter- or cross-disciplinary teaching techniques that connect content across different subject areas, a key aspect of PBE. Teachers in departmentalized classrooms, which begin in 7th grade, focus on specific and detailed information within single or core subjects (McGrath and Rust, 2002; Parker, 2009). Secondly, this study spans the shift in required academic content that includes local places in elementary grades to global places in middle grades. Content standards for middle schools are focused on distant places and times, or specific, highly detailed, information and skills that are not directly connected to the students lived experience. Although elementary grades exhibit both structure and content favorable for PBE, middle schools should not be excluded. For these reasons middle school grades serve as a valuable place to study the use of PBE.

There are three important terms that are used throughout this study: place environment, and community. Because each term is endowed with a diversity of meanings, it is necessary to define how these terms will be used. The term “place” varies in meaning depending on the context in which it is presented. Yi-Fu Tuan (1977) describes place as having a close association to space. Tuan writes, “space becomes place as we get to know it better and endow it with value” (Tuan, 1977, p. 6). Through time and experience in a physical space, such as a city, neighborhood, or backyard, we are capable of building an understanding of, and a connection that particular place. For the purpose of this study, place refers to those areas where everyday experiences with people and the physical world are endowed with value and meaning.

Similarly, community is a term with contested meanings. For instance, community often refers to small-scale, face-to-face groups living within the same locale, or groups of people with shared needs dispersed over different geographic regions (Mason, 2000). Andrew Mason (2000) describes “group” as a “collection of individuals who either act together, or who cooperate with one another in pursuit of their own goals, or who at least possess common interests” (p. 21). These individuals share similar values, beliefs, and ways of life, recognizing each other as a member of that group. However, a community is not just a group of people who share similar beliefs and ways of life. Instead, a community is a collection of these diverse groups, connected by similarities that span across and between beliefs, values, ways of life, and locale. Thus, community refers to the coming together of these groups whose varied values, beliefs, and needs interact within the same geographic location.

Finally, environment, according to the Environmental Protection Agency, is the “sum of all external conditions affecting the life, development, and survival of an organism” (Environmental Protection Agency, 2009). Environment can be used in reference to either the natural environment or the built environment. The natural environment includes the physical, biological, and chemical factors that affect all living and non-living things that occur naturally on the earth. The built environment, on the other hand, is the human-made or civic surroundings that are the settings of human activities. Each aspect, however, occurs alongside, and interacts with, the other; neither is distinct nor separate. The factors that influence the natural environment also influence

the built environment. Likewise, the natural environment may also be the site of human activities and human influences that modify the landscape.

Literature on PBE attests to the educational benefits of engaging with the surrounding community and environment. The published research further shows that PBE is not being used as often as advocates say it should. In this study I examine the factors that influence the use of place-based related pedagogies within public K-12 education. My research shows that the most prominent factors hindering the use of place-based pedagogies are, distance from resources and the lack of money for transportation, available class time, and training in the use of PBE pedagogy. In order to overcome these constraints, teachers and administrators rely on guest speakers and campus-based resources, collaboration with colleagues, and fundraising and grant writing. Barriers to PBE are persistent in the current educational system; therefore, incorporating PBE within K-12 schools will require a shift in how education is approached and how schools and communities interact.

CHAPTER TWO

LITERATURE REVIEW

Place-based Education

Place-based education (PBE) is an educational approach that begins with connecting students' learning to the places with which they are familiar. David Sobel (2003) explains that PBE is 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” (p.7). The idea of using local and familiar resources in education is not a new concept. As Nancy Jennings and her coauthors (2005) explain, “locally responsive or ‘place-based curriculum’ is, and always has been, a feature of rural schools, in part out of necessity and in part out of desire” (p. 44). In other words, PBE was not historically seen as a distinct educational approach, but as an occurrence that relied on the everyday geographies, cultures, and ecologies surrounding the school and experiences of the students.

Over the past few decades, educators have developed alternative approaches to provide students with valuable experiences missing in contemporary education (Table 2.1). Three examples are outdoor education (ODE), environmental education (EE), and service-learning (SL). Outdoor education is an approach that provides students with a “meaningful contextual experience—in both natural and constructed environments—that complement and expand classroom instruction” (Woodhouse & Knapp, 2000, p. 2). Ken Gilbertson and his colleagues (2006) explain that ODE focuses on building relationships

with the Earth through experiential and interdisciplinary learning that identifies humans as part of the natural world. Environmental education, on the other hand, aims to “change individual behavior toward the environment by producing environmentally literate and responsible citizens” (Knapp, 2000: in Farmer, et al., 2007, p. 33).

Furthermore, EE promotes stewardship through an awareness and appreciation of the natural world with a focus on science and problem-solving that occurs within or outside of a classroom (Gilbertson et al., 2006). Where outdoor education generally uses outdoor settings to expand upon classroom curricula, environmental education strives to influence how students perceive and interact with the natural world through ecologically based lessons in and out of the classroom.

Service-learning, Shelley Billig (2000) explains, is a pedagogical approach that provides students with an opportunity to gain a greater understanding of academic content through contributions made to the community. Typically, service-learning activities are project-based and predominantly student centered with a direct application in the community (Gilbertson, 2006). Andrew Furco (1996) explains, “because learning flows from service activities, both those who provide service and those who receive it ‘learn’ from the experience” (p.1). Therefore, SL is a reciprocal approach that provides students with an academic experience while enhancing civic responsibility. Many of these approaches are being synthesized today. For example, EE programs may utilize ODE or SL components such as teaching about freshwater adaptations as students collect fish and insects from a nearby stream, in addition to restoring the stream’s riparian zone by identifying and removing invasive plants.

Table 1.1: Comparison of Alternative Approaches

Educational Approach	Definition	Location	Goal
Outdoor Education	Occurs outside to expand classroom curricula	Outside in both natural and built environments	Build relationships with the earth through direct experiences and interdisciplinarity
Environmental Education	Science and Ecology-based education devoted to direct experience and problem solving	Predominately outside of the classroom but can occur inside	Change individual behavior toward the environment by improving environmental literacy and responsible behavior
Service-Learning	Student centered and project oriented educational activities that are designed to contribute to the students' community	Outside in both natural and built environments	To develop responsible citizenship through direct service and interactions with people and places
Place-based Education	An educational framework based on hands-on, problem-solving activities grounded in surrounding community and environment	Predominately outside of the school in the surrounding community and environment	To engage students in the education process and use local resources as stepping stones for exploring far off places and concepts

Place-based education is an active and interdisciplinary approach and can include some or all three of the approaches described above. Smith (2002, pp. 587-593) describes five characteristics that underline many of the common definitions of PBE and

illustrates the use of ODE, EE, and SL as components within PBE (Table 1.2). The first is cultural studies where students and teachers learn and engage with the “local cultural or historical phenomena directly related to their lives and the lives of their families” (Smith, 2002, p. 588). For instance, collecting oral histories is one method used within cultural studies. Second is nature studies, which draws on student’s questions and curiosity about the natural world around them to study both local and global environments (Smith, 2002). The third distinct feature of PBE is real-world problem solving, which refers to the practice of leaving the classroom to investigate issues related to the school and community and offer possible solutions to solve them. In this sense, real-world problem solving is reminiscent of SL. Smith (2002) explains real-world problem solving takes its shape from the community in which it occurs because students engage with, and develop solutions to, problems connected to where they live. The act of real-world problem solving can serve to empower students to make a difference in their community and school.

Table 1.2: Five Characteristics of Place-based Education

Feature	Description
Cultural Studies	Engaging in the local cultural and historical phenomena as a guiding focus. Collecting oral histories is one example of engaging in cultural studies.
Nature Studies	Study of the physical world to understand local and global environments. Outdoor Education and Environmental education provide a context for exploring local environments and how they relate to global environments.
Real World Problem Solving	Identify community issues, study them, and propose solutions. Service-learning is a common approach which engages students in problem solving and issue resolution.
Internships	Participation in economic and social endeavors of the community.
Induction into Community Processes	Active participation in the community decision making processes.

Internships and entrepreneurial opportunities among K-12 students comprise the fourth characteristic of PBE (Smith, 2002). Through partnerships between their school and local organizations and businesses, students have a chance to actively participate in the economic and social endeavors of their community. The final, and most comprehensive, characteristic of PBE is induction into community processes (Smith, 2002). Drawing on their knowledge and skills, gained through place-based related approaches, students are able to actively participate in the decision-making processes that shape their community. The significance of the last two features of PBE is that they redefine the role of students from passive observers to active participants and valuable assets in their communities.

By incorporating available resources in their own locale, teachers are able to develop curricula that are relevant and engaging for both students and their community. In fact, Sobel (2004) explains that one of the core objectives of place-based education is to “look at how landscape, community, infrastructure, watersheds, and cultural traditions all interact and shape each other” (p. 9). By grounding education in the cultural and environmental resources surrounding the school, “students can see the relevance of what they are learning and therefore become more engaged in the learning process” (Powers, 2004a, p. 18). While models such as ODE, EE, and SL exist to inform place-based curricula, each place-based curriculum is locally distinctive. Furthermore, PBE does not require advanced training in ecology and cultural studies, nor does it require wilderness areas and museums. In other words, PBE is an approach that can occur in large and small, urban and rural schools. In an urban setting, place-based curricula may underscore cultural features and environmental justice issues, while rural schools may focus more on natural history and the region’s rural industries such as agriculture or logging.

Place-based education provides students with an academic experience based upon the unique features and places they experience every day. Jennings, et al (2005) contends that place-based education is a practice that “needs preserving rather than just a practice to be tolerated” (p. 44). Therefore, a connection needs to be made with standards-based education that acknowledges this practice as a necessary pedagogy rather than a tolerated alternative.

Standards-based Education

Many of the characteristics of PBE seem to be at odds with current educational approaches that are based on a system of academic standards, a trend set following the publication of *A Nation at Risk*. *A Nation at Risk* was published in 1983 and written by the National Commission on Excellence in Education (The Commission), an 18-member committee drawn from private, public, and education sectors. It described our nation's educational system as being in a state of decline, threatening America's position as a world leader. In order to bolster the economy and national security, the Commission recommended school reform measures focused on five core areas of study, rigorous and measurable standards, increased time in school, improved teacher preparation and compensation, and improved educational leadership. The goal of this reform was to establish formal education as the foundation for life long learning that extends beyond the school to the home, work place, and community (The Commission, 1983).

Although many argue that the standards currently dictate teaching styles, they were not initially drafted with that purpose. They were created in response to the proposals presented in *A Nation at Risk*, with California, among other states, creating academic standards to serve as a guide for education. The standards are designed to “prepare students to become workers in an increasingly complicated global economy” (Gibbs and Howley, 2001, p. 51). School reform measures, designed around content standards in English, mathematics, science, and social studies, articulate a “uniform and specific vision of what students should know and be able to do in [each] subject area” (CDE, 1997, p. iv). Although the standards have created a system of uniform

expectations for students, they were not designed to dictate how the information is presented to students. In fact, CDE (2003) clearly states, the “standards describe what to teach, not how to teach” and maintain “California’s tradition of respect for local control of schools” (CDE, 2003, p. iv) by encouraging teachers and school officials to design curricula and strategies that they feel will best deliver the content to each student. With the recognition that the surrounding community and environment are valuable resources, PBE can provide a framework that best meets state content requirements.

However, with the passage of the No Child Left Behind Act (NCLB) in 2001 much of the local control provided to schools was effectively reduced. This policy set a new trend in educational reform that raised the standards for schools and placed a greater emphasis on high-stakes assessment tests and accountability. The purpose of NCLB is to:

Ensure that all children have a fair, equal, and significant opportunity to obtain a high quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments (NCLB Act, 2001, p. 115 STAT. 1439).

NCLB hopes to obtain higher levels of achievement for all students through annual testing in reading and mathematics, between third and eighth grade (U.S. Department of Education, 2002, p.1). The goal is for each student to reach proficiency in each subject within 12 years; however, academic proficiency is a measurement based upon academic standards that differ in both content and rigor from state to state. Furthermore, NCLB holds each school accountable for the level of academic achievement of each student, requiring each school to report its test scores. Reported as

Adequate Yearly Progress (AYP), these test scores are used to determine the awards and sanctions for each school and are available to the general public. Those schools that meet AYP are awarded increased funding. Schools that fail to make AYP for two years are subject to restructuring and budget cuts, and students at such schools are given the choice to transfer to a different school or receive supplementary instruction. Because students should not be forced to attend schools with failing tests scores, school choice allows them to select between different schools in order to obtain a high quality education. Schools, therefore, must focus on test scores and meeting AYP in order to attract and retain students and government support.

Despite the intended purpose of NCLB, the system of awards and sanctions, tied to assessment tests, have politicized state standards and removed much of the local control from schools. While assessment tests were in place prior to NLCB, the passage of the act made awards and sanctions a part of every state-mandated testing program for schools and districts (Gulek, 2003). The emphasis on high-stakes testing, however, has had a dramatic impact on both students and schools. High-stakes, which are intended to drive schools to higher levels of performance (Mathis, 2003), has instead increased pressure on teachers to teach to the tests. Obtaining high tests scores also benefits the school by attracting students from poor performing schools. School choice, however, has introduced competition into public education, turning schools into another consumer choice (Hursh & Martina, 2003, p. 3). In a report examining high-stakes testing systems from 18 states, Audrey Amrein and David Berliner (2003) explain that schools are likely to narrow their curricula by dropping subjects or content areas that are not likely to

appear on state tests in order to raise test scores. “Teaching to the test” is a practice that enables teachers to improve test scores order to meet AYP and retain government support, while delivering a much less effective and diverse education to students. As a result, state standards become a checklist of facts and figures, rather than a guide for developing curricula that are connected to the places students live.

While state standards were created as an aid for designing curricula, assessment tests were created as a means to monitor both the performance of individual students and to hold teachers accountable for poor performance. According to David Gruenewald (2003), the notion of testing and accountability “reinforce the assumption that students, teachers, and school achievement can be measured by classroom routines alone and that the only kind of achievement that really matters is individualistic, quantifiable, and statistically comparable” (p. 620). Although high-stakes tests are a strategy intended to close the achievement gap between advantaged and disadvantaged students, accountability has placed a greater emphasis on drill activities and test preparation. Tests, however, do not teach students about history, science, or math. Rather, these tests measure a student’s memorization ability at a single moment in time.

According to Jennings and her colleagues (2005) standards-based reform has tended to discount and marginalize local needs by imposing externally derived standards on schools and curricula. They argue that externally derived standards emphasize global, rather than local issues. As a result, content areas and activities connected to the local community and environment are substituted with knowledge that is completely disconnected from where they live in the world. Jennings and her colleagues continue,

stating that standards-based reform is an articulation of unrealistic academic goals and content that is disconnected from the places in which it is presented. State-level standards in the years following NCLB have become politicized and focused on the preparation and outcomes of high-stakes testing. Therefore, if students are to receive a locally responsive and relevant education, school reform efforts need to be directed towards active participation and engagement in the students' place, relying on state-level standards as a guide for curriculum and skill development rather than on high-stakes testing.

A Place for Standards

Many agree that state standards can be kept as a guide for education; however, the use of awards and sanctions must be removed if education is to reflect the needs of the students and community. This consensus is best articulated by Sobel (2004), who recommends four directions for place-based school reform that would enable schools to address state mandates while also including the surrounding environment and community. The first direction is a focus on principles of sustainability. While the contemporary interpretation of school reform threatens to "separate students from the community, from their inner selves, and from the real world", school reform based on sustainability teaches "how to live within our means at both local and global levels" (Sobel, 2004, pp. 16-17). "Living within our means" recognizes the finite resources available to communities. Barry Lopez (1998) writes, "The more superficial a society's knowledge of the real dimensions of the land it occupies becomes, the more vulnerable

the land is to exploitation, to manipulation for short-term gain” (137). Therefore, linking school curricula to the principles of sustainability will provide students with the skills to engage with, and enhance, their community by connecting with the local environment and economy.

The second direction for educational reform is to abandon the emphasis on rote memorization and return to conceptual models that emphasize integrated curricula, project-based learning, teacher collaboration, and the use of community resources (Sobel, 2004), which emphasize critical thinking and comprehension skills. Current reform measures rely on state-adopted materials that emphasize content memorization, drill activities, and teacher control of the learning experience (Amrein & Berliner, 2003). Incorporating many of these conceptual models of learning into curricula follows John Dewey’s (1915) prescribed method of learning: “the child should study his commercial arithmetic and geography, not as isolated things by themselves, but in their reference to his social environment” (p. 70). The history of American education has been marked by experts who, like Dewey, call for greater interdisciplinarity, ranging from C.P. Snow in the early 20th century to John Tallmadge and E.O. Wilson in the early 21st century. For example, in 1974 Yi-Fu Tuan called for connecting the disciplines of English and geography, writing “the forceful and precise articulation of environmental attitudes requires high verbal skills. Literature rather than social science surveys provides us with the detailed and finely shaped information on how human individuals perceive their worlds” (p. 49). Thus, students might write about their home place to improve writing skills while studying invasive plants in their bioregion in science and graphing plots and

transects of species composition outside and on paper in math class. Such a localized and interdisciplinary approach is one example of PBE pedagogy and incorporates Sobel's second direction for school reform.

While project-based learning, interdisciplinary studies, and community resources can provide a framework for developing an integrated curriculum, the third direction for reform emphasizes a commitment to developmentally appropriate curricula. Sobel (2004) explains, "there is a sensitive period during the elementary years when children are predisposed to bond with the nearby natural world" (p. 20). The experiences students have in their place, whether the school or the surrounding community and environment, will have an affect on how they interact with other places. Robert Hay (1992) agrees, explaining our bonds with place provide a context for meaningful relationships to develop. Therefore, it is important to consider what content is presented to students and when it is presented. During the developmental stage when students are more apt to connect with, and explore, their immediate surroundings is not the time to perform an in-depth study of far-off places, such as the Amazon Rainforest. Sobel explains learning should progress "from here-and-now to long-ago-and-far-away" (p. 20). Therefore, studying the hardwood or pine forest behind the school allows students to learn basic forest ecology that can be used as a foundation for later studies focused on the Amazon. In other words, knowing what content to present is just as important as knowing when to present it.

The final direction for place-based school reform disrupts the monotony of mandated school curricula by using attributes of the local community and environment.

It is not uncommon to walk into a public school classroom and see a poster on the wall displaying all of the standards. In a sense, standards and assessments appear to have a greater importance than the process and future outcomes of education. Valuable teachable moments, supplementary materials, and student-motivated learning are being taken out of the school culture. Gibbs and Howley (2000) explain “local schools should be free to design and offer curricula that reflect and enhance the life ways of the children they serve” (p. 53). Therefore, a curriculum based on the unique character of the surrounding community and environment will provide greater meaning and disciplinary connections to the students, while relying on the professionalism and training of each teacher.

Examples from the Field

While advocates for PBE argue against tightly focused content standards, Gibbs and Howley (2001) note, “they do not oppose a chief aim of the standards movement: providing a high quality education for all students” (p. 52). Place-based education is not designed to replace or disregard state standards, but opposes the standardization of teaching and the accountability created by high-stakes testing. Instead, PBE is an alternative to an educational system that creates adults who will make decisions that reflect their placeless education. Orr (1992) writes, “people who do not know the ground on which they stand miss one of the elements of good thinking which is the capacity to distinguish between health and disease in natural systems and their relation to health and disease in human ones” (p. 86). By integrating PBE and standards-based education,

schools can continue to meet state requirements and provide students with a locally informed, environmentally and socially responsive, education.

Although it has yet to receive national prominence, PBE is taking hold through a growing grassroots movement in both rural and urban communities. The following three examples of PBE programs exemplify the common approaches that can be used along with the local variations. The first describes a community-based environmental initiative in Hawai'i. The second explores the benefits of PBE in rural Alaskan schools. The final example explores place-based education centered on environmental justice and youth organization in Massachusetts.

Molokai, Hawai'i is a small island community that measures 38 miles long, 10 miles wide, at both extremes, and a population of 7,400 residents (County of Hawai'i, 2008). Trudi Volk and Marie Cheak (2003) evaluated a curriculum that has been in place in one of the four middle schools on the island for five years in a combined fifth and sixth grade classroom. The curriculum is called *Investigating and Evaluating Environmental Issues and Actions* (IEEIA) and in typical PBE fashion, is used throughout the school year, acting as an umbrella for all content areas (Volk and Cheak, 2003). While scientific and social content are important, the curriculum is "designed to help learners take an in-depth look at environmental issues in their community, to make data-based decisions about those issues, and to participate in issue resolution" (Volk & Cheak, 2003, p. 12-13). Students enrolled in IEEIA utilize interdisciplinary practices to identify and investigate an environmental or social issue related to their community. Volk and Cheak found the students participating in the IEEIA program "were more skilled in the use of critical

thinking and cognitive strategies than were their non-IEEIA peers” (p. 17). Furthermore, program participants appeared to have greater confidence in taking environmental action (Volk & Cheak, 2003). The participating students, at the end of the investigation, present their findings at a local symposium to inform their community and help the community move forward to resolve the issue. By actively engaging with the community, IEEIA facilitates public participation, providing opportunities for students to create and direct their educational experience, and gain the tools and skills needed to become active members of their small island community.

The Alaska Rural Systemic Initiative (AKRSI), which provides us with another example of PBE, is designed to foster academic achievement through real-world experience in Alaska’s rural schools. Elaina Loveland (2003) explains that the program began in 1995 with funding from the National Science Foundation to document how “innovative science curricula were improving students’ academic achievement” (p. 1). Like most PBE programs, AKRSI began by working with teachers and community elders to develop curricula focused on connecting local indigenous knowledge with colonialist knowledge. Loveland explains that AKRSI has been a leading force in transforming schools and improving student achievement for rural Alaska schools, such as Russian Mission School.

Nine years ago, Russian Mission School had the lowest tests scores in its district and about a third of the student population did not attend classes (Loveland, 2003). Three years after partnering with AKRSI, Russian Mission School boasted improved test scores and full student attendance. The turning point for the school can be attributed to

teachers and community members developing a culturally informed curriculum, a common occurrence anywhere similar PBE programs are implemented. One part of the curriculum is designed around subsistence activities of each season that are part of traditional Native culture in rural Alaska (Loveland, 2003). For instance, in the fall students spend two weeks at a subsistence camp where they learn about fishing, hunting, and medicinal plants (Loveland, 2003). After partnering with AKRSI, Mike Hull, principal of Russian Mission School explained, “some kids raised their reading level by more than a year in just five months” (Loveland, 2003, p. 7). In fact, by 2002 all of the third graders achieved the highest scores on the statewide benchmark test for third grade, showing that PBE approaches can be even more effective in preparing students for tests than standardized curricula (Loveland, 2003). Russian Mission School is just one example of the success AKRSI has had on schools in rural Alaska because of its place-based focus.

The final example is REEP, Roxbury Environmental Empowerment Program, as part of the Alternatives for Community and Environment (ACE) in Boston, Massachusetts. REEP is a community-based initiative designed to develop youth leadership through an integrated environmental justice curriculum. Using an environmental justice framework:

[REEP] helps young people understand that the appearance of and the problems in their communities are not their fault, that they have the power to fight back, and that they are not alone in their struggle for clean, healthy neighborhoods (Alternatives for Community and Environment, 2008).

As with other PBE program, through youth development and community action, students engage in educational opportunities that prepare them to make a difference here and now, rather than in the future. For example, students participate in air quality debates, transportation equality issues, and campaigns against youth violence. Since air quality in Boston ranks fifth in the nation for premature deaths caused by diesel, youth participating in REEP “mapped air pollution, identified significant threats, and began collaborating to address diesel pollution regionally” (ACE, 2008). The data the students collected was later consolidated into fact sheets and used to describe the harmful effects of diesel pollution. In addition, these students are working to pass the Diesel Bill, which will require all state, municipal, and private businesses to retrofit diesel engines with pollution reducing technology by 2012 (ACE, 2008).

These three examples represent a small portion of PBE initiatives that are occurring within schools across the nation. Each program is built upon the unique characteristics of the community and is designed to preserve cultures and empower students to make a difference in the places they live. For instance, IEEIA, is a curriculum designed to develop environmental responsibility on an island where environmental problems and issues have a direct bearing on community livelihood. AKRSI links indigenous knowledge systems to the formal education students receive in order to connect academic math and science skills to the surrounding community and environment. And REEP strives to provide students with the leadership skills and opportunities and encouragement to make a difference within their community. Each example reveals how PBE can be informed by its own community, while continuing to

provide students with an academically rigorous education. Furthermore, these examples give hope to those schools that are interested in PBE pedagogies by offering models to emulate.

Rationale of the Study

Place-based education is an important element in educating students about the processes that shape and sustain their communities. Smith (2002) contends, “the primary value of place-based education lies in the way that it serves to strengthen children’s connections to others and to the regions in which they live” (p. 594). Furthermore, PBE is a broad approach that is transferable across content areas. Place-based education is capable of enhancing achievement by overcoming the separation of course content from students lived experiences (Woodhouse & Knapp, 2000; Smith, 2002; Gruenewald, 2003; Sobel, 2004). Despite the demonstrated benefits, PBE has yet to be broadly integrated into public school systems (Gruenewald, 2005).

In *Facing the Challenge*, Corey Lewis (2003) describes the five most common obstacles to running place-based courses at the college level: administrative, logistical, managerial, academic, and ethical. Administrative challenges arise from seeking a balance between the minimum number of students to justify the course and the maximum number that can be managed in the field. Logistical concerns are linked to providing appropriate resources, transportation, and a sufficient budget to cover all expenses. The managerial category includes concerns over student behavior in and out of the classroom that require appropriate management techniques to insure safety and respect of the

students and study site. Lewis further explains that because field-based or place-based courses have fewer classroom hours, they are often critiqued for a lack of academic rigor. Finally, excessive use, or misuse, of field sites can raise ethical concerns for the teacher, influencing future courses. Therefore, teachers must ensure that the students are not only learning from, but are also respecting and contributing to, the field site.

Although these five categories are described at the university level, we can expect that many of the same obstacles face K-12 educators; however, few studies have been published concerning K-12 PBE. In an unpublished master's thesis, Morgan King (2003) sought to identify the factors in public schools that “undermine formative learning in environmental education and the encouragement of a society that embraces ecological sustainability” (p. iii). In this study, King surveyed 60 K-8 grade teachers throughout Humboldt County, California. The survey revealed that the majority of teachers (82.5%) felt there was too much *other* information to cover and that environmental-based content would not fit within the context of general subjects (King, 2003). King revealed that lack of time and sufficient knowledge were contributing obstacles to implementing effective environmental education at the K-12 level.

While K-12 educators certainly face many of the same obstacles described by King (2003), they may also face additional challenges such as those indicated by Lewis (2003). There is an emphasis in published research that identifies the benefits of PBE; however, there is a lack of research exploring the factors that hinder the acceptance of this approach. This study agrees with the current literature that PBE is an effective and useful pedagogy and recognizes that it is not used as commonly as it could be. In this

study, I move beyond the published literature and explore the use of PBE within K-12 public schools by asking teachers and schools officials how it is perceived, used, and the factors that help or hinder its use.

CHAPTER THREE

METHODOLOGY

The focus of this study is to understand how place-based resources are incorporated within K-12 education and the factors that hinder or help their use. The site of this study is Humboldt County, California, which is known for its 'back to the land' ethic and progressive character. While this county may appear to exhibit distinct resource advantages over urban communities, the schools in this county remain subject to the same state mandates as their urban counterparts. Humboldt County, therefore, is a desirable location to perform an exploratory study on PBE in public education systems.

Context of Study

Humboldt County is a large and remote county situated in the northwest corner of California. While small communities are spread throughout the county, the majority of the 129 thousand residents (U.S. Census, 2008) are in Arcata, Eureka, Fortuna, and McKinleyville, and located around, or a short distance from, Humboldt Bay. Much of the transportation in and out of the county is restricted to two major highways and a small regional airport, which serves much of California's North Coast. Two significant defining features of Humboldt County are its' forests and agriculture. Humboldt County is 2,290,000 acres in size (Humboldt County General Plan, 2008), or roughly two thirds of Connecticut's geographic size. Approximately 990 thousand acres or 43% of Humboldt County is forested; 50% of that is designated as private timberlands, while

35% is designated as State or Federal public lands such as the Redwood National and State Parks and Six Rivers National Forest (General Plan, 2008). Furthermore, approximately 27%, or 633 thousand acres, of the county's total area is dedicated to agriculture in the form of pasture for beef and dairy production, as well as fruit and vegetable production (General Plan, 2008).

My study includes both public schools and charter schools. Of these, four schools are kindergarten through eighth grade and are a mix of self-contained (K-6th) and departmentalized classrooms (7th & 8th); three are middle schools with both self-contained (6th) and departmentalized (7th & 8th) classrooms; the last is a K-5 grade elementary school with self-contained classrooms. One common characteristic of each school is its architecture. The design of each school is open. The doors to many of the classrooms open to the outside and in several cases, the doors open to grass rather than concrete. Although shielded by an awning, the students must brave the weather when moving to and from their classrooms instead of a crowded hallway lined with lockers. Thus, the school grounds may offer additional opportunities for outdoor activities that differ from, or are not possible in, some urban schools with smaller or nonexistent outdoor campuses.

Real People, Real Places

In this study, I interviewed 20 educators from eight schools within Humboldt County. At the time of this study, five of these participants were administrators and had a wide range of experiences prior to their current position. While all of their experiences

have been within K-12 education, not all has been in a direct teaching capacity. Those individuals with prior teaching experience, taught in self-contained classrooms in both elementary and middle schools. Furthermore, the majority of their experience, whether as a teacher or administrator, has occurred within Humboldt County.

The remaining 15 participants in this study were 5th to 8th grade teachers. Eight of the participants teach 5th and 6th grade in self-contained classrooms, while the remaining seven instruct single or multi-subject classes, such as science, math, language arts, and history in departmentalized classrooms. Two of these teachers, however, instruct elective courses, while another instructs a self-contained special day class. Each of the teachers explained that the majority of his or her teaching experience has occurred within Humboldt County, ranging from two to 29 years. Four teachers stated that they had previous teaching experience either in an urban setting or in an informal, field-based setting prior to their current position.

Methods

This study relied on qualitative interviews to explore the different factors influencing the integration of place-based education in standards-based school systems. I used the school directory from the Humboldt County Office of Education to identify the public schools within the Humboldt Bay region that contain 6th-8th grades. After the schools were identified, I used a combination of telephone and email to contact the principal or superintendent from each school to introduce my study and invite their

participation. Following these initial meetings, eight schools agreed to participate in this study.

After gaining permission from the school administration, I used snowball sampling to invite teachers to participate in this study. Snowball sampling is a method of receiving referrals for additional participants from those currently involved in the study (Bogdan & Biklen, 2003). I asked each administrator to recommend two to four middle school teachers, who currently use, or plan to use, the surrounding community and environment in their curriculum. Because I am not familiar with the education staff from Humboldt County schools, snowball sampling allowed me to interview those teachers who might best inform my study, rather than randomly selecting teachers based upon, for example, subject(s) taught or years of experience. I relied on email as the primary form of communication with each teacher to schedule interviews and meetings, as well as to address any comments or concerns the teacher may have had. A total of 20 educators—five administrators and 15 teachers—participated in a single 30-45 minute interview, conducted between February 13, 2009 and March 17, 2009. The interviews were semi-structured and all participants were asked the same general questions in each interview for later comparison (Bogdan and Biklen, 2003). The questions for this study were open-ended and designed to explore what teachers know and understand about PBE, what community and environmental resources are used when teaching, and the factors that influence the use of these resources. See Appendix A & B for the recruitment and consent forms used in this study, and Appendix C for interview questions.

I focused my study on the fifth through eighth grades for two primary reasons. First, this study spanned the transition between self-contained and departmentalized classes, the two primary classroom structures across these grades. Secondly, these grades span the shift in required academic content, from a focus that includes local places in elementary grades to a focus on global places in middle grades. Therefore, these grades include both classroom structures and content emphases typically used in K-12 education, allowing us to examine PBE's use across the entire K-12 spectrum.

Self-contained and departmentalized classes enable teachers to incorporate PBE in K-12 curricula in different ways. In self-contained classrooms, found in K-6 grades, students remain with the same teacher for all, or the majority of, the subjects they receive. These teachers are considered generalists (McGrath and Rust, 2002), which enable them to use the cross-curricular activities found in PBE. Furthermore, self-contained classrooms are student centered, allowing teachers to develop a stronger bond with their students, and know their strengths, weaknesses, and personality traits (McGrath and Rust, 2002). A strong student-teacher relationship provides an important foundation for creating place-based activities that meet both the needs of the students and school. For these reasons, self-contained classrooms are appropriate classroom structures for PBE because they are an accurate model for interdisciplinary and real-world problem solving. Departmentalized classrooms, on the other hand, are an educational structure found in 7-12 grades, where students switch between different subjects, and teachers specialize in particular subject areas (McGrath and Rust, 2002). This level of specialization provides the teacher with opportunities for in-depth study of a particular phenomenon. However,

cross-curricular activities may be limited because of both content requirements and the teacher's lack of familiarity with multiple subjects. Furthermore, in departmentalized classrooms it is harder to develop strong student-teacher relationships, which can influence the classroom learning environment, trust, and motivation (Parker, 2009).

While place-based activities are possible in departmentalized classrooms, teachers in 7-12 grades may be more likely to engage in related activities such as EE, ODE, and SL that are less interdisciplinary.

While classroom structure affects the application of PBE, so too do academic requirements. The California Department of Education (2003) explains that the state standards outline what to teach, not how to teach. Therefore, state standards can be met in a manner that either highlights or excludes local places. How content is presented to students depends on both what the specific standard is and the familiarity of the teacher with local resources. For instance, standard 3.1 in third grade social studies states, “students [should be able to] describe the physical and human geography and use maps, tables, graphs, photographs, and charts to organize information about people, places, and environments in a spatial context” (CA State Board of Education, 1998, p. 9). While globes and world maps might be used to meet this standard, they are not required. Instead, teachers have the flexibility to include town, county, or regional content, and geographic tools to teach students about local people, places, and environments in a PBE manner. On the other hand, sixth grade social studies is focused on ancient civilizations. For example, standard 6.1 requires students to “describe what is known through archaeological studies of the early physical and cultural development of humankind from

the Paleolithic era to the agricultural revolution” (CA State Board of Education, 1998, p. 23). While teachers may choose to include information from local indigenous populations, Standard 6.1 emphasizes distant places and times, only accessible to students through research performed by others and presented in textbooks and videos. The point of this comparison is not to argue for, or value, one standard more than the other. Instead, this comparison reveals that opportunities to connect with familiar places become increasingly difficult beginning in 6th grade. Despite these difficulties, the community and environment in which the school is set, are valuable resources that can enhance learning for all students, and should not be limited to the elementary grades.

The teachers participating in this study were recommended by their principal or superintendent for their use of community and environmental resources surrounding the school. Because PBE curricula are not tied to a single subject area, I interviewed those teachers who were involved, or interested in using these local resources in education because they were the most well informed demographic. The questions asked during the interviews were open-ended and were organized around three themes. The first theme focused specifically on PBE in order to understand how this pedagogy is perceived and if the respondents identified a place for it in their schools. The second theme focused on identifying the place-based resources teachers utilize in their curriculum. The final theme identified the factors that hinder the use of these resources and the strategies to overcome these constraints. I also asked my respondents questions concerning standards and assessments in contemporary schools, because these are the contemporary educational approaches that influence the direction and funding for public schools.

In order to understand the current state of PBE in K-12 public education, I needed to understand the participants' educational philosophy and their awareness of PBE and the factors that hinder its wider use. Therefore, qualitative interviews were selected as the primary methodology because they provide descriptive data on the research topic and allow the participants to inform the research process. Qualitative interviews provide an "opportunity to learn about what you cannot see and to explore alternative explanations of what you can see" (Glesne, 2006, p. 81). On the other hand, quantitative surveys, which are designed with the intention of making generalizations about a particular phenomenon (Glesne, 2006), were not identified as an appropriate methodology for this study. For instance, King (2003) relied on quantitative surveys to explore EE in K-8 education in Humboldt County, California. King identified time as the most common obstacle to implementing EE within K-12 public schools. However, because of the limited scope of quantitative surveys, participants in the King study were unable to inform the study beyond numerical figures. Thus, qualitative methods were identified as the preferred methodology, because participants are better able to inform and direct the interview based on their own particular experience and knowledge.

Qualitative interviews produce data in the participants' own words to interpret some piece of the world (Bogdan and Biklen, 2003). The open-ended questions used during the interviews allow the participants to reflect upon each theme and describe their pedagogical practices, giving examples from classroom or field exercises. Corrine Glesne (2006) concurs with this use of qualitative interviews when she writes, a researcher "concerned about the utility of the state's curricular mandate might conduct

interviews to obtain data that will be instrumental for understanding teacher conception of science and the obstacles to implementing proposals for reform” (p. 80). In the same way, the semi-structured format utilized in this study provided opportunities for participants to share their opinions and perspectives concerning PBE in K-12 schools.

Furthermore, qualitative interviews give leeway to the researcher to pursue a range of topics or questions, enabling the participant to shape the content of the interview (Hatch, 2002; Bogdan & Biklen, 2003). The exploratory nature of this study and the use of qualitative interviewing techniques allowed the participants to inform this study and reflect upon their teaching style and the possibilities PBE has in K-12 education.

Each participant underwent a single, one-on-one interview that was digitally recorded and lasted 30-45 minutes. Following the interviews, each recording was transcribed and coded utilizing typological and inductive analysis models described by Amos Hatch (2002). Hatch describes typological analysis as “dividing the overall data set into categories or groups based on predetermined typologies” (p. 152). The three themes discussed earlier—perceptions of PBE, place-based resources, and factors hindering the use of these resources—were the initial typologies identified for organizing and analyzing the interview responses.

In addition, the five basic categories of obstacles affecting field-based courses identified by Lewis (2003) were used as additional typologies for this study. These five categories are administrative, logistical, managerial, academic, and ethical, and were used as a model for understanding, and distinguishing between, the interview responses. For example, participants identified “time” as an obstacle to using place-based resources.

However, depending on the context in which it is used, “time” can have multiple meanings, such as “class time” in an academic context or “travel time” in a logistical context. Therefore, these five categories affecting the use of field-based resources were used as typologies to improve the organization of the data and provide a model for analysis of the interview responses.

Typological analysis is useful for initial data analysis, however it is limited because not all typologies can be represented or predetermined in qualitative studies. While the ethical barriers described by Lewis (2003) were not represented in this study, community perceptions of students and school operations were identified as a theme during the data analysis process. This is an example of inductive analysis, which is used to identify themes that emerge from data during the coding process. Hatch (2002) identifies inductive analysis as a “search for patterns of meaning in data so that general statements about phenomena under investigation can be made” (p. 161). For instance, place-based resources, is a typological category identified in this study. Within this category, inductive data analysis was used to identify themes that describe, and distinguish between, the different types of resources used by participants. Using both typological and inductive modes of analysis enabled me to more fully describe and discuss the factors affecting the successful integration of the community and environment into middle school curricula than through a single analytical approach alone.

CHAPTER FOUR

RESULTS

To better understand how place-based methods are used in K-12 schools, I performed in-depth interviews with teachers and administrators based upon three themes: 1) perceptions of place-based education, 2) place-based resources, and 3) barriers and strategies. These themes provide descriptive data that can be used to understand the possible connection between standards-based education and place-based education. Considering K-12 education is a diverse and dynamic environment, these themes were designed to focus on the factors that, to a large extent, influence school and community interaction in any setting in the United States.

The first thematic category, perceptions of place-based education, is divided into three topics. The first topic explores the respondents' knowledge and understanding of PBE. The second discusses the feasibility of PBE in standards-based school systems. The third topic explores the measures needed in order to promote PBE as a valid and accepted educational approach.

In the second category, place-based resources, respondents identified three types of resources they use to engage with PBE. The first is campus-based resources. These resources include gardens and nature areas found on school grounds, as well as campus-based recycling or compost programs. The second category is field-based resources, which refer to camps, nature centers, parks, and restoration or service projects occurring

off school grounds. The final category is guest speakers who are invited to the school to provide students with an experience to supplement off campus experiences.

The final theme identifies the barriers and strategies affecting the integration of PBE in standards-based schools. The barriers identified in this study are connected to four categories derived from Lewis (2003): administrative, logistical, managerial, and academic. While Lewis (2003) described ethical barriers in his review of common barriers affecting field-based university courses, ethical barriers were not identified in this study. However, respondents described a fifth category, community perceptions. Administrative barriers are those connected with scheduling and course enrollment, and motivation and commitment to PBE. Logistical barriers, which received the greatest number of responses, refer to time and money connected to transportation, class size, and availability of space and resources. The third barrier, managerial, is related to student behavior and safety. Academic barriers are those associated with the availability of appropriate resources, state expectations and requirements, and appropriate teacher knowledge and training. The final barrier to PBE is the community perception of the school, such as assumptions of student behavior and the role of the school, which can influence community acceptance of school sponsored trips and functions.

Perceptions of Place Based Education

The perceptions of place-based education presented by the teachers and administrators participating in this study fit into three categories: 1) definitions; 2) feasibility; and 3) room for growth. Because PBE is a new term introduced in many

standards-based schools, the first category discusses how teachers define PBE.

Feasibility, on the other hand, describes whether or not they perceive PBE as a useful approach for either their classroom or school. The final category, room for growth, refers to the possibilities PBE has for their school and the changes needed in order to provide students with place-based experiences.

Teachers Defining Place-based Education

Early in the interview process, it became clear that many teachers were unfamiliar with the term place-based education. Twelve out of 17 respondents (71%) explained that PBE was a new term. One respondent, however, revealed that her knowledge of the term was minimal and two others were quite familiar with the term. Rachael Cole was not surprised. She explained that when her school began to develop a project-based curriculum, many of the teachers resisted.

Rachael Cole: Teacher language runs in cycles... A lot of teachers were in fear, "What in the world is project-based learning?" But if you went into any classroom in the school you would see kids involved in hands on activities. So we had to educate. It's a cycle that goes around.

Based upon the discussions during each interview, 18 participants (90%) were able to provide a definition for PBE. Due to a lack of time, two participants, Sara Jackson and Stephanie Miller, were unable to offer a response. While the definitions differed in some way, each respondent recognized that PBE involved connecting both the students and their education to the places around them.

Sheri Woodward: [Place-based education is] taking the kids to the place where something happens and they learn from going, seeing, and doing.

Brian Matthews: I would say it is using the local environment, the resources in that environment, whether visual, cultural, or material as a means to increase the effectiveness of education in the classroom.

David Hughes: It is using your immediate environment to educate your students and using the environment outside of the classroom... It is finding those things in your environment that are unique that you can use to help educate and inspire your kids.

These definitions are in line with Smith (2002), Gruenewald (2003), and Sobel (2004), who explain PBE aims to ground student learning in first hand experiences with the local community and environment. Furthermore, Clare Ray points out that PBE is simply a new term for what teachers have always done.

Clare Ray: I don't think [place-based education] is new. In fact, I know its not new because there are resources from the turn of the century. Maybe it wasn't called place-based education because people didn't know anything other than their place. I think there is a resurgence and an awakening for the importance of it.

The Feasibility of Place-based Education

These definitions offer clues into the responsiveness of administrators and teachers to PBE, and how it can complement their own teaching style and the educational goals of the school. Ten out of 15 respondents (67%) believe that PBE is an appropriate and feasible approach to education within their school or classroom.

Rachael Cole: For me, yes. I feel it is there and I am now trying to think of all of the things around me that I am doing or could be doing, which is exciting.

Clare Ray: I do, even with limited time and money. I feel that we live in an area that is rich with opportunities for kids to get connected. If we are going to learn about, for example wildlife, why not learn about local wildlife? Why should learning about the environment always be disconnected from them?

Although the remaining five participants support the philosophy behind, and the potential benefits of, PBE, they had concerns against a complete transition to this new pedagogy. For instance, PBE is perceived as an inappropriate practice for large or inner city schools, or is seen as a component of education rather than an approach to education.

Madison Williams: I think at this school [PBE] is feasible but I don't know about at larger schools.

Lindsey Williams: The feasibility would depend on where you need to go. If it were on-site, definitely but if we would need to take a bus, it would definitely be limited by cost.

Niki Hill: I think [PBE] is a component of education. I do not think place-based education can meet all of the needs that students have. I think it could be a component of the curriculum. Plus, PBE isn't always conducive to having 30 kids in a place at the same time.

Despite these concerns, several teachers note the environmental and cultural benefits of being in the rural surroundings characteristic of Humboldt County; two teachers explained that PBE is also feasible in urban settings. David Hughes and Lindsey Williams have experience teaching in urban environments and stated that the difference between rural and urban PBE is dependent upon the resources available rather than the school setting.

David Hughes: [In the Bay Area] because of the environment, [PBE] will look much more urban, much more artificial, much more man-made. It is going to involve many more artifacts and much more human creativity and human manipulation. And we can focus on those things and learn from our mistakes. [In Humboldt County] it will be more organic and much more natural, scenic, and based upon the land and what people have done with the land. It is really the same idea no matter where you are.

Lindsey Williams: I think there is definitely more you can do in an urban environment as far as where you can go and the different places of history

and different cultures, which is hugely different than here. But here we have nature. I guess it depends on your curriculum, what your focus is.

As both David Hughes and Lindsey Williams explain, PBE will differ depending on what resources are available. This perspective resonates with the examples in rural Alaska, Hawai'i, and Massachusetts described above. Clare Ray clearly sums up this points when she asks, "If you are going to learn about wildlife, why not learn about your local wildlife?" Joe Smith agrees, stating that the unique features in a region should be acknowledged and taught in the classroom.

Joe Smith: We live in a particular kind of community with particular resources and economic structures and so that's what we have to focus on around here. We can't, here in Humboldt County, learn about steel production, or car assembly lines, or corn fertilizer. We have what we have and we try to make it interesting, try to make it strong. And then the kids go out into the world and find out what they like and who they are.

Achieving Growth in Place-based Education

Place-based education is an active and dynamic approach to education, because it adapts to the environments in which it is implemented. When asked if there is room for PBE in their respective schools, 15 participants responded enthusiastically.

Rachael Cole: I think that once you know what the terminology stands for there is room for growth.

David Hughes: Certainly. Ideally the classroom would be like the Magic School Bus; we keep our stuff in the classroom but we would never be in the classroom.

Clare Ray: I would say yes. I know definitely within my classroom and I feel that sense of community in place within the school. I think it is something that people would see the value of.

Nearing the end of the interviews, six participants were asked what they felt needed to change in order to achieve growth in providing students with opportunities in PBE. Not all of the respondents were asked this question due to time limitations and scheduling constraints. In response to being asked what central problem is hindering PBE, participants called for solutions, such as, increased collaboration between schools and communities and valuing education as a community asset.

Jonathan Akers: The stereotypical operation of the system. The expectation that this is how [the school and community] function, the school is one thing and the community is another.

Niki Hill: I think that the outside organizations have to have a desire to create environments that are conducive to the structure of school.

David Hughes: People need to start valuing education as much as they say they do. Everyone says education is important, however, when you ask people to help you, then all the excuses start.

Clare Ray: I think we need to slow down. I think there are so many of us living at a frantic pace and feel we do not have enough time to sit and listen and think and just hang out and play.

It is clear that PBE is not a new practice. The participants in this study revealed a level of familiarity with PBE despite the initial confusion upon hearing its name. In addition, the participants believe PBE is feasible within their schools. Simply put, it makes sense to utilize the resources that are directly available rather than only relying on the materials adopted by the state. Although students live within the community, they also learn from the community. By improving both the communication and collaboration between schools and the surrounding community, education can then extend beyond the

classroom. Furthermore, by slowing down, students, educators, and community members can better see the connections between the school and community.

Place-based Resources

The community and environmental resources identified in the interviews fit into three categories: campus-based resources, field-based resources, and guest speakers (See Table 4.1). These categories of place-based resources are aligned with those identified by James Farmer and his colleagues (2007) for use in EE. Farmer and his colleagues write, environmental education “experiences may take place in the schoolyard during a single class period or be part of a residential curriculum, but their most common form is the short-duration field experience known as an out-of-school field trip” (p. 34). Similarly, field-based resources were cited more frequently; however, this does not discount the importance of either campus-based resources or guest speakers. While both campus-based resources and guest speakers occur on school grounds, they differ in two important ways. Campus-based resources are those resources that occur and originate at the school. Guest speakers, on the other hand, are volunteers from the community that are invited into the school to present or teach a specific lesson.

Table 4.1: Place-based Resources of Humboldt County

Campus-based	Total Responses = 17	Percentage of Responses
<i>N = 10 out of 20 (50%)</i>		
<i>Nature Area</i>	6	35
<i>Garden</i>	5	29
<i>Recycling/Compost</i>	2	12
<i>General Use</i>	4	24
Field-based	Total Responses = 47	Percentage of Responses
<i>N = 16 out of 20 (80%)</i>		
<i>Camps & Nature Centers</i>	8	17
<i>Beach/River/Dunes/Marsh</i>	7	15
<i>Humboldt State University</i>	7	15
<i>Ecological Restoration</i>	5	11
<i>Local Watersheds</i>	4	8
<i>Senior Center</i>	4	8
<i>Humboldt Bay</i>	3	6
<i>Community Garden</i>	2	4
<i>Community Forest</i>	2	4
<i>Other</i>	5	11
Guest Speakers	Total Responses = 28	Percentage of Responses
<i>N = 15 out of 20 (75%)</i>		
<i>Community Members</i>	8	28
<i>Academic/Research</i>	12	43
<i>Professionals</i>		
<i>Parents</i>	5	18
<i>General</i>	3	11

N = Total Number of Respondents

Campus-based Resources

Ten out of 20 respondents (50%) described using campus-based resources as a component of their curriculum. The resources described were nature areas, gardens, and recycling or composting programs. Nature areas were the most frequently cited resources in this study, receiving 6 out of 17 of the total responses (35%). Nature areas were described as forests, streams, and marshes and are used in a variety of subjects. For

example, Rachael Cole explained that her class uses the nearby forest and stream to study the redwood biome.

Rachael Cole: It is part of our curriculum because we do study biomes of the world and it's a nice way to start the school year. I have labeled it as "The Wonders of our Backyard." We start with the school campus and use a lot of observations [of the forest and near by stream] because that is what we do at Wolf Creek; we make a lot of observations.

In this particular instance, the campus is used to introduce students to local features and to prepare them for later educational opportunities. Rather than studying an entire biome, Clare Ray uses the nature area on her campus for simple exercises related to observations and journaling. For her, it is about connecting the students to the natural world. One particular exercise involves the students collecting three different pinecones from the school's nature area. Back in the classroom, Clare Ray introduces an observation and perception exercise called blind drawing.

Clare Ray: The first time they draw their pinecone, they look at the pinecone itself but not the drawing. They put their pencil down on the paper and they look at the pinecone and try to copy what they see while not look at the paper or picking up their pencil. [When they finish,] they look at the pinecone and draw another picture. After having to really focus on what they were seeing, the students are amazed with the second drawing.

Through this exercise, the students are able to move beyond simple, surface level observations in order to perceive the complexity and minute details that make up the world around them.

While nature areas can be used for a variety of activities, school gardens are another resource that received considerable attention. School gardens represent 5 out of

17 of the total responses (29%) for campus-based resources. Respondents described using their school garden for teaching subjects ranging from art to math. At one particular school, the garden is used as a component of the social studies and science curricula. For instance, while studying ancient civilizations, the students plant garlic because it is an ancient crop, and for science they monitor the weather and plant growth. Sara Jackson explains that the garden isn't something that is just "a little sprinkled in":

Sara Jackson: We are all in charge of our own bed and our own crop. [We] learn about pH levels and how planting different cover crops will neutralize the soil. We also use our garden box for scale projects. We have done measurement activities and measure the length of the boxes in metric and customary units.

While this particular school garden, and accompanying curricula, was developed by a group of parents, school gardens may not always be directly linked to the students' formal education. For instance, Dorie Mae explained how a group of motivated parents decided to develop a vegetable garden at her school as a special project.

Dorie Mae: A group of parents wanted fresh food in the cafeteria because they think it's really important to have vegetables growing right on the school campus and for the kids to see where their food comes from.

All of the schools participating in this study have comprehensive recycling programs; however, these programs make up only 2 out of 17 of the total responses (12%). Julie Adams explained that one of the science teachers at her school, who wanted to teach a group of learning challenged students, started their recycling program.

Julie Adams: He came up with this whole concept of teaching some discrete information about environmental stewardship and conservation but then put it into action. He went back and revisited it with the students

and structured it with the standards that needed to be taught and how it would be implemented and relate to science.

The campus-based resources are not stand-alone resources that are used for a single purpose or a single subject. Instead, these resources are used in a variety of subjects and provide educational opportunities beyond state mandates. For instance, while developing a commentary on the Redwood Forest, students explored different forms of technology such as film and webpage development. Gardens provide opportunities for students to explore the science of plant growth as well as learn the cultural significance of agriculture while cultivating different crops. Furthermore, school recycling programs engage students in waste management and encourage responsible environmental behavior.

Field-based Resources

The second category of place-based resources used by the teachers in this study is field-based resources. Sixteen out of 20 respondents (80%) described field trips as the most common method for connecting students to the community and environmental resources beyond their school. In fact, field-based resources received greater attention among participants than campus-based resources and guest speakers, which aligns with Farmer and his colleagues (2007). David Hughes says the importance of field trips is the interactions students have with real people and real places.

David Hughes: There is only so much that you can do in the classroom; taking them out of themselves and into a new world, especially with the older kids who do not like the imagination process. The outside can change the inside and the inside can change the outside in that sense.

Field-based experiences include service or restoration projects, field trips designed to address specific concepts or standards, and multiple day trips that serve as a culminating experience for the students. Respondents identified 47 destinations used for field trips, the most common single destination being Humboldt State University (10 out of 47, or 21%), for Center Arts performances or tours of the Wildlife Building and Seismology Lab.

Service projects were cited as a common method for getting students out of the classroom. Nine out of 47 of the destinations (19%) described were service projects, such as dune restoration with Friends of the Dunes, beach cleanup with California Department of Transportation, or community service at senior centers. Many of these projects, such as restoration projects, are performed on an annual basis, where visits to the senior center are more frequent, sometimes once or twice a month. Although educational benefits are associated with these various service projects, the main goal is to provide students with an opportunity to give back to their community.

In addition, community partnerships were another method of providing field trip opportunities to students. Seven out of 47 field trip opportunities (13%) were connected to partnerships with groups such as Humboldt Bay Keepers and HSU. While service projects are performed to contribute to the community, these partnerships extend classroom learning to the real world through problem solving and skill development. For instance, Sheri Woodward described a bay and stream monitoring program her class performs in conjunction with the HSU Geology Department:

Sheri Woodward: We take several trips to [local watersheds], especially after storms, [and collect information such as turbidity and salinity]. We then travel to the bay to see how long it takes these factors to show up by looking at the data collected by stations set up there.

Visiting camps and nature centers is another approach to field trips. In this case, camps and nature centers, represent 8 out of 47 of the field trip destinations (17%), and include places like Wolf Creek, Whiskeytown Environmental School, and Camp Bower. In many cases, these longer trips, lasting up to a week, act as culminating experiences for students where much of the information presented to them throughout the year comes together. After studying the redwood biome at their school, Sara Jackson takes her class to Wolf Creek to further their studies. On the other hand, David Hughes explained that he takes his students on camping trips to state parks for an end of the year celebration, “a kind of rite of passage.”

Respondents described 18 additional field trip opportunities (32%) that are not directly related to service or restoration projects, nature centers, or HSU. These trips are directly linked to a specific content standard or walking field trip to take advantage of a nice day. For instance, because Earth Science is studied sixth grade, Sheri Woodward takes her class to Trinidad Bay to study beach erosion.

Sheri Woodward: We take [the students] in the fall and they do an observation and walk around and then we take them back in the spring so they can see how it has changed.

On the other hand, Dorie Mae takes a more impromptu approach. Using blanket permission slips, Dorie Mae takes her class on walking field trips during the spring months.

Dorie Mae: As long as we have [the permission slips] signed we can go on the spur of the moment. It happens more often than you might think just because of the weather. If it's a beautiful day and if we've had rain for two weeks and suddenly we have a beautiful day, then hey, why not take advantage of the weather.

Walking trips are only possible where resources, such as HSU, streams, and beaches, are readily accessible to teachers during their class period. However, as Lewis (2003) explains, teachers "should also take care not to overestimate their students' physical ability to travel and work under adverse conditions" (p. 214). Although teachers are not leading their students on multi-day hiking trips, some of their students may be unable to easily walk the necessary distance in the prescribed class time.

Guest Speakers

The final category of place-based resources, guest speakers, is used as a means to invite parents, academic and research professionals, and community members into the classroom. While connecting to the physical world through campus- and field-based experiences is valuable, connecting with people in the community is also of great importance. Fifteen out of 20 respondents (75%) described using guest speakers as a way to bring the community into their classroom. Guest speakers are invited into the school to complement existing curricula by providing students with a context with which to apply classroom learning to real world experiences.

Eight out of 28 responses (28%) describe community members, such as Native Americans, fishermen, and artists, as guest speakers who are invited into the classroom. For example, Brian Matthews, a middle school art teacher, invites guest artists to

entertain and educate his class by presenting art in a relevant and exciting manner. For example, during his unit on graffiti, Brian invites a graffiti artist from Empire Squared, an art gallery in Eureka, to speak to his class. During the unit, students learn about different types of graffiti and the related themes used in corporate logos for presenting company names in a memorable way.

Brian Matthews: The guest artist is a member of Empire Squared and a former graffiti writer that has been chased by the police...He comes and shares with the students for a day the things he has done in the past, how graffiti art has influenced his life, how graffiti art has influenced his own artwork, and the artists that influence him.

The guest artist is able to bring a real world perspective that Brian cannot because of his life experiences. In addition, 12 out of 28 responses (43%) were associated with academic and research professionals representing HSU, Humboldt Bay Keepers, AmeriCorps, and other local environmental and social organizations into the classroom, often to compliment a previous or future field trip. For example, Lindsey Williams, following multiple trips to different stream monitoring stations, invites a professor from the Fisheries Department at HSU to give a presentation on Humboldt County watersheds and how they affect the ocean.

Lindsey Williams: The people who come have excellent maps that show aerial views of everything and they show exactly where the watersheds are and where they feed into the ocean.

While community members and academic and research professionals are commonly invited into the classroom, parents are also seen as an important resource. Five out of 28 responses (18%) describe parents as an important resource in their

classroom. Sara Jackson, for example, relies on parents extensively throughout the school year.

Sara Jackson: At the beginning of the year, I try and emphasize with my parents that they are strongly needed here. We have a lot of parents with specialized backgrounds who are excellent teachers. So I try and pull parents in as much as possible who can offer different ideas about how the world works. I actually have some of them working with me in a teaching capacity.

The three categories presented—campus-based resources, field-based resources, and guest speakers—are not always distinct and separate groups. In fact, 6 out of 20 respondents (30%) described how these three categories are incorporated together into a single curriculum or activity. For example, over the past 20 years, Dorie Mae has raised salmon in her classroom in partnership with California Fish and Game. For several weeks students observe the salmonids transform from eggs to small fish while learning about the environmental and cultural significance of salmon.

Dorie Mae: AmeriCorps people like to come in and help teach about the salmon and the watershed. I have had Native American individuals come and talk about the importance [of the salmon] to their community; I have had fishermen come in; I have had foresters from Green Diamond come and talk to the students about, not just salmon, but logging in general.

After several weeks of patiently watching and learning about their fish, the students release the salmon in one of the rivers in the county, providing a final culminating experience that connects the students to the past and present of their community and place.

The place-based resources used by participants in this study are neither grandiose nor unique to just Humboldt County. In fact, previous research shows that teachers and

administrators in different states rely on many of the same resources. Jennings and her colleagues (2005) describe Vermont teachers engaging in similar projects such as “knitting mittens for low-income families in the community, community mentoring programs, researching graves in local cemeteries, studying the health of a local river, learning about maple sugaring, and starting recycling centers” (pp. 55-56). The place-based resources described in this study, which are by no means exhaustive, are diverse and engage students not only academically, but also in civic and environmental responsibility.

The reasons behind the resources

The reasons teachers gave for utilizing place-based resources presented in this study are two fold. First, these resources and activities provide students with real-life experiences with real people and real places. Rather than sitting passively in a classroom, students are out, actively engaging with their community (Sobel, 2004; Smith, 2002).

Brian Matthews: I really feel that if a student is able to understand a small slice of the world that is near to them, they will be better able to understand how many other slices there are throughout the world.

Smith (2002) supports this justification explaining, “these activities help students learn and do things that contribute to the well-being of others” (p. 593). For instance, regular trips to a local senior center provide students with the opportunity to interact with, and contribute to, the lives of those outside of their own family. Providing students with real world experiences connects their in-school education with the places they live, which can foster a process of lifelong learning.

David Hughes: They're more likely to become lifelong learners, which should be the ultimate goal for education, as opposed to teaching them how to follow instructions. That is not what I am doing. I'm teaching them how to think and have a desire to learn, and to always be curious about what's over the next hill.

Martin Blank and his colleagues (2003) explain, schools using place-based resources can “focus on developing both academic and nonacademic competencies, a combination that improves long-range learning outcomes” (p. 109). When students can actively engage in their education and community, learning becomes personally relevant and long lasting. In other words, engaging in the community validates the process of education, which fosters further opportunities to engage with, and contribute to, the community (Smith, 2002).

The second justification for pursuing and using place-based resources is the value these resources have in developing responsible behavior. Whether it is dune restoration or working in a school garden that grows food for the cafeteria, these resources connect students to their community and environment at a fundamental level. Julie Davis (1998) notes the “underpinning belief that children’s contact with nature is important provides a strong basis for building sustainable relationships between people and nature” (p. 148). For instance, while salmon are raised in the classroom, students not only learn about their key role in local ecosystems, but also their importance to local indigenous populations. Furthermore, community service activities designed for students to *Pay it Forward* serve as a means to connect students to their place by stepping outside of the classroom and outside themselves.

Mavic Wheeler: After reading *Pay it Forward* by Catherine Ryan Hyde, I have the kids, instead of writing a paper or taking a test, go out and pay it forward. Some kids choose the easy route and walk dogs or rake yard for a few days. Other students really put thought into their project and go out and do things for the environment, such as working for [animal shelters], or helping the homeless. Really extraordinary things for kids this young.

Blank and his coauthors (2003) points out that place-based resources will “build social capital by connecting students to their neighbors and community networks and the school and the community” (p. 109). Positive educational experiences need to provide students with more than academic knowledge. El Joe points out that providing students with a connection to their place, will lead to becoming global citizens.

El Joe: In order to turn our students into global citizens, they have to first be aware of who and where they are. We are a really mobile society but you have to attach yourself to something and becoming aware of your environment, both culturally and physically.

Through participating in the community and environment in which they live, students can contribute to the growth and well being of their community while gaining valuable academic knowledge and experience.

Barriers to Place-based Education

The place-based resources presented in this study reveal how schools in Humboldt County, California attempt to provide students with a locally informed education. However, PBE activities remain sporadic, despite the support given by educators. The results of this study align with Lewis (2003), recognizing that administrative, logistical, managerial, and academic barriers can deter field courses or

PBE opportunities, and adds a fifth category, community perceptions of the school and student body (See Table 4.2).

Table 4.2: Barriers affecting Place-based Resources in Humboldt County

Administrative	Total Responses = 10	Percentage of Responses
<i>N = 6 out of 20 (30%)</i>		
<i>Staff Motivation</i>	4	40
<i>Scheduling & Enrollment</i>	4	40
<i>Employee Contracts</i>	1	10
<i>Entrance Fees</i>	1	10
Logistical	Total Responses = 32	Percentage of Responses
<i>N = 18 out of 20 (90%)</i>		
<i>Money (Transportation)</i>	16	50
<i>Distance</i>	7	22
<i>Class Size</i>	3	9
<i>Availability/Space</i>	5	16
<i>Physical ability of Student</i>	1	3
Managerial	Total Responses = 7	Percentage of Responses
<i>N = 5 out of 20 (25%)</i>		
<i>Student Safety</i>	4	57
<i>Student Behavior</i>	3	43
Academic	Total Responses = 19	Percentage of Responses
<i>N = 11 out of 20 (55%)</i>		
<i>Time (Standards)</i>	10	53
<i>Availability of Resources</i>	6	31
<i>Knowledge and Training</i>	3	16
Community Perceptions	Total Responses = 4	Percentage of Responses
<i>N = 4 out of 20 (20%)</i>		
<i>Student Behavior</i>	2	50
<i>School Operation</i>	2	50

N = Total Number of Respondents

Administrative Barriers

Six out of 20 respondents (30%) described administrative barriers that hinder the classroom or school connection to the surrounding community and environment. Lewis (2003) describes administrative barriers as deciding how PBE or field-based courses will be offered and funded, while recognizing the minimum number of students to justify the expense and the maximum number that can be safely managed in the field. This description aligns with respondents who explained that PBE opportunities are limited due to challenges in enrollment and class schedules. Four out of 10 of the responses (40%) identify enrollment and scheduling problems as a prominent barrier experienced in K-12 schools. For example, two respondents described their schools as having large music programs, which pull students out of class during the week.

Rachael Cole: We have students leaving our classrooms for band Tuesday through Friday for chunks of time, about 45 minutes; you have to work around that.

Dorie Mae: If you want to go to the Arcata Marsh you need to find a day, which can't be Tuesday or Thursday because that's when the music teacher is here; you don't want to take all of her kids for the day. So you are limited with scheduling.

A wide variety of similar scheduling problems may exist at other schools, especially since PBE approaches generally require more than a single class period for travel and in-depth analysis of the subject matter being presented.

Aside from the scheduling constraints that exist between classes, two respondents identified enrollment as an administrative barrier that can influence course offerings. For instance, Niki Hill describes declining enrollment in the county as a barrier that can limit

potential course offerings. Each elective class must meet minimum enrollment requirements to justify the financial expense. Similarly, El Joe described how she would like to have an elective gardening class; however this possibility is limited due to competition with other elective courses offered.

El Joe: Either there is not enough interest, they need a Spanish class that trimester, or they need more study hall. We're a small enough population now that I have to do what they need me to. So I can't just take a class and spend the afternoon in the garden.

Between declining enrollment and academic standards, elective courses that may provide students with additional place-based experiences are dropped. In addition, student interest is a contributing factor that can influence what courses are offered. For instance, El Joe believes a gardening class will provide students with a beneficial educational experience. Students, on the other hand, may not register because they either do not see its value or need to take an alternative elective, such as Spanish. While the loss of elective courses does not affect the potential implementation of PBE in core subjects, the loss of these courses may, however, reduce opportunities for students to gain experiences that are not available within core subjects.

In addition to scheduling and enrollment constraints, respondents described a second administrative barrier as the lack of staff motivation for, and commitment to, PBE approaches. Four out of 10 responses (40%) revealed lack of staff motivation and commitment to PBE as a barrier that must be overcome in order to develop new and alternative approaches. In this context, staff motivation refers to convincing teachers and administrators of this alternative approach and convincing them of its benefits in and out

of the classroom. For instance, Ryan Connor explained, while both time and resources are needed for creating or revising curricula, the education staff must be well informed and shown that this approach is going to benefit the school and community.

Ryan Connor: The most difficult thing is the time requirement to research and develop a new curriculum or to modify the current curriculum. [It is also my job] to motivate people who don't want to do these things and allow them to come to an understanding that this is a good thing for students and a good thing for the community and society.

Smith (2007) acknowledges this perspective when he writes, administrators “need to be willing to allow teachers to adopt learning approaches that have yet to become widely viewed as legitimate by many members of the public” (p. 204). Smith goes further, explaining teachers need to have courage to not rely on state adopted materials, and instead to allow “forms of understanding and knowledge that arise more organically through real-life investigations and problem solving” (Smith, 2007, p. 204).

Acknowledging that a commitment to PBE requires both teacher and administrative support is the first step in providing these opportunities to students.

Logistical Barriers

The second category identified in this study is logistical barriers. Eighteen out of 20 respondents (90%), the highest percentage in the study, identified time and money, class size, and the availability of space and resources as constraints that hinder or all together prevent opportunities to connect to the surrounding community and environment. These results agree with both Lewis (2003) and King (2003) that the most common logistical barrier is money, which is tied to distance to resources. Because of

Humboldt County's geographic size, many of the field sites require the use of buses, which carries a high price tag. These results are supported with 16 out of 32 responses (50%) describing funding for travel as limited due to recent state budget cuts to education. In fact, at the time of this study, California's budget had yet to be passed for the year, causing several schools to eliminate field trips entirely because they are perceived as nonacademic and an unnecessary expense.

David Hughes: Nowadays there's no money. There's no money to take them anywhere.

Clare Ray: Right now definitely field trip money has completely dried up; spending freeze and no money for buses.

Jonathan Akers: We don't have money for field trips...money is gone now, just vanished from the school culture.

Stephanie Miller: Because of the budget, we were told absolutely no field trips.

Because of the high cost for transportation and the relatively short distance to many field sites, several teachers have used walking as an alternative to buses. However, one teacher explained that what is feasible for some students may not be feasible for others.

Stephanie Miller: We are in walking distance to HSU. We walked up there once and discovered that we never stopped to consider the physical abilities of some of our students to actually walk from here to there. It's really not that far, but when you have physically challenged students that can't walk the distance, you have to give them an alternative. And then they feel bad when you say we will drive you there because now they are ostracized in some way because they didn't go with the class.

In addition, distance to field sites is also connected to time. Seven out of the 32 responses in this category (22%) cite distance to resources as a barrier because of the time associated with traveling to and from the field site.

Sara Jackson: We are a rural school; we are not in walking distance to a lot of places.

Mavic Wheeler: If I wanted to go to the redwood forest or the bird sanctuary, there isn't enough time, we have to use a bus.

While declining enrollment is a constraint to elective course offerings, three out of 32 responses (9%) identify large class sizes as a barrier within core subjects. The average class size among nine teachers is 24 students, with the smallest containing 11 students and the largest with 33 students.

David Hughes: It is getting a class of 27 students anywhere. It's not like the olden days where you could just put in a request and get a bus.

Stephanie Miller: When we studied weather in science, after our classroom instruction we were going to go to the weather station at NOAA or News Channel 3 to see a weather forecast but neither would allow us to come. They thought our classes were too large. We asked if we could split the class and go as separate groups. They just said it's not going to work.

The problem Stephanie Miller came across is related to the final logistical barrier teachers face. If the criterion for transportation is met, and class size is not an issue, five out of 32 responses (16%) were associated with adequate space and the available human and financial resources at many field sites. For instance, Niki Hill explained that field sites, such as local businesses, are inundated with requests from surrounding schools, which can exceed the capacity to coordinate visits.

Niki Hill: Like anything, their personnel get reduced and those are the same people that have to coordinate for everybody.

The logistical barriers identified by respondents are related to field-based trips, rather than campus-based resources or guest speakers. Because of the large geographic size of Humboldt County, large class sizes, and the physical ability of students, visiting many of the field sites requires bus transportation. However, the financial drought caused by recent state budget cuts, has left schools unable to afford necessary transportation. Meanwhile, 45-minutes in a class periods is not enough time to account for traveling too and from the field site. Finally class size can be the final deciding factor for whether or not a field trip occurs. Buses need to be filled to justify the expense, however, some field sites may not be suitable for large groups. Therefore, money and time are significant barriers that hinder the use of field-based resources. As this study will show, money and time are associated with not only logistical barriers, but also academic barriers.

Managerial Barriers

The third category of barriers described in this study is managerial, which refers to the behavior and safety of students outside of the classroom. Five out of 20 respondents (25%) identified student safety and behavior as factors influencing their decision to leave the classroom. Lewis (2003) writes, “ensuring the physical safety of one’s students should be the central concern of every field instructor” (p. 213). The concern over student behavior and safety are best summed up by Sheri Woodward:

Sheri Woodward: The thing is, you say “field trip” and the back of my neck tightens up because I am responsible for 25 kids, their behavior and safety, out in the public.

Student safety is the most frequently cited managerial barrier, receiving 4 out of 7 response (57%). Student behavior, which is closely connected to safety, was cited three times (43%). The link between safety and behavior come from inappropriate student behavior creating a potential safety concern. For example, Madison Williams described how she would take her classes up to HSU and use the resources there, such as the wildlife building and the community forest. However, Madison explained the community forest is no longer a safe field site to visit. With a similar argument, Mavic Wheeler explained adamantly that she would like to take her kids on a walk through the community forest; however recent safety concerns overshadow the potential benefits this visit might have for the students.

Madison Williams: I don’t think I will go up [to the community forest] again because it is a little shady. There’s a lot of marijuana in the air and there are a lot of people that the kids are really freaked out about. Not that these people would actually do anything at all, but it made me realize that I am responsible for all of these 20 kids’ lives. If anything goes wrong and one of these kids mouths off to this person, I don’t know what state they are in, but it could be a bad scene.

Mavic Wheeler: I want to be able to walk through the trails again and be able to give lessons about forest ecology without finding [condoms on the ground] or worrying about [my students] pricking their finger on [a needle].

When deciding to take a class to a field site, teachers must question whether the students can behave accordingly or whether there are concerns beyond their control that can threaten the students’ experience or safety. In addition, student behavior can create

safety concerns due to inappropriate actions. Because teachers are responsible for the safety of the students, the level of risk may outweigh the potential benefits the student's gain. In either case, if the students are consistently disruptive in class, the teachers will forgo a field trip. Likewise, teachers will pick and choose the particular field site based on a careful balance between student safety and educational benefits.

Academic Barriers

In 11 out of 20 interviews (55%), respondents identified three categories of academic barriers associated with using place-based resources. Lewis (2003) explains that one of the most common criticisms of place-based or field-based education is “founded on the assumption that field-based classes are not academically rigorous enough to compare to a traditional, campus-based course” (p. 215). While lack of academic rigor is a common critique of PBE, both teachers and administrators involved in this study support the academic and nonacademic benefits of PBE. The first category of academic barriers is the time required to meet the state standards and to prepare students for state tests. The second barrier is a lack of age appropriate resources to engage students academically. The final barrier is teachers' lack of training in PBE and their ability to identify and use new resources.

There is a strong desire among teachers to provide their students with a positive connection to the community; however, due to expectations from the state, time has become a considerable barrier. Unlike distance to resources, time constraints are tied to the current interpretation of standards-based school reform and thus fall under the

category of academic barriers. Time was identified in 10 out of 19 responses (53%), as a barrier influenced primarily by state content standards and the demands of high-stakes testing.

Rachael Cole: Time connected to the standards, which I didn't think about before they were so rigid and everything connected to state testing.

Lindsey Williams: Finding the time to take out of the school day to take the kids out, maybe missing another subject area, in order to do a longer study of something else.

While standards are critiqued for being unresponsive to community concerns and students' lived experiences (Smith, 2002; Gruenewald, 2003; Jennings et al., 2005), participants in this study support state standards. In fact, 14 out of 20 respondents (70%) explained that the standards act as a useful guide for education, allowing teachers to know what students should know in each grade level.

Sheri Woodward: I think there is a need for standards because you need to have some kind of benchmark that's going to say this is what you need to teach, this is where you need to be, and if a kid moves from school to school, [teachers] can assume that the student has had certain information presented to them.

Lindsey Williams: I think they are helpful and they have a level of expectation for all of the students.

Dakota Jones: I don't think [the standards] are a bad thing. I just think that they are a work in progress right now. Like anything else they'll change. But I think the accountability has left a bad taste in the mouths of some teachers.

The majority of participants explained standards are a valuable resource that assists educators by articulating what students should know within each grade. However, participants made a clear distinction between standards-based education and school

reform focused on high-stakes testing. While standards act as a useful guide for education, high-stakes testing has created a situation where the standards are unrealistic, requiring teachers to cover too much information in a limited amount of time. Several teachers explained that it is impossible, within a typical school year, to cover all of the state standards without leaving students behind in the process. As a result, many teachers feel that the time taken out of the class, to visit a field site or invite a guest speaker into the class, is time that, because of the high-stakes of testing, must be used to cover content standards and test materials.

Rachael Cole: We have so much to cover that taking those opportunities, like having the Humboldt Bay Keepers come in, is another hour out of my week that I cannot be teaching math or something else.

Stephanie Miller: There is not enough time in the day to necessarily do everything. The more field trips you do the less time you have in class to cover the curriculum you are supposed to cover.

King (2003) supports this claim, explaining that the leading constraint to environmental education in K-12 schools is the breadth of information teachers must cover each year. Though many of the teachers support the aims of PBE, these teachers must focus on state content standards because of the pressures of high-stakes testing. Place-based education is therefore perceived as additional content added to state content standards rather than an approach to education.

The second barrier, availability of age-appropriate resources, was identified in 6 out of 19 responses (31%). The respondents explained that an appropriate resource is one that is both academically rigorous and tied to the curriculum. Sheri Woodward explained

that tying place-based resources into the curriculum is necessary to justify the added time and expense needed for either field trips or guest speakers.

Sheri Woodward: You don't want to take a field trip just to take a field trip. You have to show what they did and why you're doing it. I wish I had the resources to do it more and that there were resources in the community that fit into my curriculum a little better.

Furthermore, due to the limited availability of resources in the county, those resources that are age-appropriate sometimes don't engage the students academically because previous teachers have used them.

David Hughes: It is much more of a struggle to find resources that will engage them at a level that is appropriate for their age, and their academic and cognitive abilities. Once you find them, quite often you run into a situation where [the students have] seen that already or they've done that already.

The barrier, however, may not necessarily be the lack of available and appropriate resources but the lack of knowledge and training to use those resources in an active and engaging manner. Three out of 19 responses (16%) revealed a level of unawareness of what resources are available or how to use those resources that are available. Two of these teachers revealed that they have not been teaching in their particular grade long enough to know what is available for their students. Stephanie Miller previously taught early elementary education and is now teaching sixth grade, while David Hughes, who previously taught middle school, is now teaching fifth grade.

Stephanie Miller: I found that middle school is a little harder. I am not doing as much as I had last year, probably because this is my first year teaching sixth grade. Next year I will have more ideas of what is available to me.

David Hughes: Right now my class is not very connected to the community, because I am new in fifth grade and am learning what resources there are for fifth graders.

On the other hand, when asked how campus-based resources are used, Lindsey Williams, who teaches in a self-contained classroom, explained that the use is sporadic.

Lindsey Williams: We don't use [the nature area] very much to be honest. We have taken soil samples but that is about it. But also, I don't really know how I would fit my curriculum into the nature area.

As Lindsey Williams explains, campus-based and field-based resources exist; however, if teachers are unaware of how to incorporate these resources into their curriculum, it is the same as if they were not available. Lack of knowledge and training is a significant barrier that may be more prevalent than the barriers previously described. If the lack of knowledge and training is overcome, teachers can introduce an innumerable amount of place-based activities into their curriculum in a way that benefits both the students and community.

Community Perceptions

The final barrier, identified by four out of 20 respondents (20%), is community perceptions of student behavior and school operation. According to Jonathan Akers and David Hughes, some members of the community perceive middle school students as immature and irresponsible. As a result, community members or local field sites may be unwilling to work with middle schoolers because of behavior problems. In addition, members of the community, for example parents, may be unaware of the time and academic requirements affecting classroom and field-based instruction. Jonathan Akers

and David Hughes explain that concerns over student behavior were raised while developing relationships with the local community members and organizations.

Jonathan Akers: When we started going to the senior center, [the senior center staff] was concerned about the behavior of the kids and how they might disrupt their operation.

David Hughes: A lot of people don't like kids out in their backyard, so to speak. Especially when they have the assumption of middle schoolers as young bratty punks. They don't want to take the time to actually deal with them.

Although the behavior of middle school students is a legitimate community concern, David Hughes explained that with time, many people find that not all of the students are "young bratty punks."

David Hughes: Most of [the students] are fine young people that just need a little help and attention and that you, the community member, actually taking the time as a random stranger to show the students something reinforces the ideas that they shouldn't be little jerks because people they don't know actually care about them.

Just as community members may get the wrong impression of students, parents may get the wrong impression of field trips. Due to rigid state requirements and time limitations, teachers must pick and choose which field trip opportunities are best for their class. However, some field trips must be forgone in order to cover specific content standards, which may not be adequately covered in the field. After asking if teachers use field trips in an interdisciplinary manner, Joe Smith explained that parents have asked a similar question. In fact the solution presented by one parent revealed their misperception of both the strategies for interdisciplinary teaching and state requirements.

Joe Smith: To give you an example, we had some parents here who really wanted us to spend a lot more time with their kids on the beach. Their response to our concern over lost instructional time in core academics is “well they can count pinecones while they are walking down the trail.” It’s not going to happen. You’re not going to effectively teach a math lesson that way.

While it is not clear as to whether this is an accurate depiction of the suggestion posed by the parent, interdisciplinary teaching is feasible during field-based instruction and simply counting pinecones while walking down a trail is not an effective solution and is not interdisciplinary. However, teachers may introduce concepts in math and science by measuring the length of the trail and using pinecones to count and identify the different species of pine trees along the trail to determine species diversity. It is clear that academic standards cannot be ignored simply to spend extra time on the beach or at other field sites. Therefore, providing students with educational opportunities derived from the places they live, while continuing to meet state standards, is the goal of PBE and will require additional cooperation between the school and the surrounding community and additional training for teachers.

It is important to note that the barriers described in this study are obstacles to using place-based resources rather than implementing PBE. Instead, these barriers are associated predominantly with field-based activities related to EE, ODE, and SL. Although time and money are significant obstacles to PBE that need to be considered, the most prominent barrier that emerged from the participants responses is the lack of a conceptual understanding of PBE as a framework for traditional education.

Lacking a conceptual understanding of PBE is not the fault of K-12 educators. Teachers are not being trained to perceive the importance of the surrounding community and environment as a valuable educational setting and resource. While studying faculty perspectives of EE in pre-service methods courses for teachers, Amy Powers (2004b) found that very few education programs train, or even introduce, EE as a method for teaching science or social studies. Although Powers found support for EE courses, there are significant barriers that hinder the infusion of EE in pre-service methods courses. For instance, time limitations, for both professors and students, are cited as significant barriers; students hardly have the time to take the required courses and professors already have a crowded curriculum. In addition, disciplinary segregation has developed a testing atmosphere focused on literacy and math, with little room for EE. Finally, EE carries with it the reputation for being a vehicle for promoting specific political agendas (Powers, 2004b). Because of the close association between EE and PBE, it is reasonable to surmise that PBE is absent from many pre-service training programs for the same or similar reasons. Based upon the descriptions of PBE and the place-based resources incorporated into curricula, this study revealed that teachers and school officials are unfamiliar with PBE, which concurs with Powers, that pre-service training to support this educational approach is lacking.

Strategies for Overcoming the Barriers

Daunting as these barriers may be, participants in this study identified 12 different strategies for overcoming the constraints to incorporating different place-based resources

in their schools (See Table 4.3). The most commonly cited strategies were collaboration with colleagues and guest speakers. In addition, participants cited strategies such as financial alternatives, professional development, walking fieldtrips, and school campus. By relying upon these strategies, teachers have a greater likelihood of incorporating place-based activities into their curriculum.

Table 4.3: Strategies to overcome barriers

Strategies <i>N = 20 out of 20</i>	Total Responses = 46	Percentage of Responses
<i>Collaboration and Networking</i>	11	24
<i>Guest Speakers</i>	8	17
<i>Financing Alternatives</i>	7	15
<i>Walking</i>	4	9
<i>Workshops</i>	4	9
<i>Campus</i>	3	7
<i>Curriculum Development</i>	2	4
<i>Publicity and Public Outreach</i>	2	4
<i>Student Attention</i>	2	4
<i>Technology</i>	2	4
<i>Parent Drivers</i>	1	2

N = Total Number of Respondents

In 11 out of 46 responses (24%), participants described collaboration and networking as the most commonly cited strategy. Although collaboration is already a common practice within schools, participants explained that it is becoming more important and is occurring between schools and districts. For example, collaboration was identified as a strategy to schedule buses or guest speakers, while at the same time, used to connect with colleagues within the broader teaching community. In order to justify the cost of transportation, many teachers explained that they schedule their trips to coincide with their colleagues who are visiting the same site.

Stephanie Miller: Typically we are only allowed a certain number of field trips per year, something like three to five. I've been told that if you use the bus at the same time as another teacher, that trip only counts as half of your total trips. So if there were three classes on the same bus that would be a third of one of your trips.

Collaboration can also be used as a means to explore alternative teaching styles. Julie Adams explained some teachers are relatively flexible, while others are regimented, which can affect how teachers use place-based resources. Providing teachers with access to one another provides an avenue to explore new curricular approaches and teaching styles.

Julie Adams: I think one [strategy] is giving teachers access to one another's teaching methodologies and teaching styles. What we have done is provided opportunities for teachers to observe one another's teaching in the classroom environment. It is not just what the lesson is or what the topic is they are teaching, it is their approach to teaching it.

Furthermore, respondents described groups such as the Redwood Science Project and Redwood Writing Project, as useful resources for professional development,

identifying and inviting guest speakers into the classroom, and linking educators to other schools in the surrounding community.

Clare Ray: The Redwood Science Project puts together summer institutions for science teachers of different grade levels; there is a lot of sharing of resources that goes on at those institutions.

Clare Ray identifies the Redwood Science Project (RSP) as a beneficial resource that creates a network of teachers across Humboldt County. The Redwood Science Project is an affiliate of the California Science Project (CSP) and strives to develop and enhance science content knowledge, teaching techniques, and provided opportunities to share resources and exemplary practices (CSP, 2009). Similarly, the Redwood Writing Project (RWP) is a grassroots organization affiliated with the California Subject Matter Project and California Writing Project. The purpose of RWP is to provide professional development for teachers, through mentoring and collaboration to teaching techniques, improve student achievement, meet Adequate Yearly Progress, and design comprehensive writing programs (RWP, 2009). Both RSP and RWP provide opportunities to enhance the science and writing knowledge of students in Humboldt County. Giving teachers access to one another for training is an important practice, which overcomes many challenges associated with community and professional outsiders training in-service teachers. Furthermore, teachers lead workshops in areas in which they are passionate. Although training and instruction in PBE is not a goal of either RWP or RSP, both provide an avenue for teachers to present place-based approaches to their colleagues from different schools and districts.

While collaboration and networking was the most commonly cited strategy used for scheduling buses, identifying guest speakers, and training, another unique feature of this strategy is its connection to curriculum development. Identified in only two out of the 46 responses (4%), curriculum development is an important practice for creating new and innovative ways to introduce academic materials. For instance, through the process of developing and using curricula from year to year, teachers are able to identify where guest speakers and field- or campus-based resources may fit.

Brian Matthews: By developing a curriculum and using the curriculum consistently, I am able to see the areas where I can bring in an outside influence, which also allows for better reflection on the effectiveness of my methods.

During any given school year, teachers identify an innumerable amount of potential resources and strategies that can be used both in and out of the classroom. By reflecting upon their curricula, teachers are able to identify what activities worked and what did not, rather than discarding good ideas. Curricula are then in perpetual creation, being developed, revised, restructured, and implemented continuously. Only through such practices can teachers identify where place-based resources are best suited.

Furthermore, teachers are able to create exercises using available resources, such as their campus and community, in new ways while continuing to meet specific content standards. For example, through a partnership with the Humboldt Bay Keepers, Sara Jackson explained how one curriculum has brought the campus, guest speakers, and field trips together. The program is connected to the school's science curriculum and is focused on watershed studies and how to keep the Humboldt Bay healthy.

Sara Jackson: One person [from the Humboldt Bay Keepers] may come into the classroom to work with us but we will also be going on a field trip. We will be working in the classroom, then we will walk to [our] creek, and then we will take a field trip to the Humboldt Bay where we will be visiting the different outlets into the bay.

Earlier, the participants described guest speakers as a popular resource invited into the classroom; eight out of the 46 responses provided (17%) also described guest speakers as an ever-increasing alternative to out-of-class experiences.

Sheri Woodward: You can always bring people into your classroom. It doesn't involve going somewhere, although that is always beneficial, but you can always bring people from the community into your classroom to give presentations and teach lessons.

Clare Ray: [I bring my class] down here to the nature area more when we don't get to the marsh or get off campus.

Participants explained that, while not a complete substitute for out-of-class experiences, guest speakers are an inexpensive alternative to field-based studies. Guest speakers do not require additional financial resources because the school does not have to transport the students. In fact, participants pointed out that there are no barriers to inviting guest speakers into the school because speakers make it known that they wish to visit the school.

Rachael Cole: There are a lot of resources, a lot of guest speakers and things that do not charge and do not require projectors.

Lindsey Williams: Having people come in is not expensive. So they can do presentations without asking for money. The time factor is just finding people. But we have a network, like the Redwood Science Project that has so many people that it makes it easier.

A third significant strategy to incorporating place-based resources, identified in 7 out of 46 responses (15%), is the use of funding alternatives, such as grant writing and fundraising. Grant writing in particular is becoming an increasingly important skill among educators. For instance, Rachael Cole explained that grant writing is one source of funding that is not often used. While describing transportation and distance to resources as barriers that limit field trip opportunities, Sara Jackson described grants through Ride to the Wild Fund as a source of funding for field trips. Ride to the Wild Fund, as part of the Humboldt Area Foundation (HAF), “provides funds to cover the cost of a bus or other transportation so that school teachers can take their students on educational field trips to local natural areas” (HAF,2009). Other teachers are beginning to recognize the importance of grants. Ryan Connor, after having received a grant from Target®, explained that grant writing is becoming an increasingly important skill for both teachers and administrators.

Many of the strategies revealed during the interviews are designed to bring resources to the school as a way to reduce expenses associated with travel. Interestingly, many of the strategies are associated with the same place-based resources described above. However, the need to enter into the surrounding community and environment is strongly supported.

Brian Matthews: I would like to do more things that involve the natural world around us, and to me that is a large influence on my artwork. It is difficult to get the students excited about the areas they see everyday, i.e. [their school campus]. Therefore it is hard for me to bring those things in effectively. It would be a lot better if I could take them to an area that is new, which can provide more inspiration for them.

The barriers identified in this study present various challenges to both teachers and administrators who strive to connect their school to the surrounding community and environment. Each year, these barriers pose difficulties to educators and each year the barriers arise in potentially new and challenging ways. For instance, Clare Ray, who is an adamant supporter of PBE and connecting her students to nature, notes that despite using many of the above solutions, money, time, and other obstacles still exist:

Clare Ray: They are still barriers, I haven't solved them.

These strategies will not eliminate the barriers they are trying to overcome. Time and money, for example, are recurring barriers, that if overcome one year, will pose problems the next year. Despite this fact, many teachers and school officials become strained but not defeated. Various administrative, logistical, and academic barriers will continue to exist as long as PBE is perceived, not as a framework, but as an add-on to current curricula. In order to overcome this overarching barrier, teachers and school officials need to be introduced to PBE, both in pre-service and in-service training, in a complete and comprehensive manner. There are no quick fixes to the barriers described in this study. In spite of the difficulties these barriers cause, they also foster the creativity of those teachers and administrators who support the goals of PBE.

CHAPTER FVE

DISCUSSION AND CONCLUSION

Place-based education is a pedagogical approach that engages students in hands-on, problem-solving activities grounded in the local community and environment. Students participating in PBE are able to direct the course of their studies in ways that engage them in cultural or natural history, community economics, and decision-making processes (Smith, 2002). Unique to PBE is the reconceptualization of the student and teacher relationship. Teachers are no longer “dispensers of knowledge created by others” (Sobel, 2002, p. 594). Rather, teachers create locally informed curricula and act as facilitators and co-learners alongside their students. Similarly, students are no longer consumers of knowledge created by others, but producers of knowledge gained through direct experiences with the places in which they live (Smith, 2002).

The dominant educational approach in K-12 public schools, on the other hand, relies on a different method. The current interpretation of standards-based education is based upon high-stakes testing that hold teachers and schools accountable for meeting state mandates. Because school funding is now tied to student performance on these tests, the added pressure has indirectly encouraged teachers to direct their curricula to the expected test material (Amrein & Berliner, 2003). As a result, many curricula have become disconnected from the local community and the lived experiences of students.

Although PBE appears to be at odds with current school reform measures, they each aim to provide students with the knowledge and skills to engage with the world

around them. Powers (2004a) writes, “A broader hope on the part of the [PBE] educators is to ‘tear down’ the school walls so that the community becomes integral to all facets of student learning” (p. 18).” “Tearing down” school walls is a common metaphor used to describe the need to restore the connection between the school and the community in which it is a part. It is encouraging to note that both the community and environment have yet to be completely removed from school curricula in the wake of the high-stakes testing movement. The participants in this study revealed that, while not extensively used, place-based resources are included in school curricula. Furthermore, many teachers and administrators are aware of the importance the surrounding world has for the students and schools; however, integrating the community and environment into school curricula is becoming an ever-increasing struggle.

Moving Forward

Connecting education to the students lived experiences is an important component of PBE and cannot be replaced or duplicated in a high-stakes atmosphere. Although PBE is a new term, K-12 educators are aware of its practices. In fact, the participants actually identify PBE as taking students to the places where learning happens, using the local environment to increase the effectiveness of classroom education, and using the immediate environment to educate students. Both teachers and administrators in this study understand the important connections between the surrounding community and education, and believe there is room for improving these connections. Currently,

educators in K-12 schools are incorporating place-based resources in their classrooms when they can, with the resources that are available.

Despite a basic conceptual understanding of PBE, the various place-based resources described in this study are sporadic in use and predominantly field trip based, reminiscent of environmental education (EE), outdoor education (ODE), and service-learning (SL). For example, stream or dune restoration is closely linked to EE, which strives to foster, within students, responsible environmental behavior (Farmer, et al., 2007). Volunteering at local senior centers resembles service-learning by developing civic and social responsibility through contributions made to the community (Furco, 1996). A trip to the beach to observe beach erosion is in fact ODE because students are learning about the natural world in an outdoor setting (Gilbertson, et al., 2006). Even though the examples presented in this study are not descriptive of a fully integrated PBE curriculum, they are a step in the right direction and provide a foundation for developing and implementing PBE in the future. Each form utilizes a distinct approach of PBE but these specific examples are too isolated in disciplinary content and lack the larger curricular connections to qualify as fully developed examples of PBE.

There is a consensus, from both research and practice, that the pedagogical approaches used in PBE—interdisciplinarity, hands on activities, personal connections—are the most effective for promoting and engaging students in life long learning. Those practices used in a high-stakes testing atmosphere—memorization, disciplinary divisions, test taking strategies—are the least engaging and effective for students. Therefore, the strategies I propose for reconnecting students to the place in which they live will directly

improve student engagement with course material, increase retention of key skills and concepts, and promote greater life long learning.

There are no quick fixes to the barriers that prevent the integration of PBE because such quick fixes attempt to add to the existing curricula instead of rethinking the process of education. When participants were asked to explain what is needed for place-based approaches to exist within K-12 schools, the responses were not additional strategies but a reconception of the school and community relationship. The participants are quite aware of the isolation created by high-stakes testing, which has placed responsibility for educating today's youth in the hands of schools alone. In order to overcome this isolation and provide students with a locally informed education, there needs to be a realization that education is a partnership between the school and the community.

This study proposes four strategies for improving the connection between our schools and communities, and creating an atmosphere where PBE can inform the educational process. The various administrative, logistical, and academic barriers that currently influence education and the use of place-based resources are not easily solved. These strategies will not completely address the barriers described in this study. Instead, these strategies are meant to begin a conversation and provide a new vision for reform that relies upon both the school and the surrounding community.

The first strategy is the development of a set of guiding principles for education that are informed by the needs of the school and the community. Developing these guiding principles will provide an opportunity to observe and communicate where school

and community needs overlap, and to acknowledge the school as a community asset.

Furthermore, developing these principles presents an opportunity to overcome the misunderstanding of school operation, which Smith (2002) explains is, “the assumption that what now passes for legitimate learning—the kind necessary to score well on standardized tests—happens only in the classroom” (p. 594). In order to identify these needs, it is necessary to bring together those in the community that have a stake in, and responsibility for, education. Blank and his colleagues (2003) agree, “leaders and advocates of different [educational] models must come together to articulate a common purpose and set of principles” (p. 117). These principles, teamed with current research and the goals of the state, can be used to shape and direct the course of education in a way that meets the needs of the students and community.

Identifying appropriate models is a necessary step towards establishing guide principles for education. Sobel (2004) identifies one possible model, the Vision to Action Forum, that can be used to discuss community needs and avenues to address them. This forum engages 100-200 people in a one-and-a-half-day meeting to “identify what they love about their community and what challenges they face” (p. 57). While issues of education are not the central focus of this forum, this space does provide an opportunity to connect community action with education curricula (Sobel, 2004). The Vision to Action Forum is similar to Assets-based Community Development (ABCD), which is defined as a community initiative “intended to stress the primacy of local definition, investment, creativity, hope and control” (Kretzmann & McKnight, 1996, 27). Rather than identifying resources to bring into the community, ABCD identifies those unique

resources within the community and their use as the stepping-stones for growth. As these two examples demonstrate, addressing community issues with education is just one avenue for beginning the conversation to develop principles to guide education toward community growth. Education is not something that is simply handed down from the state, and is not something completely isolated from it. Even under the current educational approach, learning does not stop once students leave school; learning continues to occur outside of school. Therefore, the guiding principles act as an articulation of educational goals that lead to a process of lifelong learning through a partnership between the school and community.

After a set of principles has been developed, the second strategy is to create a curriculum that reflects these principles while continuing to meet state mandates. Smith (2002) reminds us, “because place-based education is, by its nature, specific to particular locales, generic curricular models are inappropriate” (p. 593). Therefore, creating any new curricula begins with identifying both successful examples to act as models and current practices occurring in the schools. Researching well-established PBE curricula in urban and rural communities, such as Alaska, Massachusetts, and Hawai’i, may provide models for developing other place-based curricula. In addition, the schools participating in this study, and possibly others in both urban and rural communities, implement various EE, ODE, and SL programs to improve student engagement and academic success. By assessing these programs, schools will be able to identify appropriate practices that incorporate community and environmental resources, while addressing state mandates. Because each practice is a component of PBE, both educators and community members

need to be informed of PBE methodologies and their associated benefits. The research and development necessary for such a curriculum should coincide with the creation of the guiding principles discussed above. Thus, these principles can guide the development of an interdisciplinary curriculum that links, for instance, math, science, and language arts through project and experientially based activities.

The third strategy for creating an atmosphere conducive to PBE is appropriate training for in-service and pre-service educators. Because PBE is a new term and framework in K-12 education, training is necessary for current and future practitioners. Although not the focus of this study, participants discussed their involvement in workshops and university level professional development as a means to stay informed of new approaches and activities in education. For instance, the Redwood Writing Project and Redwood Science Project are two grassroots initiatives designed to provide teachers with valuable training. Involvement in the RWP, for example, is limited to 15 educators and requires an application and a minimum of three years teaching experience. Those able to participate receive beneficial training along with a stipend, texts, and college credit. Although in-service training is vital for the continued growth of education, it is also necessary for pre-service educators to gain knowledge and skills in both traditional classroom instruction and new alternative approaches, such as PBE. Powers (2004b), however, pointed out that these opportunities are scarce due to restrictions such as time, for both students and professors, and crowded curricula. If new teachers are unaware of the valuable resources found throughout the surrounding community and environment the possibility of providing students with a locally informed education is limited. Therefore,

it may be necessary to perform additional research of K-12 teacher training programs at the university level to better understand the perception of PBE and how it may be presented to new teachers as a feasible pedagogy and framework for K-12 education.

The final, and most comprehensive, strategy for creating an atmosphere for PBE in K-12 schools is the creation of a community outreach and education coordinator position for every school. Currently time and resources for developing PBE, and for participating in appropriate training, are limited because teachers are preoccupied with preparing students for state tests. Therefore, a community coordinator position will free teachers from the responsibility of planning trips and facilitating communication with the community partners. Sobel (2004) makes a similar recommendation, proposing that each school should have an environmental educator. However, because of the perceived political agenda (Powers, 2004b) and a focus on responsible environmental behavior of EE (Gilbertson et al., 2006), a community coordinator may be a more appropriate position for schools. This is not to say EE is an inappropriate practice. Because of the diversity of communities and resources, a strict environmental emphasis may narrow the focus of the curriculum. A community coordinator, on the other hand, would serve the same purpose as an environmental educator, but would do more by providing guidance for curriculum development that highlights community assets, whether environmental or cultural.

The community coordinator position is similar to one, which already exists within many nature centers and community organizations. For the purpose of K-12 schools, the community coordinator will be responsible for acting as a liaison between the school and

community partners, scheduling trips and arranging necessary transportation and equipment. In addition, the individual in this position would be responsible for attending workshops in order to provide special classes for students and facilitate training for in-service teachers. With an expertise in PBE approaches, methods, and knowledge the community coordinator would be able to benefit the school in three important ways. First, a community coordinator can simplify the transition to PBE by acting as a single point of reference for the school and community, rather than each teacher following their own path. Secondly, this position allows teachers to teach, freeing them from the stress and responsibility of planning and facilitating PBE on top of their teaching responsibilities. Finally, the community coordinator will be able to provide valuable professional development for the school's teaching staff and provide students and community members with special classes. These professional development opportunities will benefit the school by reducing the cost of professional development and benefit the teachers by providing them with an opportunity to learn and utilize project-based and interdisciplinary teaching techniques. Furthermore, the special classes will expand beyond state-mandates for students and provide additional educational opportunities for community members.

Final Thoughts

Redirecting the course of education away from high-stakes testing and towards place-based education is not an easy task. The four strategies presented above are not step-by-step instructions, nor are they designed to downplay the difficulty of this

transition or oversimplify the administrative, logistical, and academic constraints within K-12 education. Instead, these strategies are designed to facilitate a conversation between teachers, administrators, and community members who seek to connect the education that occurs within schools to the life that is lived outside of them.

While these four strategies may alleviate many of the constraints described above, new constraints may appear that challenge a place-based approach to education. Consideration of both the costs and benefits will be necessary in order to identify when and how to approach PBE. The challenges associated with time and money continue to constrain both educators and community members in ways that may not be apparent in this study. Grants provided by local foundations, such as the Humboldt Area Foundation, can be used to off set some of the costs for curriculum development, training, and community coordinator positions. However, finding the time to teach, apply for grants, and implement these four strategies is a challenge that cannot be overlooked. Therefore, it becomes necessary to look beyond the school, to the community that surrounds it, for support, guidance, and the recognition that education is a partnership.

As David Orr (1992) writes, “we must rethink both the substance and the process of education at all levels” (p. 90). We also must rethink the relationship between the school and the community. If PBE is to be integrated within public school curricula, then the process of educating and evaluating our students must be revisited and informed by the surrounding community and environment. Doing so is a long process that will require an integrated approach that combines collaboration and development of guiding principles and curricula, training for both in-service and pre-service educators, and a

community coordinator position for each school. By integrating PBE and standards-based education, we can rebuild the bridge that connects formal education with our everyday lives and the geographies we experience.

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APPENDIX A

Recruiting Letter: Administrators

Dear Mr./Mrs./Ms.

I am inviting you to participate in a research project to understand the factors that influence the use of place-based education in standards-driven schools. I am currently a second year Masters of student in the Social Science, Environment and Community program and am beginning my thesis research.

Place-Based Education (PBE) is an educational approach grounded in local features and resources. You may be aware of related forms of PBE such as, environmental education, service-learning, and outdoor education. For this research, I am proposing to perform a single interview with administrators and teachers who are interested in place-based education and/or currently incorporate place-based education in their classes and school.

I am writing to invite you and your teachers to participate in my research. The initial stage of my research involves interviews with administrators. I anticipate the interview will last approximately 30 minutes. In order to minimize any disruption or possible conflict, I propose the interviews occur on school grounds during regular school hours. The time of the interview is up to you to decide, because I am quite willing and able to conform to your schedule. In order to interview your teachers, I ask that you recommend those teachers in the 6th – 8th grades familiar with and involved in place-based education that I may interview. All interviews with teachers will occur on school grounds at the teachers' convenience as to prevent scheduling conflicts with holidays and testing.

This letter is to familiarize you with my project and to invite you and your school to participate in my study. I expect that you may have questions concerning the rationale and logistics of this project. If you would like to schedule a meeting to discuss these and any other concerns, you may either email or call me at any time.

Thank you very much for your time and I look forward to working with you on this project.

Sincerely,

E. Craig Turner Jr.

Recruiting Letter: Teachers

Dear Mr./Mrs./Ms.

I am inviting you to participate in a research project to understand the factors that influence the use of place-based education in standards-driven schools. I am currently a second year Masters of student in the Social Science, Environment and Community program and am beginning my thesis research.

Place-Based Education (PBE) is an educational approach grounded in local features and resources. You may be aware of related forms of PBE such as, environmental education, service-learning, and outdoor education. For this research, I am proposing to perform a single interview with administrators and teachers who are interested in place-based education and/or currently incorporate place-based education in their classes and school.

I am writing to invite you to participate in my research project for your experience with place-based education in middle school. I have spoken with _____ and received permission to perform my research at your school. I anticipate the interview to last approximately 30-45 minutes. In order to minimize any possible conflicts, I propose the interviews occur on school grounds during regular school hours or after school. The time of the interview is up to you to decide, because I am quite willing and able to conform to your schedule.

This letter is to familiarize you with my project and to invite you and your students to participate in my study. I expect that you may have questions concerning the rationale and logistics of this project. If you would like to schedule a meeting to discuss these and any other concerns, you may either email or call me at any time.

Thank you very much for your time and I look forward to working with you on this project.

Sincerely,

E. Craig Turner Jr.

APPENDIX B

Consent Form: Administrator

Humboldt State University
Everyday Geography in Humboldt County Schools:
An Exploration of Place-based Education
CONSENT TO ACT AS A RESEARCH PARTICIPANT

Craig Turner is conducting research on the integration of local resources in middle school classrooms in order to provide greater insight into the barriers to this local approach to education. This research is being done in partial fulfillment of a M.A. degree in Social Science, in the Environment and Community program, under the supervision of Dr. Corey Lewis

This project will add to the existing research by describing the obstacles faced by standards-driven school in providing place-based education as an alternative approaches to education. I am hopeful that the information you provide will be of assistance to teachers, administrators, and place-based educators.

You will be participating in a single, one-on-one interview. I anticipate the interview will last approximately 30 minutes. During the interview, you will be asked questions concerning your background as a middle school administrator, efforts to meet state standards, and your understanding or use of place-based education.

Knowledge of your participation in this study will be limited to, the teachers you have recommended, my graduate committee, and myself. Any time I use information from our conversation, you will be identified with a fictitious name to protect your identity. During this interview, I request permission to tape record and take notes of our conversation. This will enable me to accurately represent the information you have provided. Any information you impart will remain strictly confidential, as I will be the only individual who has access to the recordings, notes, and transcripts. All data (audio recordings, notes, and transcripts) will be destroyed after three years in accordance with federal law.

Your participation in this study is completely voluntary. Given the nature of this study, I see little risk to you, however, you have the right to leave any question unanswered or end the interview without completion without any jeopardizing or risking to future relationships with HSU. It is very important for you to understand that there is no right or wrong answer, as each person offers a different perspective to these questions. It is your unique perspective I am seeking.

You will not receive any direct benefits from this study. Indirectly, you may benefit from future research that will provide place-based models of teaching that are sensitive to the constraints you face as an administrator in a standards-driven school. You will not receive any compensation for participating in this study; however, all participating schools will receive a copy of my thesis upon completion.

If you have any questions about this research, you may contact the researcher's faculty advisor, Dr. Corey Lewis. You may also contact Chris Hopper, Interim Dean of Graduate Studies.

I, _____, understand my participation in this research is completely voluntary, and I may withdraw from the study at any time without jeopardy. I understand that the investigator may terminate my participation at any time. I understand that I will not receive any compensation for my participation in this research.

I give informed consent to participate in this study.

Teachers' Name: _____

Signature: _____ Date: _____

Researchers' Name: _____

Signature: _____ Date: _____

Consent Form: Teachers

Humboldt State University
Everyday Geography in Humboldt County Schools:
An Exploration of Place-based Education
CONSENT TO ACT AS A RESEARCH PARTICIPANT

Craig Turner is conducting research on the integration of local resources in middle school classrooms in order to provide greater insight into the barriers to this local approach to education. This research is being done in partial fulfillment of a M.A. degree in Social Science, in the Environment and Community program, under the supervision of Dr. Corey Lewis.

This project will add to the existing research by describing the obstacles faced by standards-driven school in providing place-based education as an alternative approaches to education. I am hopeful that the information you provide will be of assistance to teachers, administrators, and place-based educators.

You will be participating in a single, one-on-one interview. I anticipate the interview lasting approximately 30-45 minutes. During the interview, you will be asked questions concerning your background as a teacher, the content of your course, the strategies you utilize to meet the needs of your students, and your use of the local community and environment as a classroom resource.

Knowledge of your participation in this study is limited to _____, who recommended you, my graduate committee, and myself. Anytime I use information from our conversation, you will be identified with a fictitious name to protect your identity. During the interview, I request permission to tape record and take notes of our conversation. This will enable me to accurately represent the information you have provided. Any information you impart will remain strictly confidential, as I will be the only individual who has access to the recordings, notes, and transcripts. All data (audio recordings, notes, and transcripts) will be destroyed after three years in accordance with federal law.

Your participation in this study is completely voluntary. Given the nature of this study, I see little risk to you, however, you have the right to leave any question unanswered or end the interview without completion and without jeopardizing or risking any future relationships with HSU. It is very important for you to understand that there is no right or wrong answer, as each person offers a different perspective to these questions. It is your unique perspective I am seeking.

You will not receive any direct benefits from this study. Indirectly, you may benefit from future research that will provide place-based models of teaching that are sensitive to the constraints you face as an administrator in a standards-driven school. You will not receive any compensation for participating in this study; however, all participating schools will receive a copy of my thesis upon completion.

If you have any questions about this research, you may contact the researcher's faculty advisor, Dr. Corey Lewis. You may also contact Chris Hopper, Interim Dean of Graduate Studies.

I, _____, understand my participation in this research is completely voluntary, and I may withdraw from the study at any time without jeopardy. I understand that the investigator may terminate my participation at any time. I understand that I will not receive any compensation for my participation in this research.

I give informed consent to participate in this study.

Teachers' Name: _____

Signature: _____ Date: _____

Researchers' Name: _____

Signature: _____ Date: _____

APPENDIX C

Interview Questions: Administrators

- 1) How long have you been an administrator?
 - a. What did you do prior to this position?
 - b. How much of this experience occurred within Humboldt County?
- 2) What discipline or subject are you formally trained in?
 - a. How has this background influenced you as an administrator?
- 3) As an administrator, how do you insure students are provided with a well-rounded education?
 - a. What constitutes a well-rounded education?
- 4) What local resources does this school rely on in educating its students?
 - a. Can you describe how these resources are used by the school?
 - b. In what ways are teachers supported to teach about or include the local community and environment in their lessons?
 - c. Can you give me an example of your role as an administrator in the decisions teachers make?
- 5) What is your school's approach to meeting state standards?
 - a. In what ways have the standards affected education?
 - b. If given the opportunity, how would your school approach education if state and federal standards were not in place?
- 6) Can you describe any barriers associated with the methods and strategies used to connect the school to the local community and environment?
 - a. How do these barriers affect the overall school environment?
- 7) What strategies has your school devised to overcome any of these barriers?
 - a. Can you give me an example of how you overcame some of these barriers?
- 8) Prior to our initial meeting or contact, were you aware of Place-based education?
 - a. If yes, what does PBE mean to you?
 - b. Do you find PBE a feasible or desirable approach for your school?
 - c. If no, have you seen any connection between your approach to education and PBE?
 - d. Is there room for growth or a desire for growth in connecting the classroom to the community?
- 9) Are there any additional points you would like to make before we finish?

Interview Questions: Teachers

- 1) How long have you been a teacher?
 - a. How much of this experience occurred within Humboldt County?
- 2) What subject do you teach?
 - a. What subject(s) were you trained in?
- 3) What methods and resources do you employ in your classroom?
 - a. Can you give me an example based on current class exercises?
- 4) What local resources do you rely on in your teaching?
 - a. In what ways does your classroom connect to the community and environment?
 - b. Can you describe some of the methods used to achieve this connection?
 - c. Were these methods used by the teachers you had as a student? Please explain.
- 5) Do you include content from other subjects or disciplines in your curriculum?
 - a. If so, what content do you include?
 - b. Can you explain your motivation including this additional information?
- 6) Can you explain your approach to meeting state standards?
 - a. In what ways have the standards affected education?
 - b. If given the opportunity, how would you design your classes if standards were not in place?
- 7) Can you describe any barriers associated with the methods and strategies used to connect the classroom to the local community and environment?
 - a. How do these barriers affect the class environment and your teaching style?
- 8) What methods have you devised to address any of these barriers?
 - a. Can you give an example of how you addressed some of these barriers?
- 9) Prior to our initial meeting or contact, were you aware of Place-based education?
 - a. If yes, what does PBE mean to you?
 - b. Do you find PBE a feasible or desirable approach for your school?
 - c. If no, have you seen any connection between your approach to education and PBE?
 - d. Is there room for growth or a desire for growth in connecting the classroom to the community?
- 10) Do you have any additional points you would like to make before we end?