MARRYING QUALITY AND AUTHENTICITY: ONE TEACHER'S PLACE-BASED APPROACH TO WRITING INSTRUCTION

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APPROVAL OF THE CAPSTONE PROJECT

This capstone project, "Marrying quality and authenticity: One teacher's place-based approach to writing instruction," has been approved by the Graduate Faculty of the Curry School of Education and Human Development in partial fulfillment of the requirements for the degree of Doctor of Education.

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Dedication

To the hundred-or-so ideas that didn't make it to the big show. Affectionately, the COTDs (Capstone Of The Day ideas), scribbled in corners and on scraps. They got me to this point and maybe one day...

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I need to recognize the contributions of so many people, because a doctoral journey is surely not one taken alone. Let's start with the man on life's journey with me -- my spouse, the other Dr. Suriano. Without my husband's encouragement, I never would have applied to a doctoral program. I want to thank him for the comments on my drafts and in life to keep everything from being so serious and the big questions like *what's a finding?*

I would like to thank everyone else in our family who offer their love and support from near and far. They provide a necessary stability and desirable sense of purpose. They offered good meals and love on occasions when I stepped away from my laptop. Next, I wish to acknowledge the friends whom I neglected to see or speak with because I was buried in the aforementioned laptop.

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Abstract

High school students need skills in writing, communication, and inquiry to be successful in college and careers. Although, many students graduate without proficiency in communicating knowledge and clearly expressing their ideas. Often times, traditional science and English curricula do not support students in addressing community issues or global humanitarian concerns. Thus, these students are ill-prepared to act as productive global citizens in the future. To illustrate this problem and explore a possible solution, I conducted a single case study of one high school teacher in an environmental studies academy who utilizes a place-based approach to writing instruction in order to prepare students as critical thinkers and effective communicators. Data were drawn from observations of instruction, interviews with the teacher, relevant documents, and a student focus group. Findings indicate that the teacher's place-based approach to writing instruction included evidence-based writing practices such as: facilitation of the writing process, inquiry-based activities, collaborative experiences, and use of authentic audiences as part of a summative capstone project. The teacher's focus on providing purpose and authenticity in instruction shaped important relationships and supported students in successfully communicating ideas. Students were provided opportunities to develop autonomy and utilize resources -- two important facets of future success. The teacher's place-based approach included experiences in which students addressed problems, engaged in project-based learning, and pursued their own passions. Based on these findings, this report includes implications for practice and recommendations for future research.

Keywords: place-based education; writing instruction; environmental studies; capstone project

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Chapter 1: Introduction

It has become apparent, in both empirical evidence and anecdotal experiences, that teachers are lacking effective student-centered practices to teach writing. More specifically, many teachers struggle to implement rigorous authentic writing experiences that attend to students' passions and prepare them for the future. Teacher-centered writing instruction does not provide students with authentic purposes for developing skills in communication and critical thinking. The problem of ineffective writing instruction can be more broadly associated with insufficient teacher support and education. Teachers lack practical tools to build classroom and community relationships and those to design and evaluate curricula. A model of place-based education, however, can facilitate real-world purposes and experiences for writing.

In this chapter, I will outline the problems that teachers face in providing authentic writing instruction while feeling constrained by their teaching contexts. In this case, authentic writing is defined as writing activities that occur in the lives of people and for purposes outside of a learning-to-read-and-write context. Constraints on providing authentic writing instruction that teachers may face include: prescribed curricula; limited resources; pressures of accountability; influence of outsider's opinions; and incentives to teach to the test.

I will begin by introducing why it is important to equip students with strong writing skills through evidence-based practices that have been found to best prepare student writers. These evidence-based writing practices include: (1) summarization; (2)

collaborative writing; (3) specific product goals; (4) word processing; (5) sentence combining; (6) prewriting; (7) inquiry activities; (8) process writing approach; (9) study of models; and (10) writing for content learning.

This chapter includes the conceptual framework that outlines an approach to writing instruction utilizing a model of place-based education (PBE) to support studentcentered practices. For the purposes of this study, PBE is defined as a progressive curricular framework grounded in the resources, issues, and values of a local community which focuses on using the near environment as an integrating context for learning.

In the second chapter, I will detail the literature review which was conducted to inform the research methods and offer further explanation of concepts and constructs introduced here. In the third chapter of this report, I will describe the methodology of the study. The fourth chapter presents the findings of the case study. The final chapter presents a discussion of the findings as well as implications for teachers and researchers. Throughout the report, pseudonyms are used in place of school, district, and participants' names.

Problem of Practice

Currently, secondary teachers are grappling to find methods and approaches to help students become strong writers and communicators. While teacher education programs prepare candidates to leverage evidence-based writing practices, many teachers struggle to balance student-centered instruction when faced with curricular and systemic constraints. I propose that a place-based approach can help teachers implement these writing practices and maintain a focus on authentic learning experiences. Despite the potential of PBE to address this problem of inauthentic teacher-centered instruction, there

is a dearth of research on how place-based writing practices are actually used in the classroom. Therefore, learning how one teacher has enacted writing instruction with his own place-based approach can help inform teacher education practices. I sought to understand the possibilities of PBE as a framework for student-centered writing instruction through a single case study. This case provides an example of high-quality writing instruction which emphasizes authentic audiences, collaboration, inquiry activities, and purposeful writing in a place-based approach.

Preparing Teachers of Writing

Making improvements in teacher education is predicted to be a useful route for addressing concerns with students' writing abilities. Data from the National Writing Project show that teacher practices are associated with student writing outcomes and that teacher preparation dramatically influences teacher planning and instruction of writing (Lacina & Collins Block, 2012). Teacher education programs (TEPs) can attend to teacher perceptions in addition to practices. Based on a case study of 24 preservice teachers, Grisham and Wolsey (2011) propose that TEPs have the capacity to change the dispositions of teacher candidates toward writing and ideas about how students display knowing.

When writing pedagogy is not a part of TEPs or professional development, however, it is difficult to address teacher's dispositions and skills. High school teachers report receiving neither pre- nor in-service preparation to teach writing (Kiuhara, Graham, & Hawken, 2009). Of middle school teachers, some make personal efforts to teach themselves, but 43% make minimal or no such efforts (Graham, Capizzi, Harris,

Hebert, & Morphy, 2014). Therefore, addressing students' writing deficiencies requires a shift in the teaching of writing instruction (Hillocks, 2005).

Standards of teaching and learning are encouraging teacher education to focus on some of the evidence-based practices of writing which leverage audience, purpose, and real-world elements in the classroom. The Interstate Teacher Assessment and Support Consortium (InTasc) standards "outline what teachers should know and be able to do to ensure every PK-12 student reaches the goal of being ready to enter college or the workforce in today's world" (CCSSO, 2013, p. 3). Standards 3: Learning Environments; 4: Content Knowledge; and 5: Application of Content, propose concepts of instruction that align with student-centered, globally-focused, and authentic writing tasks. The language of the standards can be found in Table 5.1 in the final chapter of this report along with a description of the teacher's instruction aligned with each one.

Similarly, the National Council of Teachers of English (NCTE) and International Reading Association's ([IRA], 1996) standards stress that the writing factors of audience and purpose are critically important considerations in composition. Most writing instruction, as seen in the national survey depicted in Applebee and Langer's (2011) snapshot, however, continues to position the teacher as the only audience of student writing. There appears to be a conflict between the standards of teacher quality and the enactment of evidence-based instruction. The current study was designed to better understand this dissonance in regards to inquiry, collaboration, critical thinking, authenticity, and place-based objectives for instructors of writing. These practices are relevant to both place-based education and good writing instruction. Consequently, in

falling short of meeting these objectives, students are underprepared as effective communicators.

Why Communicative Skills are Important

High school teachers prepare students for what comes next, a.k.a. *the real world*. It is my firm belief that no matter the setting of their future endeavors, we have succeeded if we have equipped them to be meaningful participants in conversations and actions of social systems. It is hypothesized that when students are able to think deeply in order to recognize issues and problems, formulate questions to better understand them, and systematically search for answers, they are equipped to be productive global citizens (NCTE, 1996). This premise was supported within this case study by the participant's place-based approach to writing instruction.

Providing students with real-world opportunities to participate in communities and embody the role of these citizens within the supportive environment of a classroom can prepare them for what comes next. Authentic writing tasks created through experiential opportunities associate learning with real-life situations (Liu, 2015). For example, the participants in Liu's (2015) study navigated a service learning project at a local site with the task of proposing a solution. Within this opportunity, students interacted with stakeholders, consulted research, analyzed data, collaborated with group members, wrote a proposal, and reflected through a written evaluation. These situations required communication skills in collaborative interactions, research skills, and promoted a deeper understanding of content knowledge. When these are taught through real-world application, they provide students with transferable knowledge and skills (Liu, 2015). As indicated in numerous studies of randomly-sampled secondary teachers across the U.S.

(e.g., Applebee, 2017; Applebee & Langer, 2011; Behizadeh, 2014a; Kiuhara et al., 2009), however, these type of tasks and skill development are generally not being supported through writing instruction in schools.

Inquiry as a method to meet educational goals. To make the transition from secondary school students to productive world citizens smoother, scaffolding is necessary. This is true for any other demanding learning task (Sawyer, 2006). One way to smooth this transition is by utilizing a place-based approach which is founded on the premise of teachers facilitating student-led inquiry. Extended and frequent inquiry experiences have benefitted students in communicative and critical thinking skills as seen in a study by Coker, Heiser, Taylor, and Book (2017). The authors were interested in the impacts of the breadth and depth of experiential learning. They studied nearly 2,000 students over the course of five years and propose that all subject area teachers can facilitate this type of learning by framing learning experiences in a local context. Teachers can use the near community and issues as an integrating context for communication and critical thinking (Powers, 2004). The role of integrating contexts will be discussed specifically and at greater length in the conceptual framework. First, an overview of the relevance of place-based education.

PBE as a curricular framework for preparing global citizens. The guiding theory of place-based education in schools is summarized in the following statement: "it is simply not possible to go to a school that is no place" (Gruenewald & Smith, 2008). In its simplest form, place-based education helps educators to break the barriers between schooling and community life to create education that is a community affair. Teachers, in collaboration with community members, are responsible for training future citizens

(Gruenewald & Smith, 2008). Brooke (2015) proposes that the ultimate goal of PBE is to prepare citizens who are knowledgeable of the past and its influence, but also be able to progress and meet the challenges of the present and future. Teachers can ground writing instruction in these collaborative and problem-based methods in order to tie communication to authentic contexts and social action.

Evidence-based Writing Practices as a Tool for Developing Literate Citizens

Ten key learning practices have been strongly associated with improving student writing (Lacina & Collins Block, 2012). These evidence-based practices are: (1) summarization; (2) collaborative writing; (3) specific product goals; (4) word processing; (5) sentence combining; (6) prewriting; (7) inquiry activities; (8) process writing approach; (9) study of models; and (10) writing for content learning. In this study, I have addressed five of the evidence-based writing practices that can most readily be supported in a place-based approach. These are: collaborative writing, specific product goals, inquiry activities, process writing approach, and writing for content learning.

Graham and Perin (2007) have established validity in these practices through a widely-cited meta-analysis where they computed 154 effect sizes for experimental and quasi-experimental studies on interventions of writing instruction. While this analysis was conducted with great care and added to Hillocks' (1987) earlier analysis, it lacks qualitative data and analysis as well as an analysis of compound effects. Graham and Perin (2007) were only able to find 123 studies that met their criteria for inclusion in the meta-analysis. This indicates a need for further research to address important student factors of engagement, transfer, and efficacy that are not included in this mostly quantitative body of literature. Without looking more closely at these elements through

qualitative methods, which this study has done, we lack a deep understanding of highquality writing instruction.

Collaborative Writing. Writing is a social action in its creation, uses, and meanings (Bazerman, 2016). In PBE, teachers facilitate communities of inquiry (Gregory, 2002). Within the communities of inquiry, students can engage in conversations about their questions and their purposes for writing (Dawson, 2009). In communities of inquiry, students work with one another and with the teacher as a mentor and work to plan, make decisions, and solve problems (Behrman, 2002). Thus, many opportunities for building relationships exist. Kiuhara et al. (2009) found, after studying 361 randomly sampled high school teachers and how they teach writing, however, that 38% of them never facilitate student collaboration. And, less than 10% do so more than on monthly basis.

Purposeful Writing. Identifying the purpose for writing was found to have a statistically significant effect on quality of student writing (Graham & Perin, 2007). Purposeful writing is a practice in which composition is rooted in content the student cares about and the student has a clear function and audience for writing (Sipe & Rosewarne, 2006). This writing places students in the public sphere of social action and students have a taste of participation in society when communicating with audiences besides their teachers. One interesting finding in a study of elementary students leads us to believe purposeful writing can increase students' enjoyment through a meaningful writing process (McManus & Thiamwong, 2015). Not only for enjoyment, but it is critical to help our students understand that their voices matter if we want them to believe

that writing has relevance in their lives and futures (Sipe & Rosewarne, 2006). Writing can give students voice and, eventually, power.

One purpose for writing can be making an impact. Students can make an impact specifically through production and distribution of their writing (Behizadeh, 2014b). The social interaction of writing is more than just the communication between writer and reader; it can be a mode of social action (Beck, 2009). It is thought that, with purposeful and impactful writing tasks, students move towards designing their writing with specific attention to the immediate situation and reader rather than writing in a prescribed format regardless of the context (Galbraith, 1992). With these tasks, their revisions also attend to the reader and global purposes of the writing rather than revision that attends mostly to mechanical and stylistic editing (Galbraith, 1992). The intended impact motivates students to make judgments and decisions about their writing to meet the needs of the situation.

Inquiry Activities. Litman and Greenleaf (2017) found that high-quality instruction can exist as teachers facilitate learning that explores the inquiry space. Students wonder, question, and are perplexed in their everyday lives and therein lies the fodder for learning (Brooke, 2015). Kiuhara et al., (2009) found that only 36% of randomly-sampled high school teachers use research or inquiry several times per year. For middle grades teachers, Graham et al. (2014) found that slightly less than 50% use inquiry several times per year. The inquiry process can provide students with complex problem-solving experiences within school, but also in the world beyond the school (MacArthur & Graham, 2016). They describe this space as the dissonance between reality and expectation or between what others and one assert to be true.

In this inquiry space, students are granted authority to identify the questions that interest them and lead the exploration of gaining knowledge and resources to understand the realities and varying perspectives. The inquiry space provides students with agency and authenticity in their writing experiences (Calkins & Ehrenworth, 2016; Dierking & Fox, 2012; Donovan, 2016; Gregory, 2002). Given autonomy and agency, both teachers and students alike feel a sense of power and commitment (Calkins & Ehrenworth, 2016). This power has been shown to help students develop their writer's voice, develop skills typically reserved for adults and the more privileged, and develop confidence speaking in public. Inquiry "challenges students to do more than they can on their own, but provides the scaffolding to allow them to push beyond what they can already do. It gives students the power to work with ideas" (Hillocks, 2005, p. 242).

Process Writing. One scholar asks: "Why aren't young people being taught to write the way that professional writers write?" (Calkins & Ehrenworth, 2016, p. 7). Like scientists work through the scientific method, writers engage in an iterative system of collecting, organizing, drafting, revising, and editing; this is not true, however, for students of writing. In Kiuhara et al.'s (2009) study of high school teachers across the US, 33% reported never using a true process approach to writing. This was echoed by findings from Graham et al. (2014) with less than half of middle grades teachers taking a process approach. Graham & Perin (2007) found the effect size of a process approach to writing to be moderate and statistically significant.

The popular process-writing approach was shaped by the cognitive revolution in writing and sociocultural views of composing (Pritchard & Honeycutt, 2006). Aligned to the objectives of a place-based curriculum, the process approach has students engaged in

cycles of planning, translating, and reviewing and using strategies such as sentence combining, free and prewriting much like design processes. The process approach leverages opportunities for students to participate in collaborative experiences.

Writing to Learn. Writing to learn tasks support students in building new knowledge through critical consumption of information (Gregory, 2002). Writing tasks support students in organizing, digesting, and applying what they learn. Thirty percent of science teachers, however, report never using writing to help students learn (Kiuhara et al., 2009). Writing tasks in school are most often being used in an evaluative manner for students to demonstrate concepts and skills they have learned (Gregory, 2002). In a quasi-experimental study of 118 Biology students, Gunel, Hand, and McDermott (2009) found that students use of writing tasks to learn content was the strongest predictor of their performance on the unit test. Argumentative writing, specifically in science, showed positive effects on concept understanding (Klein, Arcon, & Baker, 2016). Arguing to learn, however, is disproportionately represented in AP/Honors classes (Litman & Greenleaf, 2017). These writing to learn findings have implications specifically for secondary classrooms and for consideration of pedagogical content knowledge ([PCK] Dyches & Boyd, 2017) when it comes to writing instruction.

Despite the theoretical endorsement for the evidence-based practices, what is observed in many classrooms does not frequently represent that they are being used. It is proposed that teachers may experience constraints that keep them from implementing these practices.

Constraints on Writing Instruction

Most documented writing instruction (Hillocks, 2005; Applebee & Langer, 2011; Behizadeh, 2014a) is not student-directed and involves instructional practices which result in inauthentic summative products such as the five-paragraph essay. The key finding and observation most starkly contrasted with best practices is writing focused on form (e.g., Grossman, Loeb, Cohen, & Wyckoff, 2013; Johnson, Thompson, Smagorinsky, & Fry, 2003). This focus has been attributed to the constraints of standardized testing and accountability teachers feel (Grossman et al., 2000). These constraints may include pressures to teach to the test and limited time to devote to planning and giving students feedback.

Writing focused on form. The format of standardized assessments supports the inauthentic, ubiquitous approach and instructional focus on form, if writing instruction is happening at all (Hillocks, 2005; Applebee & Langer, 2011; Behizadeh, 2014a). The term ubiquitous instruction is used in regard to decisions of planning and implementation that are made without attention to context and devoid of authentic purpose. High stakes testing drives writing curriculum and instruction in three main ways: "whether to include writing in the curriculum; what kinds of writing to include; and whether to structure writing tasks around in-depth exploration of topics or as preparation for on-demand assessments" (Applebee, 2017, p. 20). A predetermined form is thought to reduce authenticity (Behizadeh, 2014a). This general, ubiquitous instruction (Hillocks, 2005), can be mitigated with inquiry-based instruction which gives students the authority (Litman & Greenleaf, 2017) to work through an argument or problem (Dawson, 2009; Hillocks, 2005; Kahn, 2009).

Applebee and Langer (2011) published "A Snapshot of Writing Instruction in Middle Schools and High Schools" to communicate findings from a closer look at 260 teachers, in 20 schools, across five states, pared down from a national survey. They also used this article to comment on changes in writing instruction from their earlier 1980 study. What they and others (e.g., Lacina & Collins Block, 2012) have found is that more than 50% of secondary English teachers are not facilitating writing through inquiry tasks, and do not organize a "workshop" environment which allows for cycles of investigation, writing, and revision through the writing process. These teachers reported their decisions to conduct writing instruction in such a way was the result of highly formulaic essay structures represented in high-stakes tests (Applebee & Langer, 2011).

Writing devoid of real-life application. MacArthur and Graham (2016) describe the trend of writing instruction as becoming ubiquitous, in this case meaning that it is lacking elements that prepare students to engage in complex problem-solving that exists in the real world. It is espoused that writing instruction has strayed away from facilitating student exploration of ideas to focus students on formulating responses (Hillocks, 2005). Dawson (2009), a literacy and secondary education scholar, discusses the possibilities of writing to build real-life skills such as "articulating one's purpose and intent, requesting and using meaningful feedback to shape a text, inquiring into other writers' decisions, and helping other writers clarify their vision or intentions" (p. 71). Teachers have learned and may even believe that these are important skills, but fear a supposed lack of structure and loss of control in a student-centered instructional model (Grossman et al., 2000). This study provides one example of how a place-based approach can provide a sense of structure and practicality.

Conceptual Framework

Too often modern school experiences are divorced from the real world (Azano, 2011). Although, theories of social constructivism indicate one solution as reacquainting authenticity with writing instruction through place-based education. This study is guided by a marriage of place-based education and social constructivism. Place-based education concretely situates learning experiences in environmental contexts in the community and settings outside of the school. Social constructivism characterizes learning as a collaborative process of repeated and varied exposure to knowledge and skills through facilitated experiences. This study utilizes a concept that teachers' planning and implementation of high-quality, authentic writing instruction is guided by the theory of social constructivism through the mode of place-based education. The instruction is characterized by the increasing level of purpose in the expanding contexts of learning and the decreasing opportunities for building relationships. A depiction of this conceptual framework is presented in Figure 2.1.

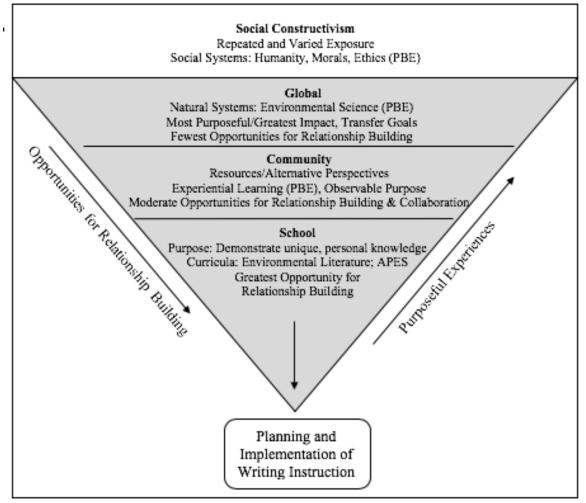


Figure 2.1 Conceptual Framework

Social Constructivism

Dewey (1938) espouses that the objectives of education should reflect large, transferable goals; the skills students learn should be applicable in more than one situation. The more human the purpose, or the more it approximates the *real world*, the more real the knowledge (Dewey, 1916). Curriculum that recognizes this as an important objective will ultimately be more aligned to student needs in this educational model (Dewey, 1938). To meet these objectives, learning experiences must be cultivated by an educator who has purpose and meaning in mind with knowledge of students' prior experiences and who has the ability to create an environment that facilitates active

learning. In many classrooms, however, students are merely receptive obedient bodies, and the teachers serve as enforcers of rules, textbooks hold the wisdom of the past, and "knowledge is communicated," (Dewey, 1938, p. 3).

Social constructivism calls for student-centered experiences with guidance, rather than dictation from the teacher (Dewey, 1938; Vygotsky, 1978). This model, however, is not plan-less, unstructured, nor out of control. Dewey (1938) rejects this either/or notion that teachers must either teach to the test or facilitate authentic learning experiences. Although he recognizes that teachers may face constraints, he urges educators to strive for the path that is a process of growth, rather than one of least resistance.

This theory supports the notion that students learn through experimentation and develop concepts through experiences with others. Vygotsky (1978) theorizes that one way students learn content and about themselves is through the guidance of capable others (i.e., parents, peers, mentors, and teachers). To facilitate experiential learning, teachers can become intimately acquainted with the conditions of the local community, diagnose students' prior knowledge, and create a community of writers (Dewey, 1938). This report depicts how others within the community are involved as experts and partners in learning experiences. The study was guided by the theory of social constructivism as well as recognizing the element of place in learning experiences.

A place-based approach. This study relies on the concept that if school experiences can create an iterative loop from the global contexts and working relationships with the communities in which students live and go to school, students' critical thinking and communicative skills will be fortified in the classroom. This framework utilizes the concepts of writing as "a complex social and cognitive

processes...that require time, opportunities to write for a range of purposes, and quality instruction" (MacArthur & Graham, 2016, p. 1) and as "the art of making a difference through inquiry, deliberation, and literate action" (Brooke, 2015, p.155). The teacher in this study facilitates opportunities to build relationships and make a difference through evidence-based practices with a place-based approach to writing instruction.

The global context. The global context includes jobs, postsecondary education, and future endeavors students will embark on after graduating from high school, a.k.a. *the real world.* Writing tasks situated in this context have the most purpose and potential for the most impact. Social-constructivists claim that "if students can become actively engaged in the process of discovery and they see what they learn as meaningful and related to real-world issues, they will enjoy learning and continue to seek more knowledge in the future," (Gruenewald & Smith, 2008, p. 23). At the secondary level, students are able to think abstractly about global problems and develop capacities in empathy to understand issues others are facing (Patton, Renn, Guido, & Quaye, 2016).

Bazerman (2016) theorizes that learning which is facilitated through problemsolving experiences supports the natural cognitive processes involved in writing. A social-constructivist theory also leads us to believe that students develop critical thinking skills when they face authentic problems and are able to apply learned concepts in the face of those problems (Dewey, 1938; Piaget, 1970; Tyler, 2013). These naturallyoccurring problems come from the global context outside of the school.

The community context. As an element of effective writing instruction, the community provides authentic audience members for students to direct their writing to as well as collaborative opportunities for students to engage in (Behrman, 2002; Calkins &

Ehrenworth, 2016; Gruenewald & Smith, 2008). The community in which a school resides offers readily accessible resources and can take global problems to a manageable scale and allow students to engage in practical inquiry (Brooke, 2015; Comber, 2013). Orienting learning in the community, considers the students' future involvement in it and attempts to prepare them for the transition (Behrman, 2002). It is theorized that having students engaging in dialogue with and about issues within their communities, they will be better prepared to participate in modern society (Brooke, 2015; Gruenewald & Smith, 2008). Comber (2013) urges educators to consider place and inquiry space as viable learning spaces, not only as mere backdrops to learning. The teacher in this study prioritizes inquiry and preparing students for the future.

The students in this case study utilize community partners as scholars and experts. Sociocultural theories position students' relationships with more knowledgeable others as paramount to learning (e.g., Vygotsky, 1978). These others exist within the communities outside of individual teachers' classrooms. When students interact in social contexts, they make writing decisions in relation to purpose, audience, genre, and situation (Beach, Newell, & VanDerHeide, 2016). Each subsequent experience with various situations leads to the development of writing skills and situational knowledge (Bazerman, 2016).

The school context. At the school level, this context contains the teacher, their students, school resources, state and institutional curricula, learning tasks, skill-based instruction, assessments, etc. It is important to keep in mind that classrooms within the school create their own communities and vary significantly from room to room. Also, that the definition of community can be fluid, nevertheless it is important to clearly define (Comber, 2013). This case study looked at the student development which

occurred at the school level within two courses of environmental studies. The purpose at this level was deemed to be the demonstration of unique and individual knowledge. It is at this level that teachers are tasked with preparing students for effective communication and critical thinking skills for their futures.

The Study

The primary participant in this study, Nathaniel Greene, is an educator at a high school environmental studies academy. The teacher was purposefully sampled based on initial observations and informal conversations. The environmental studies curriculum and writing tasks that occurred at this site provided a context to study the place-based instructional practices of the teacher. The teacher and his students were observed over a five-week period, which resulted in data from three formal interviews, eleven classroom observations, and one student focus group.

This study has begun to address the problems of practice associated with inauthentic writing instruction. A single qualitative case study was designed and conducted to analyze the participant's use of evidence-based practices that recognize students' agency and promote effective expression of ideas. The experiences facilitated by the participant allowed students to write about topics they personally value and connect with their communities. The teacher was able to carry out these practices in conjunction with the pressures of standardized assessments, accountability measures, and preparing students for college. To describe how this was done, the current study focused on the teacher's role and his use of resources and settings to facilitate writing instruction.

Research Questions

This study focused on the case of a secondary teacher enacting student-centered,

evidence-based writing instruction in an environmental studies context. The study

addressed the following questions:

- 1. How are purposeful writing experiences facilitated in the secondary classroom?
 - a. How are global and community contexts used in facilitating writing?
 - b. How are students addressing place-based problems and inquiries through writing?
- 2. What resources are utilized in purposeful writing tasks?
 - a. What community resources are used?
 - b. What teacher/school/district resources are used?
- 3. What constraints are there on the writing process?
 - a. How do these constraints impact authenticity?
 - b. How do these constraints impact phases of the process?

Definition of Terms

A list of key terms and concepts has been provided in Table 1.1 for quick

reference and to establish a unified understanding for the text and conversations within

and about this report.

Term	Definition
Agency	Permits choice, or at least the illusion of choice, in writing tasks that allow students to decide or change topics and in regard to procedures/approaches to writing
Authenticity	A student's perception that a school task connects to [their] life; authentic literacy activities in the classroom as those that replicate or reflect reading and writing activities that occur in the lives of people outside of a learning-to-read-and-write context and purpose.
Collaborative Writing	Two or more people jointly composing the complete text of a document; two or more people contributing components to a document; one or more person modifying, by editing and/or reviewing, the document of one or more persons; and/or one person working interactively with one or more person and drafting a document based on the ideas of the person or persons.

Constructivism	Building cognitive and social knowledge through a series of experiences and analysis to a level where it can be verified and applied in novel problems and opportunities.
Evidence-based Practices	Evidence-based classroom practices that improve adolescent writing. (1) summarization; (2) collaborative writing; (3) specific product goals; (4) word processing; (5) sentence combining; (6) prewriting; (7) inquiry activities; (8) process writing approach; (9) study of models; and (10) writing for content learning
Experiential Learning	In its simplest form, learning from experience by immersing learners in an experience and then encouraging reflection about the experience to develop new skills, new attitudes, or new ways of thinking
Global Citizen	Someone who is aware of and understands the wider world - and their place it. They take an active role in their community, and work with others to make our planet more equal, fair and sustainable.
Higher Learning Academy	An institution of secondary education, higher learning, research, and/or honorary membership with a specialized curriculum and physically separate in some way, but located within a host school.
Inquiry Space	The degree to which the question, possible claims, and knowledge and skills needed to accomplish a task are afforded to students
Inquiry Writing	Activities designed to help students develop skills or strategies for dealing with the data in order to say or write something about it
Place-based Education	A progressive curricular framework grounded in the resources, issues, and values of a local community which focuses on using the near environment as an integrating context for learning
Purposeful Writing	Writing that includes an audience, a series of problem-solving tasks where the teacher instructs on strategies of self- regulation, goal setting, and activating prior knowledge. Students write to demonstrate, support, refine, and extend their learning and knowledge in contrast to academic writing.
The Real World	A concept to describe an arena where issues and opportunities exist outside of the school environment; used in reference to jobs, college, and other postsecondary experiences; naturally interdisciplinary
The Writing Process	Process approach to writing "as consisting of five steps: collecting, focusing, ordering, developing, and clarifying
Transferability	The ability to transfer new knowledge and skills and apply appropriately in different contexts
Ubiquitous Writing Instruction	When students are asked to write independently, there is minimal strategy or skill instruction, students are asked to

	write to demonstrate their learning, and communicate their thoughts in a prescribed format (typically akin to a five- paragraph essay or five-sentence paragraph) with the teacher as audience for the writing.
Writer's workshop	allows students to choose the topic and form of their writing, produce multiple drafts of their papers, and write for audiences of their own choice. Teachers serve as both facilitators and instructors, targeting their instruction to the particular needs of the students.
Writing to Learn	First, writing promotes explicitness, as the learner must make specific decisions about which information is most important when writing about subject matter material. Second, it is integrative, as writing leads learners to make explicit connections between ideas, as they commit them to text and organize them into a coherent whole. Third, writing supports reflection, as the permanence of writing makes it easier to review, reexamine, connect, analyze, and critique ideas once they are transcribed. Fourth, it fosters a personal involvement with the target information, as the learner must decide how it will be treated when writing about it. Fifth, writing helps learners think about what ideas mean, as they put them into their own written words

Table 1.1 Definition of Terms

Chapter Summary

A renewed attention to writing instruction is necessitated by struggling teachers and students' weak abilities in communication. Evidence-based practices in writing instruction have been reliably identified; the limiting effects of standardized assessment and curricular constraints have been as well. A conceptual framework of social constructivism along with PBE methods join to guide a study of student-centered writing instruction. This case study focuses on Mr. Greene, a high school teacher at an environmental studies academy. The literature review that follows this chapter provides a comprehensive overview of past studies that have explored what writing instruction looks like in today's classrooms, difficulties teachers face in effectively implementing writing instruction, and empirical findings about effective writing curricula.

Chapter 2: Review of the Literature

Social constructivism guides the current study and associates learning about writing with collaborative acts of frequent and sustained purposeful writing. This case study describes a teacher's practices of place-based writing instruction in order to address a problem of practice. The problem of inauthentic writing instruction and the associated weak communication skills of secondary students was investigated. To begin this exploration, a review of the literature was conducted to provide context of the problem for readers, to guide the methodology of the study when looking at teacher practices, to better understand how these practices influence students, and to gather information about what has already been done to address the problem of ineffective writing instruction.

The review began using the following search terms in peer-reviewed educational databases: *inquiry-based writing*, then specifically in *ELA or English*, *secondary* and *writing*, *community writing*, *preparing writing teachers*, *writing to learn*, *process writing*, *cognitive writing*, *writing pedagogy*, and various combinations of these search terms. The initial searches were restricted to the last ten years to gain a more precise picture of the context of today's classrooms in relation to current assessments and standards of teaching and learning. Subsequent searches broadened this time frame in order to describe the field which may have influenced the current problem of practice. Meta-analyses were helpful in gaining a broad perspective of the field and were included when the authors were transparent and critical in their criteria for selecting studies (e.g., Bangert-Drowns, Hurley, & Wilkinson, 2004; Graham & Perin, 2007). Several additional studies were

decidedly not incorporated due to their insufficient accounts of action research and/or little attention to establishing validity in their findings. The research that was integrated into this review, which was not published within the last ten years, was deemed to be highly relevant or seminal and has been explicitly justified when referenced throughout the following chapter.

What was found is that few empirical studies have been designed to specifically capture the benefits of place-based education as a framework for writing instruction. The foundational elements of place-based education (PBE), however, such as inquiry-based practices, authentic learning tasks, and collaborative learning environments have been studied more sufficiently (e.g., Brooks, Dolan, & Tax, 2011; Martina, Hursh, & Markowitz, 2009; Webber & Miller, 2016). The findings indicate benefits for students as measured by engagement, investment, retention and extended application of learning. Many surveys of teaching practices are available, but a valid, reliable tool for measuring writing practices has not been established. Observing teaching practices is important to better characterize self-reported data and to lay the building blocks for fruitful scholarly conversations about the issues and my specific problem of practice. Focusing on standardized student outcomes alone dismisses the importance of development for students and reaffirms a singular focus on certain types of writing. On the contrary, a rich description of instruction that emphasizes evidence-based practices and successfully supports socio-constructivist student development is the purpose of this study. A review of deficiencies in writing instruction, evidence-based writing practices, and teacher experiences in writing instruction are presented herein this chapter.

A Need for Change

The push for students to be able to write well comes from all angles, including students themselves seeking agency in their writing tasks. College educators wish their first-year students came from high school with better writing abilities (Calkins & Ehrenworth, 2016). Similarly, employers note the lack of communicative skills of applicants and the need for remediation amongst their staff (Behrman, 2002; Behizadeh, 2014a; Calkins & Ehrenworth, 2016; Dawson, 2009). The perception of administrators is that the benefits of writing extend to students' abilities to think critically and communicate; scholars agree that writing can influence students' abilities to problem-solve and make decisions (Behizadeh, 2014a; Hillocks, 2005; Donovan, 2016; Grossman et al., 2013).

In 2004, the National Commission on Writing gathered data through a survey of 120 hiring officials in major national corporations. They expressed that writing has an impact on candidates when applying to the job and is also required for workplace duties and in opportunities for promotion. The hiring officials reported that two thirds of salaried employees have writing responsibilities in their jobs. It can be inferred that the requirements for writing have increased since this data was collected due to more varied types of communication and obligations to participate in and document written communication (e.g. e-mail correspondence). The need to address writing skills continues to grow and increase in urgency.

The National Commission on Writing (2003) calls for a writing revolution. Schools are urged to make writing more central in the curriculum. One suggestion is to use writing-to-learn strategies and make time for learning to write – two ideas within the

theory of social-constructivism. The revolution should include a shift in assessment to reflect authentic writing and provide students equal opportunities to be successful on written tasks. The Commission (2003) also advises the revolution to include professional development and learning to support the improvement of teachers' writing instruction.

Writing instruction can address the weaknesses of recent graduates. Their writing is said to be neither clear nor concise and it does not exemplify individuals' abilities to develop voice (Calkins & Ehrenworth, 2016). The important distinction is that employers and college personnel are not concerned about grammar, punctuation, and spelling, but much more about a lack of "focus, energy, and passion" in the rhetoric and the writer's analytic and stylistic skills (Calkins & Ehrenworth, 2016, p. 1). If teachers share this concern and concentrate on students' development of communicative skills, voice, analytic skills, and passion, it can potentially spark the writing revolution.

Opportunities of Writing and Place

PBE focuses on conflicts and issues that occur in a multicultural, global society (Gruenewald & Smith, 2008) through a curriculum that connects students to their work with a relevant academic framework of place (Takano, Higgins, & McLaughlin, 2009). These conflicts and issues provide the context for inquiry-based instruction. Gruenewald and Smith (2008) characterize PBE as being experiential and multidisciplinary in nature; as a curriculum emerging from the study of particular attributes of place; and as a way of connecting place, self, and community. Writing instruction that attends to students' backgrounds and emphasizes students' desire for impact is supported through a PBE curriculum. Ruday and Azano (2014) found that students can develop an understanding of the relationship between writing and the world in experiences of effective instruction.

The study included data of written work and perceptions of writing from low-income, minority students in a summer academy-type writing course. Students were able to make writing relevant to their identities and personal struggles through learning experiences which emphasized the social-constructivist aspects of communal writing and incorporating elements of their lives. Students quickly developed transferrable skills to critically examine identity and consider the concept of social justice through the brief, intensive writing course. Ruday and Azano (2014) highlight the inseparable element of place from experiences that students write about and the communities that they write for.

Assignments that are place-based often ask students to connect what they are learning to their own lives, translate skills in new contexts, and consider different possibilities and consequence when solving problems (Martina et al., 2009). An example includes problem-based assignments that asked students to combine what they had learned from science, social students, and health courses to communicate the importance of water quality to their communities.

Martina et al. (2009) were explicitly interested in the constraints on programs attempting to utilize PBE. Takano et al. (2009) enacted an ethnographic case study to analyze the relationship of a PBE curriculum and school improvement. They found that a school that implemented a place-based curriculum was the only school, in a group of eleven, to achieve a state-mandated level of yearly improvement. Specifically, over the course of the seven-year study, the successful school was able to improve reading, writing, and math proficiency rates by 40, 55, and 50 percentage points, respectively. The researchers and participants attribute the success in part to a PBE curriculum encouraging students to attend school and the improved motivation, creativity, and enthusiasm among

students and teachers. It is important to note that while this growth is astounding, the study was set in the southwest region of Alaska where the culture emphasizes sustainable practices and the community supports collaborative relationships. Much of the US cannot be described in a similar way, but may be able to achieve comparable results in varying degrees.

In PBE, students actively participate in hands-on learning while seeking solutions to social and environmental problems which gives them agency and situates them as producers rather than consumers of knowledge (McInerney, Smyth, & Down, 2011). Questioning, as the basis of PBE, has been shown to yield long and short-term benefits for students (Brooks et al., 2011; Martina et al., 2009). The novel ideas that are generated through inquiry activities lead to new and insightful data (Brooks et al., 2011). The high-level thinking skills that all good objectives encompass are easily met with the decision-making students must do in the field and when dealing with issues concerning their own environments (Martina et al., 2009). With this information, it is likely that PBE can support teachers in meeting educational demands of rigor and preparing students.

There is yet to be a reputable body of literature on place-based education (Shepley, 2014). It is especially lacking in studies that are qualitative in nature and those that focus on the value of learning experiences in place-based writing tasks (McDermott & Hand, 2010). Additional empirical work is needed to understand place-based writing and its relation to content area literacy (Lesley & Matthews, 2009) in order to educate students and address community issues (Esposito, 2012). Data on writing are often collected coincidentally in studies of PBE. Studies' primary research questions do not often focus on composition (e.g. McInerney et al., 2011; Takano et al., 2009). The current

study explicitly describes the place-based practices of a teacher focused on expression and communication. The ways in which understanding these practices inform a possible solution related to the deficit in student writing proficiency witnessed across the nation will be discussed in chapter five.

Evidence Based Practices

Researchers have been able to agree upon the evidence-based writing practices, though caution the generalizability of their effectiveness with particular groups of students and in varied contexts (Graham & Perin, 2007; Kiuhara et al., 2009; Lacina & Collins Block, 2012). Some of the findings of teachers' experiences reported here are particular to novice teachers. Researchers are interested in how novice teachers simultaneously navigate the challenges of learning to teach, learning to manage their classrooms, developing concepts of teaching and learning, establishing a teaching identity, and navigating professional relationships while attempting to implement what they learned in their TEPs (Grossman, Smagorinsky, & Valencia, 1999). Less is understood about veteran teachers' enactment of writing instruction other than through survey data. Veteran teachers report on their minimal instruction of purposeful writing tasks and instruction through a true process of writing, but little is understood about how and why. Reasons for not facilitating purposeful writing can include a variety of constraints. The participant in the current study is a veteran teacher and the findings address some of these constraints.

Throughout the body of literature, there is a general consensus that writing is being assigned rather than taught (Grossman et al., 2000; Grossman et al., 2013; Read & Landon-Hays, 2013). These studies are highlighting a concern for the quality of writing

instruction including the types of and process in which writing is produced, rather than simply the length and frequency in which writing instruction occurs. Lacina and Collins Block (2012) surveyed literacy coordinators/directors from the 17 most populated school districts in the US to identify the enactment of best practices in writing instruction. Of the best practices (summarization; collaborative writing; specific product goals; word processing; sentence combining; prewriting; inquiry activities; process writing approach; study of models; and writing for content learning), they found that the least used were inquiry activities, collaborative writing, and the study of exemplary models. Research has yet to adequately address what teacher experiences of implementation cause these to be the least used. This report will attend to these elements as they existed within this particular case.

Inquiry and collaboration are foundational elements of PBE as well as of effective writing instruction within the framework of this study. The following section outlines how a place-based approach to writing can leverage evidence-based practices in attempts to address the problem of ineffective writing instruction.

Purposeful Writing Tasks in an Era of Standardization

Scholars hypothesize that teachers' decisions to focus on form can be attributed to format within learning standards, prescribed curricula, and high-stakes tests (Johnson et al., 2003; Grossman et al., 2000). Olinghouse, Zheng, and Morlock (2012) analyzed standardized assessments from 44 states and found they overwhelming do not include authentic and purposeful writing tasks. The researchers were interested in the motivational qualities of the tasks for students. I believe the characterization of the tasks can be associated with the motivation for teachers to teach writing in such a formulaic

way. Teachers have been found to align their instruction with assessments that are asking students to complete inauthentic writing tasks. Olinghouse et al. (2012) found that 51.8% of prompts did not ask students to write to a specific audience; only 3.2% of prompts gave students a narrow or purposeful task to write for; 31.1% of prompts did not ask students to negotiate multiple perspectives by addressing a problem; 69.8% of prompts did not include a topic that students would find important or meaningful to their lives. Only 22% of prompts asked students to take a stance on a topic. These data reiterate the lack of opportunities for student ownership in their writing and may explain the current level of writing instruction in schools.

Teaching and learning state standards are likely driving instructional decisions as well. They place an emphasis on skills in constructing a topic sentence with supporting facts, details and examples (Johnson et al., 2003). The rubric used for the eighth-grade writing test also positions students to construct a five-paragraph essay (Johnson et al., 2003). Grossman et al. (2000) found that schools may purchase literacy curricula that might directly conflict with concepts emphasized in teacher education programs. Standardized measures, however, fail to adequately capture elements of good teaching including: critical thinking, rigorous discourse, social development, or motivation/identity as writers (Grossman et al., 2013). The context of the current case is shared in detail to describe what enables a particular teacher to deal with the external pressures on facilitating purposeful writing.

Grossman et al. (2013) found that teachers were able to establish a sense of purpose by simply introducing the writing task at the beginning of the unit which gave students reason to attend to the task before the end. However, teachers reported a tension

between allowing students to find investment in authentic purpose and their opportunities for instruction. Additionally, teachers expressed concern over ensuring a challenging writing task while allowing students to identify their own purposes for writing. Teachers communicated an incompatibility between what students may have more investment in and rigor. The researchers also identified the tensions teachers feel between being able to prepare students to write well-developed essays and facilitating student ownership through writing tasks. Grossman et al., (2013) concluded that children learn better when purpose and goals of work are clearly articulated and the relationships between what they learn and broader goals are explicit. Ownership has been established through purposeful and authentic writing tasks.

Authenticity. A focus on expression rather than writing conventions as well as the opportunity for students to share their work were factors that students identified as increasing authenticity (Behizadeh, 2014a). Factors that decrease the authenticity for writing include writing to prove prior reading and prescribed formats (Behizadeh, 2014a). One conclusion Behizadeh (2014b) drew from a case study was that authenticity resides in the student and not the task; therefore; it is unlikely that traditional, ubiquitous tasks can hold authenticity for all students in a single class. Behizadeh's (2014a) overall findings from a series of observations and 43 interviews with 22 students over the course of two years in an urban, public middle school suggest more is necessary for authentic writing than solely allowing students to write about personal interests; there needs to be an element of investment, surroundings, people, and global or community importance.

Tasks that give students a reason for writing other than to prove they read something, not for the sole purpose of a grade, and to connect to students' personal

interests and questions are purposeful. Students report perceiving purpose in a task when given the option to choose a real-world topic for writing, writing for impact, and having a real audience (Behizadeh, 2014a). This description aligns with one definition of authenticity "a student's perception that a school task connects to [their] life" (Behizadeh, 2014a). The terms will be used interchangeably henceforth. The impact and audience must not be superficial; students comment they need to influence other people's opinions, to connect to the world (Behizadeh, 2014a). Duke, Purcell-Gates, Hall, and Tower (2006) found that audience is paramount in authentic writing. They observed 26 elementary teachers and their facilitation of students writing. The students were responding to a community need and request for solutions. Teachers had difficulty finding readers to engage with students' writing without serving an evaluative role. Research is needed to inform preparing teachers in this area.

Authentic power. Teachers fail to see how direct instruction fits into purposeful writing instruction, but can clearly see how it fails to provide students with power. Behizadeh (2014a) contends that while students want their work to have impact, they often do not recognize writing as a tool for change. College students identified writing activities as ways to have influence and exert power (Asfeldt, Purc-Stephenson, & Hvengaard, 2017). What Dierking and Fox (2012) learned from studying teachers in the National Writing Project was that teachers pass autonomy and power on to their students. When students can write to an actual audience, and their writing brings about success or impacts the members of the audience, the students acquired the knowledge of the rhetorical strategies that it required to engage and influence their audience (Beach et al., 2016). Asfeldt et al. (2017) found that, for college students in a group journaling activity.

writing gave them a means for exerting power and a mechanism for their needs to be reinforced. Possibilities of place and writing to examine power need further empirical attention.

Inquiry-based Writing Tasks to Mitigate Formulaic Instruction

Inquiry-based, complex questions, those without clear right or wrong answers, ask students and teachers to explore real-life problems and processes (Dawson, 2009; Hillocks, 2005). In a recent review (Graham & Perin, 2007), few empirical studies were found to discuss inquiry-based writing let alone the teacher's role in its instruction. Litman and Greenleaf (2017) found that engagement and learning are facilitated when teachers provide inquiry space in writing curricula. This space being where teachers afford students with the opportunity to experience the dissonance between reality and expectation or between what others and one assert to be true; whereas, confining students, by limiting collaboration and metacognition can weaken opportunities for growth. Thirty-six percent of high school science teachers say they use research/inquiry only several times per year (Kiuhara et al., 2009). Dawson (2009) found that secondary students, regardless of content area, are not being asked to utilize inquiry, which includes observations, questions, clarifications, and responses to develop their writing. This body of research has begun to recognize the barriers that keep teachers from utilizing inquirybased instruction.

In the context of the experiences of an early-career teacher, Johnson et al. (2003) described that whole-class instruction was discouraged and student-led inquiry was supported, so far as to say encouraged. Yet, the teacher made instructional decisions to teach the ubiquitous five-paragraph essay (Johnson et al., 2003). This was said to reflect

the teacher's own comfort with the five-paragraph form that came from her own K-12 experiences with writing. Teaching the five-paragraph essay becomes a default mode for teachers when struggling to solve the multiple difficulties experienced by novice teachers (Grossman et al., 2013). In addition to comfort, teachers report they feel they are appropriately preparing students for college composition when using the five-paragraph method (Johnson et al., 2003). The five-paragraph essay, however, is said to limit student choice and thinking due to the prescriptive nature of the form, down to stipulating the purpose and function of each sentence (Johnson et al., 2003).

In attempts to explain the default mode, Whitney et al. (2008) looked closer at TEPs. They analyzed data from classroom observations, teacher interviews, and document analysis of 32 teachers in relation to the concepts and practices the teachers learned in their TEP. The authors conclude that while teachers may leave their teacher education program with theories about inquiry, constraints from curriculum, the teaching environment, perspectives of supervisors and colleagues, and making safe/conservative choices impact their teaching decisions. Their perspectives generally communicate that inquiry/exploratory learning is not rigorous and they feel it is unstructured. Perspectives may be informed by the views that practical skills inaccurately associated with inquiry learning are seen as second-class and are skills that may not necessarily prepare students for college (Gruenewald & Smith, 2008).

In general, the goal of many writing lessons is to complete a specific task rather than for students to master transferrable skills or strategies (Grossman et al., 2013). The ability to contradict this may be seen in association with teacher quality. In a study attempting to describe relationships between writing instructional practices and value-

added measures (VAM), Grossman et al. (2013) observed 24 teachers with contrasting high and low VAM scores each for a minimum of 12 hours over a purposeful variety of teaching contexts. The results indicate that it is more likely for teachers with low VAM scores to teach formulaic writing whereas teachers with high scores include more authentic writing tasks and facilitate more collaborative writing experiences.

Writing Workshop and Collaboration Across Content Areas

Pritchard and Honeycutt (2006) summarize that teachers see the workshop model as nondirectional with little teacher intervention and as being haphazard. Teachers tend to incorrectly merge editing and revision and have difficultly balancing instruction in a writing process model with the need for a product. Teachers were successfully able to implement the writing process when having students engage in purposeful writing that included an audience, a series of problem-solving tasks where the teacher instructs on strategies of self-regulation, goal setting, and activating prior knowledge. These instructional strategies showed significant increases in quality on pre- and post-test writing scores. They also found that students whose teachers use the writing process almost every day receive the highest writing scores on standardized assessments and engage in 2.5 more revisions. This shows that the teachers' perceptions may be uninformed by the link between the benefits of the workshop model and positive student outcomes.

Teachers may not engage students in a workshop model or facilitate a collaboration for a variety of reasons. One may be that teachers believe that students resist coming up with their own ideas; they also believe open-ended writing activities cause off-task behavior (Grossman et al., 1999). This was found to be true for 21

preservice and inservice teachers from three separate teacher education programs ([TEPs] Grossman et al., 1999). In a separate study Grossman et al. (2000) found that teachers communicate an either/or scenario when it comes to writing instruction. They believe either writing is completely structured and teacher-centered or student-centered and unstructured, with no middle ground, and feel the writer's workshop puts the teacher out of control. Teachers question the productivity level of a workshop environment and dichotomize direct instruction and workshop, without being able to see the place for skills in a workshop. Perceptions about the possibilities of PBE to provide a student-centered option that is productive and gives the teacher a sense of control, have not been studied at length.

Teachers perpetuate the five-paragraph theme with weak implementation of the elements of the process (Johnson et al., 2003). They may instruct students to engage in prewriting, drafting, and revision, but do so in a way that dictates what is to be produced rather than with an emphasis on the development of ideas and progress of a pieces of writing. In experimental comparisons, we can differentiate groups by teachers who facilitate a true writer's workshop which stresses extended writing opportunities, writing for authentic audiences, personalized instruction, and cycles of writing (Lacina & Collins Block, 2012).

Whitney and Freidrich (2013) report data from a large NWP survey of nearly 2000 teachers in which interview data was collected from 110 teachers. They conclude that teachers do not see writer's workshop as being rigorous because it permits students to explore ideas aimlessly. The authors purport, however, that writing workshop encourages a recursive process of feedback that engages an audience other than the

teacher, and communicates the idea that the writing process does not end once writing has been generated. A true process approach incorporates the formulation and testing of ideas throughout, not only in the prewriting stage. Prewriting in a true writing process is exploratory rather than a generation of ideas (Whitney et al., 2008). When writing tasks are part of an instructional process, there is a focus on communicating ideas. This positions students to revise as needed for clarity and to attend to their audience, rather than writing to complete an assignment. Further research is needed to understand how teachers guide students in opportunities of revisions during collaborative place-based writing experiences.

Applebee and Langer (2011) have collected the most recent responses from secondary teachers across the U.S. to paint a general portrait of writing instruction. Only around half of English teachers report organizing a writing workshop environment or having their students work together on writing. Collaborative writing between students has increased over 20% from 1986 to 2010, but remains reported in use by less than 50% of high school teachers. Grossman, Cohen, and Brown (2015) analyzed MET (measures of effective teaching) data for middle school teachers to find that the percent of writing lessons taught is highest in grade four, a year where an end-of-year high stakes test is administered, and lowest in grade seven. While high school teachers across the country indicated on a survey that they understand writing at the high school level is not confined to a single content area or within the responsibility of a single teacher (Kiuhara et al., 2009), many are not teaching writing (Applebee & Langer, 2011). Additionally, 84% of teachers strongly agree with a statement about writing being an essential skill for high

school students (Kiuhara et al., 2009), but the research indicates it does not seem to be a fundamental element of secondary instruction.

Collaborating with an authentic audience. In McDermott & Hand's study (2010) of student interview data, 88.9% of the students said writing to an audience other than their teacher helped them write better. The data indicated that when students got to write to a different audience, they were learning more and demonstrating their knowledge through processes of translation and revision in order to communicate accurate information. On the contrary, when students write to their teachers, they are most often simply repeating what the teacher has said during the lesson in hopes of receiving a good grade. It was concluded that when students have a genuine audience, they are more likely to strive for perfection through revisions of their writing. With an almost 5% increase since their earlier survey in 1986, however, only 8.2% of high school English teachers reported frequently providing other audiences for student writing (Applebee & Langer, 2011).

Grossman et al., (2015) discuss collaboration during writing in regards to classroom discourse. They found that if teachers are modeling, they typically are not engaging students in conversations about the models and how they are useful. The researchers also found that in classrooms with high minority populations, students are given fewer opportunities to engage in rigorous discourse. Further research is needed to identify whether student-centered writing practices are associated with equitable discourse. The findings of the current study related to opportunities for rigorous discourse supported through a place-based approach to writing are presented in chapter four.

Writing to Construct Knowledge in the Science Classroom

The current study took place in a science classroom, where statistically little writing is done. Sixty-seven percent of science teachers report that they never have students write multi-paragraph essays, 71% and 86% never have students write e-mails or business letters, respectively, and 31% never have high school students write a research paper (Kiuhara et al., 2009). High school science teachers are also the least likely to use best practices in writing instruction compared to English and social studies. When they do teach writing, they do not follow a curriculum or use curricular materials (Kiuhara et al., 2009). And 48% of science teachers never allow students to choose their own writing topic. Of 40 middle and high school teachers surveyed in California, and of those that provide inquiry activities, 39% report that students respond to a predetermined question, topic, or theme and only 22% have students generate their own (Litman & Greenleaf, 2017).

When students are continually asked to write a formulaic essay or use writing only to respond, they may lose the opportunity to generate new knowledge through writing. Teachers report rarely teaching writing as a way to construct knowledge (writing to learn) due in part to the perceived limitations imposed by high-stakes tests. Findings from the current study indicate a variety of opportunities for students to construct knowledge through writing activities.

The majority of empirical writing-to-learn studies have focused on student participants and mostly those in the middle grades (Bangert-Drowns et al., 2004). Writing to construct knowledge is applicable to all content area teachers. At the same time, 30% of science teachers across the U.S. indicated they never use writing-to-learn practices

(Kiuhara et al., 2009). Secondary students who participate in writing-intensive curricula are shown to have significantly greater content learning in a unit and the effects on reading are also significant (Gunel et al., 2009; Klein et al., 2016). The benefits stem specifically from revision-oriented writing instruction rather than planning-oriented. What this body of literature is missing is an understanding of how teachers support and scaffold writing instruction, particularly in the context of a science classroom.

Supporting Teachers to Implement Best Practices

Teacher education can likely be part of the solution to inauthentic, teachercentered writing instruction, yet teacher preparation may have also contributed to the problem. The following section will provide an overview of the issues and of the need for additional study to inform teacher supports that can potentially enable teachers to enact effective writing instruction.

Feelings of teacher preparedness to teach writing is positively correlated to their likelihood of engaging in evidence-based instructional writing practices (Kiuhara et al., 2009). Overall, it is found that teachers have a concept of what good writing instruction is, but lack the confidence and practical knowledge and skills to enact it (Read & Landon-Hays, 2013). After participating in National Writing Project professional development, middle school teachers attained increased confidence and sense of power. This enabled them to take an authoritative stance on the design and enactment of writing curriculum (Dierking & Fox, 2012).

Grossman et al. (2000) found that in the teacher educations programs of their 15 participants, curricula focused on concepts of student ownership, social development through writing, composition, reflective practitioners, and included a month of writing

instruction. Any beliefs about inquiry established in the TEP are mitigated by prescribed or constraints of the curricula in job placements. The researchers suggest that teacher education needs to give practical attention to direct instruction, modeling, practice, release of responsibility and conceptual understanding of purposeful writing; give power and attention to students' individual writing needs; and provide teachers with scaffolding for developing writing curriculum.

Seventy-one percent of high school teachers reported that they received little to no preservice preparation to teach writing; science teachers feel the least prepared (Kiuhara et al., 2009). Many scholars explain that there is an emphasis on literature instruction in teacher education at the expense of writing (Grossman et al., 2000; Grossman et al., 2015; Johnson et al., 2003; Read & Landon-Hays, 2013; Whitney et al., 2008). The secondary teacher in Johnson et al.'s (2003) study illuminated one issue in that secondary teachers take content courses outside of the department of education and lack the extended opportunities to develop pedagogical content knowledge. They surmise the only practical tools associated with the writing process were journaling and drafting. PSTs are not given practical ways to critique or change the formulaic, five-paragraph approach to writing. PSTs are also conceptually taught about the importance of making learning relevant to students, but have limited practical strategies to do so. Whatever little preparation preservice teachers do receive in valuing student-centered practices is overshadowed by an overwhelming focus on content in standardized testing (Grossman et al., 1999).

Whitney et al. (2008) compared the teaching practices of 32 middle-grades teachers, half of whom were participating in teacher inquiry professional groups

established through the National Writing Project. Those teachers in the NWP group used models to help students make sense of them and to use them as resources whereas teachers in the control group were more likely to simply provide models. NWP teachers frame writing tasks as communicative endeavors and recognize topical selection as an act of a writer and part of the writing process that they engage students in. These teachers have instructional goals for developing students as writers rather than progressing through stages of a writing assignment. Prewriting in classrooms of NWP teachers is selfregulated. It was discussed that students of NWP teachers have ownership in their writing, collaborate frequently, and use portfolios like authors for reference and continuation of written pieces, rather than just as unutilized storage. This professional group helped 92% of the teachers develop a nuanced understanding of writing instruction in a positive way.

Chapter Summary

Writing deficiencies are being realized in high schools and post-secondary contexts. A practical, rigorous solution is needed to help teachers participate in the writing revolution and address their concerns. A place-based approach may be able to support teachers in evidence-based writing instruction. Research shows that PBE is mainly being implemented in elementary schools and science classrooms. Prior research has indicated evidence-based writing practices and benefits of PBE, but has yet to identify where the two intersect. To add to this body of literature, this study has explored and described the instructional practices that were enacted in the context of a secondary science classroom. The teacher in this case utilized a place-based approach to engage students in high-quality writing tasks.

Chapter 3: Methodology

As indicated by the literature, there is a persistent need to understand teacher practices within the context of place-based education (PBE). The following chapter outlines the methodological approach that was conducted in order to address the problem teachers face in enacting rigorous authentic writing practices. I connected my conceptual framework of social constructivism and PBE to the data collection and analysis (LeCompte & Preissle, 1993) in order to place an emphasis on the teacher's facilitation of writing experiences. In efforts to reduce ambiguity about teaching practices, the current study concentrated solely on one instructor. A single case study was focused on the teacher to inform a solution to the problem of teacher-centered writing instruction.. I engaged in a consistent cycle of induction that was flexible as the study was being conducted.

A single case study design was employed because it allowed for deep exploration into the unit of analysis, which was teacher practices. By utilizing a single case, multiple sources of data and perspectives of the unit were collected and analyzed. Writing instruction is a complicated phenomenon with multiple elements involved. Adding additional cases could have provided comparative data for one aspect of the study, such as varied teacher practices, but could have jeopardize the ability to develop an in-depth understanding of the instructional decisions, delivery, process, and reception of instruction.

Purpose and Research Questions

This study positioned the practices of the teacher at the forefront of the research and emphasized aspects of meaning and feelings (Lofland, Snow, Anderson, & Lofland, 2005). Aspects of meanings and feelings of constraints on student-centered practices were analyzed in order to form recommendations to address the problem of teachercentered practices. Multiple data sources were analyzed in order to answer the following research questions: (1) How are purposeful writing experiences facilitated in the secondary classroom? (2) What resources are utilized in purposeful writing tasks? (3) What constraints are there on the process of writing? Table 3.1 serves to illustrate how data collection measures aligned with the research questions. Each question was answered through the use of multiple data sources tasked at answering it, and each source served to answer at least two questions. I was the primary investigator and in this role I conducted all data collection while serving as an outside observer.

	Question 1: Purposeful Writing Experiences	Question 2: Resources	Question 3: Constraints on Writing
Teacher Interview Phase 1	Х	Х	X
Teacher Interview Phase 2	Х	Х	
Teacher Interview Phase 3		Х	Х
Classroom Observation	Х	Х	Х
Student Focus Group		Х	Х
Document Analysis: Curricular Materials	Х	Х	Х
Document Analysis: Student Work	Х		х

Table 3.1: Data Collection Plan Alignment to Research Questions

Qualitative Methods

The Researcher's Paradigm

I do not believe that truth is absolute and therefore the participant and I coconstructed knowledge related to the case study. I understand and embrace my position as the researcher and I understand how this influenced every aspect of the study. Interpretations by the participants and researcher occurred simultaneously and constantly (Flyvbjerg, 2001). I assume the beliefs and actions of all individuals are relative to context and particular situations. For this reason, I recognize that all human actions observed were context-sensitive.

My methodological approach was aligned with beliefs about how students construct writing knowledge through collaborative authentic writing experiences. I utilized the conceptual framework as a "sensitizing device" to guide the procedures, but I resisted the tendency to reduce experiences of the teacher and students and allowed inductive analysis to occur. The framework and design also incorporated the assumption that knowledge is constantly changing and experiences build knowledge for individuals as they co-construct it. I operate under the assumption that reality is filtered through individual interpretations and meaning-making perspectives.

In developing the findings, I attempted to present the authentic voice of the participants and those observed by utilizing in vivo codes as well as direct quotes within the narrative. A constructivist approach demands dedicating equal time to fieldwork and data analysis (Janesick, 2004). Data collection and analysis were overlapping and reflexive (Behrens & Smith, 1996). I recorded episodes of analytic induction (Erickson, 1986), emerging thoughts, and record everchanging hypotheses in a methodological log.

Researcher as Instrument

Prior to enrolling in a doctoral program of education, I taught secondary English at a public high school in Virginia for three years. I have knowledge of and experience teaching with the same state standards as in the context of the study. I hold a Master of education (M.Ed.) in environment-based education which is where my interest in placebased education was fortified. Additionally, as an Ed.D. candidate, I focused on Secondary English Education and have participated in scholarship in the field of English Language Arts. My interests and prior research have also been positioned at the threshold of English education and inquiry-based education, including place-based education, writing instruction, teacher education, and interdisciplinary teaching. I have had minimal professional encounters with the participant, therefore it was feasible to keep a professional distance from the subject.

Reflexivity statement. Because of my personal interest in informing my practice as a teacher educator, I utilized a critical colleague to allow for this study's data to be accurately represented and to keep my ambitions for positive outcomes in check. My personal interests in PBE also influenced my perceptions and, as such, I hope that the topic will be more widely disseminated in traditional classrooms as a result of this study. I did not let my previous experiences as a high school English teacher forecast what I expected to observe, but my own experiences provided me with comfortable insight for what a typical high school classroom looks like. I asked clarifying questions of the participant to better understand the environmental science context, in which I do not have teaching experiences. My own teaching experiences were in a rural high school with a

demographic makeup similar to the site of the study, but I resisted making comparisons or assumptions.

Setting and Participants

Learning is a highly contextualized activity that occurs within a particular physical and social community (Behrman, 2002); the context of this study is one of its most important aspects. The study is rooted at the secondary level due to findings of secondary students specifically losing attraction to writing (Boscolo & Carotti, 2003). As the result of purposive and strategic sampling (Miles, Huberman, & Saldaña, 2014), it was inferred that the participant utilizes PBE to teach in a public, environmental studiesfocused academy. The teacher represented an atypical case in the context of the problem of practice in that he seemed to provide an example of a solution to the problem. The academy is part of a larger district of four county high schools in Virginia, in which three of them house a different higher learning academy. A higher learning academy is defined as an institution of secondary education with specialized curriculum and physically separate in some way, but located within a host school.

The current study focused on a teacher in the Environmental Studies Academy, located at North Collins High School within the Collins Public School District.

The Collins Public School District (CPS)

CPS serves 14,000 pre-k through twelfth grade students from suburban, rural, and urban areas. The district is comprised of fifteen elementary schools, five middle schools, three high schools, in addition to one middle and one high school charter school. Within each public high school there is an academy to which students must separately apply. Each academy has a different academic focus such as environmental studies, engineering,

and health sciences. The district employs 1,257 teachers with an average of 14 years teaching experience, of which, 63% hold advanced degrees and 2% are National Board Certified.

The student body is 51% male, 49% female, 11% Black, 13% Hispanic, 65% White; 10% of students are English Learners, 30% are eligible for free and reduced lunch; 12% are identified as students with disabilities, and 10% are identified as gifted. CPS' on-time graduation rate and SAT scores are above the national and state averages, while the drop-out rates are below. Data for district writing performance rates over the past three years have remained very constant differing by two or fewer students with the pass rate around 82%. CPS reports that 58% of their graduating students plan to attend a 4-year college; 22% a 2-year college, and 20% reported alternate plans.

Northern Collins High School (NCHS)

NCHS, one of the four high schools within the district and the site of this study, serves 1,139 students in grades nine through twelve. Male students make up 49.3% of the student body, Black students 1.8%, Hispanic students 4.3%, and White students 87.7%, which is considerably higher than the district average. English Learners at this school make up 1.1% of students, 11% of students are eligible for free and reduced lunch rates; 9.5% of students are identified with disabilities, and 13% are as gifted. This particular high school confers slightly more advanced diplomas than the district rate, and 82% of graduating NCHS students enroll in an institute of higher education, compared to the district report of 80% and 72% of statewide graduates. The writing proficiency for the high school has been higher than the district average consistently over the last three years with a pass rate of 95% including 54% of passing students receiving an advanced passing

score. Only 10% of NCHS's enrollment is categorized as economically disadvantaged similarly to the 10% who are identified with disabilities. Less than one percent of students at NCHS are identified English Language Learners. Comparatively, the district has identified nearly 30% pf students are economically disadvantaged, 12.5% with disabilities, and 9.6% English Language Learners. Sixty percent of per-student funding came from local sources last year. The school report indicates minimal issues with chronic absenteeism, involving less than 10% of the student body. The current principal of NCHS has been in his role since 2015.

Environmental Studies Academy (ESA)

One of three higher learning academies in the district, the ESA is housed at NCHS. It is described as a four-year program "designed to offer a unique crossdisciplinary, environmental-based curriculum ... [which] increas[es] the students' awareness, citizenship, stewardship, and academic knowledge through practical hands on experiments, authentic experiences, and discussion of complex environmental issues" (NCHS website, 2017). Students enrolled in the ESA take approximately a quarter of their course load in ESA curriculum. In order to apply to the ESA, students must complete an application, receive three letters of recommendation with the requirement of at least one science teacher, submit a personal statement of interest, answer two essay questions, submit their middle school transcript, and sign an admissions agreement. Students are only eligible to apply prior to entering high school.

In 2018, the first cohort graduated having gone through all four years of high school as members of the academy. The program is relatively young, still developing, and is actively undergoing reevaluation of curricula. Additional transportation options have

been added to supplement the diversity of students enrolled in the academy from throughout the county. The senior cohort represented in the current study was comprised of 35 students who all belonged to the feeding pattern of NCHS. The demographics of students in this class are less racially diverse than the district and have a higher male population than that which is representative of the district. Individual students were not surveyed or interviewed for particular demographic information in the current study.

Upon admission to ESA, students are required to complete the following coursework: Geosystems - World Geography: Physical and Human, Honors; Geology / Earth Science, Honors; Environmental Science; Chemistry; Botany; Biosystems -Botany/Horticulture I; Biology/Ecology; and Biology of the Environment. Additional information about the relevant coursework is depicted along with the findings of this study (chapter 4).

Physical description of the site. The academy space was constructed as an annex to the main high school building. Students must exit the main campus and traverse a short distance across a parking lot to enter the building. The building has classroom space, an attached greenhouse, patio, and storage space. Behind the building is where a chicken coop and garden are located, as well as storage for mulch and other outdoor supplies. The primary learning space has student work surfaces with flexible seating, hydroponic plant environments, board space and a projector and screen used for instructional purposes.

Primary Participant

The participant, Nathaniel Greene, is a Caucasian male. He is a high school science teacher who also serves as the director of the Environmental Studies Academy. As the director, Mr. Greene serves in a partly administrative role and is granted two

additional planning periods to fulfill the duties attributed to it. He has been an educator for over ten years. Since the inception of this particular academy in 2013, he has been guiding the curricular decisions and making choices about the physical resources at the academy. He also serves as the wrestling coach for the high school's team. Mr. Greene has taught all of the courses offered in the academy at one time. During the 2018-2019 school year, he taught two sections of two courses: Environmental Literature, Law, and Policy and Advanced Placement Environmental Studies (APES).

Mr. Greene did not go through a traditional teacher education program, but rather started in an international fitness company after graduating college with a degree in Biology. Upon deciding to pursue teaching, Mr. Greene attained a provisional teaching license to satisfy a high need for science teachers. He has continued to take graduatelevel coursework to attain his permanent license, prepare the academy's curricula, as well as to meet requirements for teaching Advanced Placement courses. Since at NCHS, Mr. Greene has taught: Ecology; Environmental Science; Zoology/Animal Studies; Earth Science; Biology; AVID; Horticulture; Geology; and Environmental Literature, Law, and Policy. Mr. Greene has a wife and two kids; his children do not attend CPS and he is not a native to the Collins area.

Mr. Greene was chosen from a purposeful sample for the current study as a secondary science teacher enacting successful writing instruction. He represented a strong example of student-centered instructional design relevant to this study's research questions. Because Mr. Greene is a veteran teacher, the constraints he faced in implementing authentic instruction could be separated from those common to novice teachers and attributed to those unique to place-based writing instruction. Additionally,

his tendencies to utilize place-based methods provided data to explore the possibilities of place in connection with students' abilities to effectively communicate and express ideas clearly.

Data Collection Strategies and Instruments

After gaining access to the school, data collection occurred over the course of five weeks. The first interview with the participant followed by the first two observations were conducted in the first week. In the following two weeks, the second interview occurred as well as the third, fourth, and fifth observations. The focus group was held in the fourth week as well as the sixth and seventh observations. The final interview with the participant occurred in the fifth week after the eighth observation. Appendix A outlines the timeline for data collection events.

Initial Fieldwork

During a conversation with a colleague who was working temporarily at the school site, my interest was piqued about the ESA. In the spring of 2018, informal observations were conducted on three different occasions for a minimum of one hour. I was invited by the primary participant to his classroom after contacting him. Prior to that communication, there was no prior relationship. On one occasion, the graduating cohort of 2018 was hosting a gallery event for parents and visitors in order to present their capstone projects. Students showcased their written work and discussed their learning at length in addition to responding to impromptu questioning from the visitors. Based on these informal encounters, I was able to confirm intended participation from the teacher as well as baseline concepts in order to craft protocol for observations and interviews used in this case study.

Observations

In the current study, the site was visited on eight separate occasions over the course of five weeks during the third quarter of the academic school year. The observation schedule spanned multiple units of study and was long enough to capture patterns of instruction, routines, and behavior. Two courses were observed: Environmental Literature, Law, and Policy as well as Advanced Placement Environmental Studies (APES). The participant taught two sections of both courses; Environmental Literature was taught along with a co-teacher. One section had 21 students while the other had 14. The sections met every other day on an alternating block schedule, except for one day per week, when all sections met for a single class period. Eight class periods of Environmental Literature and three class periods of APES were observed. The greater focus on the literature class was intentional as it was assumed it would be more likely to observe writing instruction in this course. APES classes were observed to get a more holistic picture of the teacher's instruction and observe the students' engagement in a different course. In total, 15 hours of observation were conducted.

I utilized a semi-structured observation protocol while also video-recording observations. The protocol (Appendix B) allowed me to systematically notice elements of instruction such as: description of teacher(s) role and actions; description of student actions; materials/resources used; layout of space; type/topic of instruction (time spent); student-teacher interactions/encounters; and student-student interaction/encounters. The protocol was designed to guide observation of patterns, and avoid documenting behaviors and practices as rules (Dreyfus & Dreyfus, 1980). As a result of initial phases of analysis,

I created focus goals for later observations to specifically look for connections between content and the global context, evidence of curricular patterns, and indications of the teacher's flexibility in planning and instruction.

For each class period, a separate protocol form was completed. After each visit to the site, I reviewed my field notes within the protocol and cleaned up any shorthand. Before leaving the site, I attended to questions I had noted in the margins to ask the teacher. Some of these included: are student laptops provided by the school; did all students go on the trip to Peru; do you write grants; can I have a copy of the document? Within 48 hours of each recording, I watched the filmed observation and add in any dialogue or other missing details while following along with the protocol document I had kept during the observation. The video recording allowed me to capture simultaneous student behaviors, multiple groups of students working collaboratively, and instruction delivered by the coteacher while I was focused on the participant during observations.

The eleven observations were scheduled in consideration of the participant's availability. Limitations of the researcher's availability resulted in a week between the second and third observation. Emails were exchanged with the participant where he shared an outline of his plans and welcomed observations at any time. Due to the alternating block schedule, the participant did not teach an APES class on Tuesdays or Thursdays. The resulting observation schedule is presented in Table 3.2.

Observation	Date of Observation	Environmental Lit	APES
1	January 24, 2019	х	
2	January 25, 2019	Х	Х
3	February 7, 2019	х	
4	February 8, 2019	х	х
5	February 12, 2019	х	
6	February 13, 2019		Х
7	February 14, 2019	х	
8	February 19, 2019	Х	

Table 3.2 Observation Schedule

Interviews

Three formal interviews were conducted with the participant. In the short span of the study and as suggested by Seidman (2006), three was determined as an appropriate number. Each interview lasted approximately one hour and was audio recorded with an Apple iPhone XR using the Voice Memos application as well as on a MacBook Air using QuickTime Player's audio recording. Recordings were immediately uploaded to a secure Box account and deleted from the devices. The first interview was transcribed using Google Docs voice dictation feature while listening to the audio playback. Corrections were made and the transcription was checked a second time while listening to the audio recording. The text of the transcription was immediately deleted from the Google Doc and stored in Box. The second and third interview were transcribed using Otter Voice Notes, a password-protected online service, to decrease time in transcribing. The text was followed and edited while listening to the audio playback. Audio and text were immediately deleted from the Otter account and stored in Box. Each interview recording was listened to at least twice before coding the interview transcripts. Interview questions were piloted with one secondary science teacher outside the sample. The interview protocols can be found in Appendix C.

Interview one focused on the teacher's approaches to writing instruction and his philosophy of education. He was asked to defined his purpose for and the role of writing instruction, what influences his instructional decisions, and the resources for writing he employs during instruction. He was asked about his decisions to provide choice or structure in writing tasks (Behizadeh, 2014b). Additionally, I asked questions to understand how opportunities for student collaboration impacts his decisions about writing instruction (Dierking & Fox, 2012; Flood, Lapp, & Ranck-Buhr, 2005).

Observations indicated that students were in the late stages of the writing process with a summative writing task. In the second interview the participant was asked to describe the task more fully and detail instruction that had occurred before observations began. The teacher was asked about instructional patterns and writing tasks that were observed during the first two observations. An email exchange occurred after the second interview to clarify the teacher's beliefs and provide a particular definition of authenticity that were not addressed during the interview.

The third and final interview occurred after the student focus group (described later) had been conducted and after all planned formal observations had occurred. This interview probed the teacher about some of the comments made by students and themes of the focus group discussion. He was asked about his perceptions of place-based education and experiential learning. His beliefs about student-centered practices and of his experiences and relationships with students as writers (Janesick, 2004) were gathered.

Student Focus Group/Group Interview

A student focus group was used as a means of triangulation for information gained from teacher interviews, to represent a diverse perspective, and to gain additional

insight into observed practices and interactions. The participants in the group were three students who volunteered and returned a consent form. Each of the three students identified with she/her pronouns and were seniors. One of the students had transferred to the school district for her junior year from out of state. She had a younger sister who was not in the academy. The other two students had been in the academy since their freshman years. One of these students had a younger brother who was also in the academy.

A semi-structured discussion was utilized to understand students' feelings about writing; a description of writing projects and tasks along with an acknowledgement of struggles and challenges associated with them; a report of interactions that occur with peers, the teacher, and others. I provided students with the questions at the beginning of the session and gave them liberty to proceed with questions in an order they preferred with the goal of attending to them all by the end. They chose to start with a question about their biggest challenges with the summative writing task. The students spoke comfortably with one another and interjected with relevant anecdotes. The students spoke for about an hour and answered all of the questions. The focus group was conducted in the academy building while the teacher was not present at the school. There were three other students eating lunch in the academy building, but did not participate in the focus group or interact with the participants during the recording. The session was audio recorded using the Voice Memos application on an iPhone XR and digitally transcribed with Otter Voice Notes. The focus group questions can be found in Appendix D.

Document Review

Both teacher materials and student writing materials were collected for analysis to better understand how the teacher's expressed beliefs and purpose materialized.

Documents collected include: Capstone Paper Rubric; Capstone Project Rubric; 11 sample Capstone Papers; Peer-Editing Questionnaire; and the academy's Program of Study. The capstone papers were deidentified by the teacher before being shared. These documents were used to see evidence of purpose and place-based elements in the context of an assignment, the academy, and the school. They provided contextual information and background data of the academy coursework and writing tasks.

Analytic Strategies

I engaged in preliminary and concurrent analytic activities, as strongly advised by Miles et al., (2014), with an iterative analysis and collection cycle. I used MAXQDA, a computer-assisted software, to aid in analysis of the data, but resisted allowing it to restrict analysis. I also hand-wrote notes in the early stages of communicating findings. In the first cycle of coding I used deductive coding to engage in pattern matching between the data and conceptual framework (Yin, 2018). The initial code list was reviewed by a colleague with deep knowledge of curriculum and instruction and teacher research. This first round code list included: Form/Test Prep; Loss of Control; Accountability; Critical Thinking; Problem-Solving; Local Context/Issue; Global Context/Issue; Community; Collaboration; Self-motivation; Resource; Research; Communication; Audience; Purpose/Impact; Power/Agency; Process Approach; WTL; Writing Mechanics; Student Engagement; Outside Influence; Perception of Writing; Behavior; Modeling; Writing to Respond; and Transferrable goals. A description of these codes and a tally of their coded segments can be found in Appendix E.

I began to analyze data with this code list after the first interview and two observations had been completed. Inductive codes began to immerge through repeated

behaviors and themes that were noted by memos in MAXQDA and noticed upon review of the methodological log. Interpretations began to form and influenced data collection of the following interviews. I was able to modify interview questions based on the observations and lingering questions. At this point I decided that the teacher who was coteaching Environmental Literature with Mr. Greene would be coded as a resource. It was not known that this was a co-taught class when designing the study. Viewing this teacher as a resource allowed me to describe the constraints and supports a single teacher has in their approach to writing instruction.

After half of the data had been collected, I began writing analytic memos to capture thoughts and initial inclinations toward findings as well as questions to include in later stages of data collection. At this point, I used an open and descriptive approach to develop an initial concept map (Corbin & Strauss, 2015; Miles et al., 2014) through the summary table feature of MAXQDA.

The second cycle of coding took a more inductive approach and allowed codes to emerge from the data (Miles et al., 2014), including in vivo codes. In the second round of analysis, I added the codes: Individualized/Personal; Connections; 3P; Humanities/morals/ethics; Hope/dream/ideal; ESA/cohort/schedule; Student/adolescent development; Assignment parameters; Teacher role; Design Thinking; Demonstrate knowledge; Relationships; and Interdisciplinary. I also combined Behavior and Loss of control as well as Student engagement and Self-motivation as it became difficult to discern a difference in the coded segments. Communication was broken down into a subcode of Argument as it became a prominent specification in memos. The complete codebook can be found in Appendix E.

All data were coded with the first round of codes before applying the second round to increase familiarity with the data and to not overlook the first round of codes if attempting to simultaneously apply them both to later-collected data. I summarized all segments of data coded with the first-round code list before coding with the second and drafted an extensive memo at this point. I then coded all data with the second-rode code list chronologically rather than by data source. After coding with the second-round list, I again summarized the coded segments of this list and wrote an extensive memo. I then looked at the co-occurrence of second round codes and the proximity of coded segments to begin to formulate an understanding of the patterns. A high frequency of pairings began to form initial findings. These pairings indicated relationships between the codes and concepts in the data.

An initial list of findings was drafted and shared with the same critical colleague who was now familiar with the study. The findings were rewritten as there were large segments of data not captured in the initial findings. The raw data and summaries were reviewed along with a rereading of memos and the methodological log to compose the four findings presented in this report.

Limitations

The principal limitation in the design of this study relates to resources in time, funds, and personnel. The study would likely benefit from an extended timeframe (i.e., up to four years of data collection, including a cohort of students from matriculation to graduation from the academy) and the benefit of observing the teacher for at least one full academic year, though limited resources prohibited this. To counteract this difficulty, data collection was strategically planned throughout the time available. All of the data

were collected and analyzed by me, although a critical colleague conducted a peer review and provided feedback to minimize biased coding and a narrowed perspective.

Establishing Credibility

Findings of the study can be relied upon as trustworthy due to planned steps to ensure validity and reliability of the information and the reporting. A critical colleague was utilized to check code lists and holistic analyses. Operations of the study and protocols for data collection are clearly outlined for transparency and for reliability of the findings.

Internal validity. Engaging in analytic induction allowed for a cycle of alignment. Prolonged engagement was not practical with limited resources, but sufficient time was planned to gather an understanding of the case. I sought disconfirming evidence in the data to consider multiple possibilities of explanation to the phenomenon being studied. Rival explanations of findings are addressed in chapter five, such as an experimenter effect (Yin, 2018) in which the teacher's practices were significantly influenced by the presence of the researcher and aspects of the study. Alternate explanations for instructional decisions and student outcomes are also discussed.

Construct validity. A variety of sources were utilized for data collection in order to collect sufficient evidence to support findings. Triangulation of data sources occurred to create validation of findings and offer multiple perspectives on my interpretations. Member checking was conducted after a draft of the findings was completed. The language of the second findings was revised to more accurately represent the teacher's beliefs. This member-checking offers trustworthiness to the meaning-making and interpretations of the data.

External validity. This study does not seek and does not profess that the findings are generalizable to other contexts. Although, the findings could be transferable to other contexts in which similar instructional practices and issues may occur. I believe sufficient detail of the case is presented to be able to transfer findings to other content areas, teaching environments, and/or grade levels where teachers struggle with a similar problem. The discussion in chapter five offers an explanation of these opportunities.

Ethical considerations. Approval from the Institutional Review Board (IRB) at the University of Virginia was obtained prior to any data collection. Additionally, approval from the school (NCHS), and district (CPS) was garnered before data collection began. These steps were followed to ensure protection of the participants. In accordance with the IRB approval, the participant was informed of the study's purpose, his role in it, and what was being asked of his time. He was informed of the steps that would be taken to protect his identity, but was reminded that anonymity cannot be guaranteed. The participant was also reminded of his right to withdraw from the study at several points throughout. Potential risks were shared with the participant. The potential risks included minor impacts on the reputation of the teacher and minimal infringement on the teacher's time; the study, however, was designed to avoid risks to job security and to his personal life. Consent was gained prior to conducting the initial interview. Students and parents were provided with information about the study. Students who participated in the focus group were all over the age of 18 and signed a consent form.

Chapter Summary

This single case study focused on the teaching practices of one high school teacher to address the problem of practice. Data were collected through interviews,

observations, document analysis, and a student focus group. The data were collected at the high school academy where the participant teaches. Data analysis occurred in two phases in order to inform data collection throughout the study. The use of theoretical and in vivo codes helped to ensure the data are accurately represented in the findings presented in the next chapter.

Chapter 4: Findings

In this case study, a conceptual framework of socioconstructive theory and placebased education (PBE) was applied to understand a teacher's planning and implementation of writing instruction. The teacher, Mr. Nathaniel Greene, was a purposefully chosen participant. Data collection occurred over approximately one calendar year from when a pilot study began to the conclusion of the current study. Data was collected from two sections of two courses he taught: Environmental Literature, Law, and Policy and Advanced Placement Environmental Studies (APES).

Data collection included three hour-long interviews with Mr. Greene. There was also one email exchange and informal interviewing that followed observations to clarify beliefs and practices. Three students participated in a focus group and represented a broad range of interest levels and a diverse representation of the academy experience. Details about the participants can be found in chapter three of this report.

The following findings represent data from 15 total hours of video-recorded classroom observations that included eight class periods of Environmental Literature and three of APES. The same 35 students were present in both classes in groupings of 21 and 14. Document review included samples of 11 students' capstone papers, which represents a third of the students observed. The program of study and documents from class periods which were observed were also collected.

According to the school's program of study, the academy is theoretically aligned with the conceptual framework of this research. The curriculum blends the study of

natural and social systems and promotes collaboration and relationship building with a

goal of post-secondary preparation. A description of the academy and the two pertinent

courses are presented in Table 4.1.

Element of Program of Study	Description
Program	Environmental studies is the interdisciplinary academic field that studies human interaction with the natural environment in the interest of solving complex problems. The Academy is a "fun and challenging", high school option for students to consider. This program stresses collaboration, project-based learning, and engagement through labs and hands-on learning. All Academy students will develop a comprehensive digital portfolio including work samples and a capstone project. The Academy is a four- year academic program designed to prepare students for a variety of college and career options.
APES Course	AP Environmental Science is offered to students who are interested in taking the AP Environmental Science exam for college credit. The AP content outline (available from College Board) is closely followed in this course. Topics covered in the course include: interrelationships with the natural world, global changes and their consequences, human population dynamics, renewable and nonrenewable resources, and environmental ethics.
Environmental	Through the analysis of environmental literature and examination
Literature Course	of important laws and policy, students will explore the complex relationship between human beings and the environment. Students will develop a comprehensive understanding of how literature, philosophy, and governmental action have correlated historically with important environmental issues. Content will include local, regional and global policy changes and current legislation and will be supported by a combination of fiction, non-fiction, poetry, and case studies.

Table 4.1 Academy Program Details

Through systematic, qualitative data analysis, the following findings were

synthesized as the most salient and conclusive in answering the research questions

proposed in this study. The research questions were:

- 1. How are purposeful writing experiences facilitated in the secondary classroom?
 - a. How are the global and community contexts used in facilitating writing?
 - b. How are students addressing place-based problems/inquiries through writing?
- 2. What resources are utilized in purposeful writing tasks?
 - a. What community resources are used?
 - b. What teacher/school/district resources are used?
- 3. What constraints are there on the writing process?
 - a. How do these constraints impact authenticity?
 - b. How do these constraints impact phases of the process?

The findings were drawn from observational data that exemplified the teacher's beliefs about writing and communication that were shared in interviews. Each finding relies upon a combination of observational and interview data to present a match of the teacher's goals and purposes in planning instruction and the resulting enactment of that instruction. Each claim of enactment includes the students' perceptions of and interactions with the instruction. Purpose in instructional tasks was central in the design and conceptual framework of this study.

First, it was found that the teacher planned and implemented an environmentbased senior capstone project as a purposeful writing experience. The teacher's purpose(s) for teaching writing and, more generally for teaching, were influential in describing how the teacher facilitated purposeful writing in the secondary classroom. The remaining findings are presented in a manner to highlight the salient pillars of the teacher's philosophy of education related to students as writers, communicators, and environmental stewards. I will illustrate how the elements of social constructivism are incorporated in the teacher's philosophy of students' ability to learn. These are evident in relationship building and opportunities for repeated and varied exposure to content and

concepts. I will present how these efforts were supported by connections to the global and local contexts. Furthermore, I will describe how the teacher espoused a purpose to prepare students as active citizens. Finally, I will explain how the teacher designed instruction to authenticate learning for students through p-based (e.g., passion-, problem-, project-) learning experiences situated in place.

This chapter is presented in four findings:

- 1. The teacher has designed the curriculum around a purposeful writing task in the form of a capstone project.
- 2. The teacher believes that writing and communication are lifelong skills necessary for college and career success.
- 3. With a goal of preparing active citizens, the teacher supports students in developing autonomy and dealing with issues of morality and humanity.
- 4. The teacher has designed p-based curricula to enact a place-based approach to writing instruction.

Each finding refers to the first research question. The teacher's beliefs influenced his instructional decisions to focus on authentic, purposeful, place-based writing tasks. The first finding describes the major place-based writing task, a capstone project, which was observed and which many of the teacher's instructional decisions were tied to. The first finding also presents data indicating the instructional resources and constraints associated with the capstone project. Each finding leads to a broader understanding of how environmental studies as a branch of place-based education can frame high quality writing instruction.

This qualitative case study presents a complex, interwoven representation of what writing instruction looks like in a secondary classroom. A place-based approach to writing instruction is represented in all aspects of instruction and is a combination of

several practices. This is indicative of the conceptual framework where a multidirectional relationship between the global and community contexts and within the high school classroom create opportunities for purposeful writing instruction. Table 4.2 offers a glimpse at how the findings will be presented in reference to the research questions.

Research Question	Finding	Finding	Finding	Finding
	1	2	3	4
1. Facilitation of Purposeful Writing	х	Х	Х	х
2. Resources for Writing Instruction	х		Х	х
3. Constraints on Writing Instruction	Х	Х		

Table 4.2 Research Questions Addressed in Findings

It is theorized in social constructivism that one way for effective learning to occur is through students' repeated and varied experiences with content and skills to increase retention and ability to use them in future contexts. An authentic purpose for writing decreases as the context narrows and the opportunities for relationship building increase; both purpose and relationships are important to the theory of socioconstructive learning. Elements of place-based education exist at each level of the framework and at the heart of social constructivism in its goal for students as positively functioning adult beings. The teacher's planning and implementation of writing instruction is the result of his goals in designing students' experiences situated in each context and beliefs that align with the theory of social constructivism. Figure 4.1 displays how the context of the study and findings are represented in the conceptual framework.

Mr. Greene exemplified planning and implementation of writing instruction in alignment with this study's conceptual framework. His beliefs and philosophy of education were often found to be in line with researcher's. While an example of strong

practices in writing instruction, Mr. Greene faced common obstacles of traditional

grading procedures and the limits of a typical class period and school day.

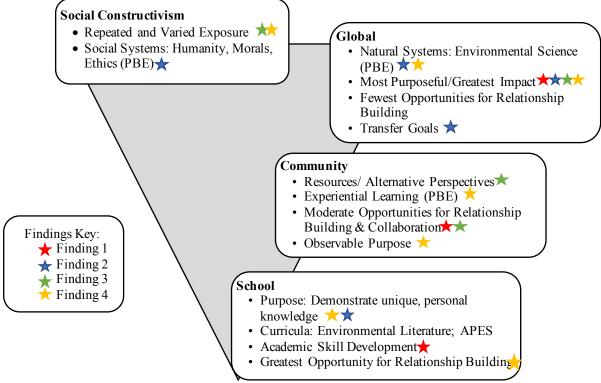


Figure 4.1 Findings in Conceptual Framework

Finding 1: The teacher has designed the curriculum around a purposeful writing task in the form of a capstone project.

The capstone project began with students identifying an interest or passion that they wanted to research. They conducted the research and then wrote a research paper. Sample paper titles and subjects can be found in Table 4.2. Students designed a project to communicate the knowledge gleaned from the writing and research process in a showcase at the end of the year. During the pilot of this study, I was able to informally observe last year's senior showcase. This experience provided clarity when Mr. Greene spoke of the capstone in interviews and when he referenced work of students from the year prior to conducting this study. During this study's phase of data collection, students had

completed the bulk of research and were actively engaged in the writing process of the

capstone project. I was able to observe one-on-one writing conferences, students

interacting with outside experts, and submission of the capstone paper throughout the

period of study.

Paper	TITLE	Subject
Α	Environmental Impact of Global Sporting Events	Lack of public awareness about pollution and exploitation of resources during a culturally significant event such as the Olympics.
В	Radical Transparency and its Impact on Consumers, Producers, and the Environment	Companies that have adopted the concept of transparency to every step of their supply chain in production.
С	Why Biomechanic Biomimicry Is Important in Art	Nature-tested designs offer efficient and creative solutions to artists and product developers
D	Microbial Water	New technologies that eradicate microbes in our water to make it safe for consumption
Ε	The House that Breathes	Hempcrete as a sustainable building material
F	The Most Destructive Hurricanes	Camille, Harvey, and Katrina as the most destructive hurricanes for humans, geography, and the economy
G	Beauty is Pain (To the Environment)	The beauty industry's negative impact on the environment
Н	The Effects of Climate Change on Ski Resorts in the United States	The increase in water usage and artificial snow production as a result of climate changes
Ι	Horticultural Therapy: The Future of Medicine	A mutual relationship between humans and the environment through mental and physical treatment methods
J	Space Junk: Science Fiction or Threat to Humanity?	Debris in low-Earth orbit poses a threat to future space exploration and travel
K	(no title)	Night tilling as a sustainable agricultural practice

Table 4.3 Capstone Paper Sample

Mr. Greene's Facilitation of the Capstone Writing

In terms of this study's first research question, the observational data revealed that

Mr. Greene facilitated purposeful writing in predominantly four ways. These were:

conducting writing conferences, providing a rubric, creating a senior showcase, and requiring peer-editing. These four elements supported relationship development, identified or communicated a purpose for writing, and/or engaged students in the writing process. Two class periods of each section of Environmental Literature were observed in which students were engaged in writing their capstone papers. In each, Mr. Greene presented students with objectives for the day, answered questions, attended to housekeeping items for a maximum of ten minutes and then students proceeded to work independently and seek out one-on-one conferences with Mr. Greene. The homogeneity of AP-level students and senior status with plans to attend college may have supported this instruction format with limited need for behavioral management.

Writing Conferences. Individual writing conferences served as a method for facilitating writing of the capstone paper. In them, Mr. Greene could discuss the purpose for writing, build relationships, and help students to make connections to the global and community contexts. Mr. Greene did not require that students participate in writing conferences, but was available for students to conference with him about their capstone papers and the process of research, writing, and revision. This was an opportunity for personalized individual attention and assistance (Graham & Perin, 2007), but could have replaced opportunities for skill-based whole-class instruction. One class section had 14 students, while the other had 21. On average, during a class block period, Mr. Greene met with six students to conferences, Mr. Greene told the students "treat it like a workshop. We can talk about editing, planning, sentence structure, big ideas," (Observation, January 25, 2019). The one-on-one time that students had with Mr. Greene during conferencing was

interpreted as an opportunity for relationship building. Some students who met with the co-teacher in a class period were also observed conferencing with Mr. Greene. Some students, however, did not conference with either teacher during observations.

The Rubric. The rubric served to facilitate writing instruction as a method of communicating purpose for writing. In the rubric, Mr. Greene communicated the purpose for writing as "presenting a strong and clear argument [through] writing that reflects a deep understanding of the research" (Document: `18-`19 Rubric). Additionally, the rubric indicates that the students were required to relate evidence and analysis of data back to their argument and incorporate data from the field and an outside expert. The rubric shows that 60% of the writing task's grade is associated with the student's "evidence, data, and [Environmental] Studies content." Although, the rubric's introduction and conclusion criterion have the potential to guide students to a formulaic construction of these elements.

Senior Showcase. The showcase was utilized as one way to incorporate the community context into the writing process. Providing an audience other than the teacher is one of the evidence-based practices to increase purpose for writing (Applebee & Langer, 2011; Sipe & Rosewarne, 2006). The showcase is an end-of-year platform for students to share their knowledge with an audience other than the teacher. It is comprised of peers, parents, community stakeholders and partners, and content-area experts that have been invited by Mr. Greene and the students throughout the year. The students get to show off what they have done. The senior showcase is an end goal which is introduced early on in the academy. Students have observed previous year's students preparing and presenting. Not only does this establish a sense of purpose by introducing the writing task

at the beginning of a conceptual unit (Grossman et al., 2013), but at the beginning of the year. The rubric for this portion of the capstone communicates an expectation that students engage and teach their audience in an articulate and sophisticated manner. The showcase facilitates students' focus on a purpose, audience, and communication.

Peer-Editing. Mr. Greene facilitated the writing process and relationship building among students through peer-editing. Additionally, this reiterated a purposeful audience of peers in a learning community. Mr. Greene described the peer editing as so:

"Each class had one and a half blocks where every kid, every student, had to read two other students' papers and they did a read-through where they just kind of edited for what they felt like flow, grammar, those kind of things, suggestions or things that confused them or they feel like was missing and then we gave them a question sheet – eight or ten questions front and back: is this there or is this missing? is this clear? Where they spent a lot of time giving meticulous feedback to their peers in the hopes that now they had two teachers and then two other peers that have read it. And they can do one final draft, right? So, it's a...going through that process, that writing process," (Teacher Interview, February 7, 2019).

The quote represents how quantity and quality of time given to the writing process were represented in Mr. Greene's instructional decisions. Mr. Greene's correction of language, in the above quote, from *kid* to *student* represents how he afforded power and agency to his students in the classroom. This was an act that was observed throughout the study which will be discussed at greater length in the third finding in relation to students' opportunities to develop autonomy.

Resources Utilized in Facilitating the Capstone Project

The resources that Mr. Greene utilized in facilitating the capstone paper included: community experts, a co-teacher, grant funding, and his own experiences and background. In terms of the second research question, community partners served as content experts, audiences for student writing, and research and professional references

for students. Mr. Greene had a co-teacher for the Environmental Literature course, this year, whom he did not have last year. This co-teacher had worked with Mr. Greene to design and revise the curriculum for this course and was actively engaged in the implementation of instruction throughout the observations of this particular course. She is categorized as a resource in the current study. A future study could investigate how models of coteaching influence effective writing instruction.

Mr. Greene engages in grant writing in order to provide resources for students to carry out their capstone projects. Mr. Greene has attended professional development training in grant writing to increase opportunities to support students and the academy's initiatives. Mr. Greene's did not attend a traditional teacher education program, but rather has a background is in Biology and he pursued teaching after an initial career in the fitness industry. He has had professional development experiences in Astronomy, Meteorology, Geology, Oceanography and Introductory Horticulture courses. As a resource to students, he continues to prefer and seek out graduate-level coursework and experiential learning opportunities that he can scaffold and modify for the high school classroom. These characteristics may relate to his success in planning and implementing effective writing instruction.

In addition, Mr. Greene has indicated he has the luxury of time to seek out and develop relationships with community partners and content experts outside of the school. His role in the community outside of being a teacher aids him in forming relationships with a variety of community members and scientists in ways that are advantageous for the academy. When speaking of these resources he said:

"connections, networking – those are a lot of things that some teachers struggle with. It's how do you connect those networks, especially when your roots don't run deep in an area? Like, I'm not from [Collins] county, so it has taken a while to establish those, and some work out, some don't. I think [it's] flexibility; it's time; I have the luxury of having more time, but a lot of teachers don't have the time to feel like they can set those things up and have those meetings," (Interview, January 22, 2019).

The luxury Mr. Greene spoke of is his own time and role as Academy Director. His unique role will be discussed in moderate depth throughout the chapter, but would benefit from future in-depth empirical attention. Here, his additional time in planning and role in developing the curriculum served as a resource for designing writing instruction.

Challenges with the Capstone Paper

In addressing the third research question, the constraints on the writing process -time and pressures of accountability -- were similar to those reported by many secondary teachers in the literature (e.g., Grossman et al., 1999; Martina et al., 2009). Mr. Greene needed to combat the regular limits of the school day and technology issues.

Additionally, Mr. Greene shared that students' parents' preoccupation with grades and performance were somewhat limiting. Their narrow focus on grades seemed to induce stress for the teacher and students. Mr. Greene was aware of students' anxiety and was considerate of decreasing or not adding to it. He explained, "kids are busier now than ever. You know the sports and jobs and eight classes and before-school band and whatever else. It's hard for me to think about them stealing more time outside of their day for one class" (Interview, February 7, 2019). In this sense, this pressure was a source of constraint on instructional decisions. Mr. Greene acknowledged the students' many commitments outside of the classroom as being an influence on his instructional planning. The structure of a typical school day and block class periods impacted how the

curriculum was paced and the amount of time students had to engage in phases of the writing process during class.

The teacher not only facilitated communication and writing skills in association with the capstone project, but his approach to instruction supported students in developing written and communication skills more broadly. The following three findings demonstrate Mr. Greene's beliefs and philosophies related to writing and communication, his planning and implementation, as well as students' perceptions and their interactions with the curricula. These beliefs represent strong teaching practices by promoting critical thinking, rigorous discourse, social development, and motivation for students to write (Grossman et al., 2013).

Finding 2: The teacher believes that writing and communication are lifelong skills necessary for college and career success.

In terms of the first research question, Mr. Greene facilitated opportunities for students to develop skills in writing and communication through class discussions, debates, and writing tasks. The purpose of communication was represented in the data as a strong relationship between *communication*, *transfer goals* and *student/adolescent development*. This indicated a connection between how students were speaking, arguing, and writing with a purpose of future application. Additionally, the opportunities for communication were relevant and appropriate to the high school seniors. Especially those in the current study who were planning to attend institutes of higher education after high school, many in STEM fields. Mr. Greene was focused on preparing students with transferrable knowledge and skills. He situated learning in the global context by utilizing a place-based approach.

The courses themselves -- Environmental Literature and Advanced Placement Environmental Science—have a global, place-based purpose; environmental studies readily exist outside of the classroom. But this subject matter does not necessitate a focus on writing, much like Biology and Chemistry traditionally do not. The choice for planning and implementation of writing instruction is connected to Mr. Greene's beliefs about the necessity to prepare students as writers for future success in college and their careers. Mr. Greene exemplified the belief that writing is not confined by a single content area or within the responsibility of a single teacher (Kiuhara et al., 2009). For this teacher, in this context, a place-based approach has allowed for a seamless and relevant incorporation of writing in its applications for young environmentalists, activists, advocates, and scientists.

Over the course of study, students were observed engaging in frequent and sustained writing and communication. Students were: writing capstone papers; writing in response to AP test-based free response questions (FRQs) and in response to reading questions; composing summaries and emails; participating in discussions; presenting; and writing in their almanacs. The almanac was a year-long writing project associated with the class' reading of *A Sand County Almanac* by Aldo Leopold. In this place-based writing exercise students emulated Leopold's style in their writing and conducted field observations on a monthly basis to compose entries along with visual representations. This was one of the few instances of literary modeling utilized in the classroom. This exercise was interpreted to be an effective use of modeling as it engaged the students in conversations about the usefulness and quality of the model (Grossman et al., 2015). Other evidence-based practices were used more frequently.

Mr. Greene believes that students need to write and express themselves effectively in order to be successful in their futures. The following sections describe the opportunities Mr. Greene facilitated in order for students to develop skills in writing and communication. His beliefs shared in interviews align with his instructional decisions observed through class discussions, debates, and writing tasks. This alignment and focus were seemingly indicative of the reflective nature of Mr. Greene and his instructional practices. Critical reflection allowed him to identify student needs and systematically modify instruction to increase engagement and effectiveness of his instruction. Additionally, Mr. Greene's close connection to collegiate partners gave him insight into their perspectives and the deficiencies in student writing they identify.

Mr. Greene Believes Communication Skills Are Important

Mr. Greene provided students the opportunity to express themselves often. More than 50% of the time in observations can be characterized as students' opportunities for expression through student talk or writing. Appendix F provides a table of observed instructional formats in each course and class period. It became evident through the data that writing and communication are thought by the teacher to be important enough to spend time on, exemplifying the common belief that writing is an essential skill to be taught in school (Kiuhara et al., 2009). Mr. Greene described what he thought to be crucial for students' futures, saying:

"One of the biggest single things that we can help students learn how to do better, so that they can be successful in college or jobs or anything, is just not be so shallow...to go deeper, explore it a little bit" (Interview, January 22, 2019).

As Mr. Greene brought up in interviews and sometimes in exasperation after observations, time was not in abundance and instructional decisions are a give-and-take

balance. To choose to include writing instruction was a conscious choice to not include something else. A specific instance was not determined specifically of what content Mr. Greene may have omitted in the curricular decision-making. He explained that his choices were motivated by the fact that writing is not going away; even with texting and emails, videos and blogs, these are ways for people to express themselves and share information.

Mr. Greene gave students opportunities to express what they thought. Mr.

Greene indicated that he designed the capstone project to be an opportunity for students to create original works. He designed opportunities for students to demonstrate what they learned in such a way because he feels students take pride in demonstrating their learning when it is personal to them. Students indicated they felt pride and joy in their work (Focus Group, February 15, 2019). The independent research students conducted allowed them to master content in their chosen area and become the experts. Mr. Greene expressed his goal for students to become local experts which is achieved when they have turned information into their own and can pass it on, verbally and in writing. He said,

"becoming the local expert, the ideal that if you learn something well, you can share and teach it, and that is demonstrating knowledge. They are no longer reading someone else's knowledge but passing their own on to their peers, they are the authentic source of information at that point," (Interview, February 12, 2019).

For their capstones, students addressed issues they identified in the global context, and are designing a project and writing a paper to communicate information about the issues and possible solutions. This is one example of how Mr. Greene's place-based approach positions students as producers rather than consumers of knowledge through hands-on

learning and problem-solving. In Mr. Greene's classes, opportunities for expression are often opportunities for production.

Mr. Greene characterizes a student's ability to demonstrate knowledge as the ultimate purpose to his teaching. He said in an interview that he focuses on helping students to demonstrate original ideas in an articulate manner, but also that students should have the opportunity to communicate what they care about (Interview, February 7, 2019). He explains his planning as a result of these beliefs in the following way:

"What do you care is your end result and then your task should match that outcome. It's the model of backwards mapping I guess more than even if it's not just for a unit like, what are your must-learns, what do you really want them to learn? And then you think about how you're going to get them to learn that. What are the different ways you are going to approach it so that they can achieve that learning at the end? So, they can demonstrate that learning at the end?" (Interview, January 22, 2019).

In a model of place-based education this backwards mapping starts with a goal of preparing each, individual student for a multicultural global society (Gruenewald, 2008). The specific context of this study may allow for this to be a main focus of Mr. Greene's instruction.

In order to communicate in a global society, students need to be prepared to demonstrate knowledge to a variety of audiences. Mr. Greene explained that at the showcase students will be able to share their learning with a "real human audience," (Interview, February 7, 2019). He said in the same interview, he felt that a real human audience impacts the format of displaying knowledge; the students consider audience in relation to appeal. Mr. Greene told students it was important to think about the readers' perspectives and interpretations (Observation, February 14, 2019). Students were able to manipulate knowledge between audiences. This was observed when they spoke with a

guest environmental lobbyist, their teachers, and their peers. Furthermore, in observations, when students spoke about their capstone projects they chose pieces of interest and of significance in relation to whom they were speaking. They appeared confident in demonstrating knowledge to experts and were able to answer questions about both content and their writing processes, when asked. Students were encouraged by Mr. Greene to express their passions and reasons for investing in particular topics in addition to demonstrating content knowledge.

These opportunities for expression are important in students' ability to take a stance, write about something meaningful, and negotiate perspectives. These are elements in which Olinghouse et al., (2012) described as qualities which motivate students to write, but may not be universal motivators. These are the same elements that many teachers do not incorporate. It is interpreted that students valued their chances to have a unique voice and opportunities to express themselves. In one observation (February 8, 2019), students opposed a whole-group format of discussion. One student complained, "We're all going to say the same thing." Mr. Greene told students they could share what they thought, and there were no other guidelines provided for the discussion. It turned out, this made some students feel this particular discussion did not have a lot of value for them personally and they would not have the opportunity to express their personal opinion on the topic of a reading in Silent Spring by Rachel Carson. This student and the students that echoed the sentiment seemed to be expressing a dislike for a format in which their voices would not be heard and that many ideas would be repeated. During data collection, Mr. Greene often did not include many guidelines in his facilitation of discussion and writing.

Mr. Greene placed few parameters on students' opportunities for expression. In fact, he tried to move students beyond thinking about parameters of length, to stop comparing their and other students' products, and he claimed to not answer questions about length. This observation of a lack of parameters refers to how the teacher facilitated writing instruction. In an interview (January 22, 2019), Mr. Greene verbalized his frustration about students' preoccupation with parameters: "don't worry about whether it's five points or two points or is this paragraph enough; is it three sentences; is that enough? Write what you think, express what you think, support it, it'll be enough." He explained that the length of a written work does not demonstrate quality or a student's depth of knowledge. This may relate to Mr. Greene's focus on the future where depth of knowledge is said to be more valued in college and the workplace (Calkins, 2016).

Mr. Greene did not require full sentences from students in writing-to-respond tasks, but rather focused on students' use of evidence. Students preoccupation with length and quantity may be tied to their past experiences with writing. In the focus group (February 15, 2019) students used the terms "bland" and "dry" to describe writing tasks that include a predetermined prompt and typical writing-to-respond tasks. Mr. Greene does facilitate some of these writing-to-respond tasks as he explained that he can use them as formative assessments to evaluate whether students can communicate big ideas and whether he needs to reteach skills. While students associated three reasons of support to be the goal or expectation of writing, Mr. Greene reiterated that a strong argument is more important than assignment parameters.

Mr. Greene focuses students on clear communication and crafting arguments. Not only did Mr. Greene facilitate opportunities for students to express

themselves, but to do so with an emphasis on clarity and expression of well-thought arguments. He believes that "vague generalities don't demonstrate any learning at all. They don't really demonstrate a depth of knowledge" (Interview, January 22, 2019). Not only in writing, but Mr. Greene focused students on clarity in communication throughout the data as an important factor of college and career readiness. Mr. Greene's instruction supported students in clearly articulating their purpose and intent (Dawson, 2009) with a focus on crafting arguments. Data analysis indicated that argumentation was an important component of Mr. Greene's instruction. Mr. Greene's purpose in focusing on argumentation is communicated in this statement:

"whatever they're arguing, whatever they're supporting, whatever they're going to write in college ... has evidence to support your argument your thesis your hypothesis ...you have to have specific facts to back yourself up. I think that's what is so valuable" (Interview, January 22, 2019).

Mr. Greene was observed requiring students to explicitly communicate using accurate, scientific language during a lab. For example, when students rushed to get lab supplies he stopped them to articulate what they needed for each step of the process. When students could not communicate which sample and which testing solution was necessary, they were sent back to confer with their groups until they could tell Mr. Greene exactly what was required for the experiment (Observation, February 13, 2019). While this was interpreted as Mr. Greene's focus on communication, it was an isolated incident and could be simply related to a classroom management strategy.

In writing, Mr. Greene consistently pushed students to evaluate what they meant to say versus what their writing was actually communicating. Mr. Greene frequently reminded students to provide sufficient and relevant support and espoused that an argument needs to have a clear focus and the support should be aligned. "Don't write

information that doesn't match your thesis," Mr. Greene told the whole class (Observation, January 24, 2019). In a one-on-one conference he worked a student through a series of questions to bring her to identify whether her topic was generally about nature's qualities in healing or specifically about therapy gardens. He continued to ask questions to guide her in being able to identify if she was talking about benefits to mental or physical health or a specific illness such as Alzheimer's or Parkinson's. The student had lost her focus by trying to fit in too many things with an abstract goal of three disparate topics. Mr. Greene summarized with her saying,

"your goal was to learn about health, so that's what you need to focus on...therapy gardens and maybe it's just mental health...I think that's the error with the five paragraph essay, your support is not just three things...talk about what is the disease and then how does it help...that's fine if you're going to talk about mental health and Alzheimer's," (Observation, January 24, 2019).

Mr. Greene claimed that one of his goals was for students to be able to effectively link ideas through stronger word choice, sentences, and paragraphs (Interview, February 19, 2019). He worked with one student on crafting his argument about smoking and tobacco usage. While reading over the student's draft, Mr. Greene spoke with the student about word choice:

"I'm personally not a fan of saying, 'there's no doubt.' I think there's a place for voice to come through... I like it better when it's something like 'historically, tobacco has always been,' that's stronger. 'Weigh in' makes it subjective rather than factual. I want your voice to come through, but do you see the difference? You're saying to the reader 'there's no doubt,' but you can argue it's a fact," (Observation, January 24, 2019).

Mr. Greene instructed students to reread their drafts and cut down if the information did not directly tie back to their theses; to simplify so the reader was not overwhelmed. Mr. Greene would say "we need to rework. You've got five sentences, but they don't flow together" and then he would say "follow me" as he modeled for a student some possible

revisions (Observation, January, 24, 2019). On other occasions Mr. Greene was observed dictating sentences for students to record, seemingly limiting the students' ability to develop their own skills.

In the student focus group (February 15, 2019), students did share that communicating ideas in an organized way was a learning curve. In response to the question: *what were the biggest challenges of the capstone paper*, one student said: "It was my first experience with a paper that big. Organizing it, like just kind of figuring out how to make sure you don't get off topic or anything," (Focus Group, February 15, 2019). Another student said:

"My problem was that I was so passionate about what I was writing about. And then I wanted to add a whole other section on like prosthetics and stuff, [add] that to all the design stuff I was talking about. But I had to figure out when to stop ... I was struggling to figure out time management."

The tasks of keeping focused and organizing ideas were difficult in the capstone paper. The students also indicated, however, that when they are invested in a topic they are interested in, they are inherently invested in making it clear. Similarly, Grossman et al., (2013) concluded that students took ownership of clear articulation in purposeful and authentic writing tasks. These particular students may have been predisposed to take ownership in their learning related to factors outside of Mr. Greene's planning and implementation of instruction.

A guest speaker echoed Mr. Greene's thought about the importance of communication, by adding that communication between the science field and the general population is very important (Observation, February 13, 2019). Also, that language and wording can be the most important thing in the context of environmental law. Mr. Greene commented on how explicit one's writing must be as an environmental lawyer to avoid

creating loopholes. This conversation not only reiterated a lesson on clarity, but placed the purpose for students to focus on clarity in the global context and a future application. When asked about this observation in an interview (February 7, 2019), Mr. Greene commented that debates, discussions and the capstone prepare students for college. He explained that his planning and implementation of instruction were the result of his dream to emulate a liberal arts college seminar-based class where students are engaging in higher-level thinking, reading, considering implications of the content, and discussions. Thus, this place-based approach may be specifically aligned with college preparation.

Mr. Greene Believes Writing is a Process

Mr. Greene facilitated the writing process to improve students' writing and communication skills. He believes students must have more and widespread opportunities to focus on writing skills and developing arguments for college and career success. He said, "I don't honestly believe anybody's just inherently born a good writer" (January 22, 2019). Because they are not born as such, Mr. Greene took responsibility for their growth in his role of providing feedback. Mr. Greene placed a great deal of emphasis on feedback throughout the study. Mr. Greene believes that long-term learning is a process of feedback, making mistakes and problem solving (Interview, January 22, 2019). Providing feedback is something other science teachers do little of, according to survey data (Kiuhara et al., 2009).

Students were observed in the writing process of the capstone paper during this study, but were in the process of learning to write and communicate as part of a larger learning process, throughout the year and their tenure in the environmental academy. Mr.

Greene also indicated his belief that research is a process which begins with inquiry. Each student is on a personal quest for knowledge. Mr. Greene described his concept of the process like this:

"Research papers, things of that nature... oftentimes they get proofread, they get drafts, they get edited. All those are processes in process writing in themselves, but I think the whole thing is a process – them learning how to develop the skill of writing" (Interview, January 22, 2019).

Mr. Greene communicated to students that their capstone papers and the process is like a design project, where they should incorporate knowledge with a product recursively. He brought this up in brief whole-class instructional moments, during individual writing conferences, and in response to interview questions. Mr. Greene consistently asked students to reflect on their initial goals, analyze their findings, and put low-stakes on the writing conferences. He told students they were simply "running through ideas" (Observations, January 24, 25, 2019). This period of the process was observed as an opportunity for a combination of editing, "word-smithing," and big idea feedback.

Mr. Greene likens the writing process to design thinking. An interesting

inductive code that emerged in the current study was *design thinking*. Rewording is a similar process to designing by making little tweaks to see what the product will look like and what may be a mistake, over and over again (Stockman, 2015). Mr. Greene described the design method of the capstone project to me by sharing a previous student's example:

"it really is the whole engineering-design process; it's reworking...he sketched it, he designed it, he reworked it. He worked with the shop teacher...basically a prototype that he designed based on the research that he'd done...so his project evolved from his research" (Interview, February 7, 2019).

The goal was for students to incorporate their research into an argument through design of a project. Mr. Greene felt that he helped students through the design process by

providing feedback in the form of questions and providing students class time to work on the "engineering process," as he terms it. Mr. Greene explained that a problem-based approach supports a design/maker model "a lot of times people can design and build and do things and make things on their own too, but problem-based, the experimental design in science, lends itself so much more; we have to solve a problem together" (Interview, February 7, 2019).

In alignment with this study's conceptual framework, the constant reworking and incorporation of research allowed students to learn concepts more deeply through a variety of continued exposure and perspectives on a quest to solve a place-based problem they were invested in addressing. This moved students beyond just writing about a personal interest because they were addressing a need for a community of people (Behizadeh, 2014a). Working through problems helped students reach where they wanted to go and provided skills in tackling complex problems as indicated by students in the focus group (February 15, 2019).

Mr. Greene Believes Writing is Everywhere

Mr. Greene shed light on his decision to teach writing with this statement: "It's English; it's science; it doesn't matter where you are" (Interview, January 22, 2019). He was speaking of the need for students to be effective communicators no matter the area of their post-secondary endeavors. This relationship between the traditional school subjects of English and science was prevalent in the data in conversation and observation of interdisciplinary teaching and learning. Mr. Greene facilitated authentic writing experiences through a place-based, interdisciplinary approach.

An interdisciplinary approach to instruction offers opportunities for repetition or novel approaches to curricula which can be beneficial across content areas (Martina et al., 2009). When approaching learning though big concepts situated in place, multiple content areas are supported simultaneously. Mr. Greene shared the guest speaker's interest in interdisciplinary learning because "stuff tends to stick" (Observation, February 12, 2019). Mr. Greene described interdisciplinary opportunities as awesome.

"The one on farming and agriculture, that was awesome because it was so Humanities and Science and it had the environmental issues; it had the agricultural issues, it had climate change. We looked at regions, exploitation of resources. There was so much that was involved in it and by doing it they also had to discuss GMOs" (Interview, February 7, 2019).

Students saw interdisciplinary and problem-based skills as important for the future when asked about how they learn best. One student said, "with environmental lit, being able to, you know, write poetry, but also talk about science and nature and have both of those concepts together, I really enjoy that. I find that really fun," (Focus Group, February 15, 2019). Writing was a way for students to synthesize and apply interdisciplinary knowledge. Discussion was another way. Another student commented that she really liked many discussions under the umbrella of environmental studies and problem-based approaches. These provided opportunities to take different perspectives and approach the content multiple times from different angles in line with a socioconstructive theory of learning.

Mr. Greene Faced Challenges in his Approach to Writing Instruction

As previously described in the literature, and in response to the third research question, teachers may struggle to plan or implement instruction that leverages opportunities for students to express themselves (e.g., Applebee & Langer, 2011;

Behizadeh, 2014a; Kiuhara et al., 2009). Mr. Greene's goal to prepare students as clear communicators aligns with his belief that students who can craft strong arguments and can express themselves effectively will be successful in the future. Even so, some constraints that existed in the context of this study emerged from the data. While this finding focused on writing and communication for the future, some high school students need to be convinced that these communication skills are necessary for the future. Mr. Greene said:

"It's hard for a fourteen-year-old. They don't see the long-term why the skills are going to be... we're battling that right now with some of our young kids. But it's funny because that's literally what science professors at good university are saying, 'kids can't write; they're all smart when they get here, they can all memorize when they get here, but they can't write worth a lick.' And that's kind of ...that was an interesting take-away for me" (Interview, January 22, 2019).

This quote may imply the benefits of vertical alignment of curricular planning for writing instruction. Attending to writing skills in the earliest years of high school as well as connecting with post-secondary educators could create a coherence in high quality writing instruction. The place-based approach Mr. Greene took could be a way to move instruction away from a preoccupation with memorization or lower-level skills.

Finding 3: With a goal of preparing active citizens, the teacher supports students in developing autonomy and dealing with issues of morality and humanity.

It became evident that Mr. Greene's instructional approach was a student-centered model with regard for adolescent perspective. This model afforded students independence and Mr. Greene infrequently utilized models of direct instruction. In this particular context, this level of independence created opportunities for students to develop autonomy and leadership. A side effect of a place-based approach to instruction was the opportunities for building relationships. This was something Mr. Greene talked about

frequently and was easily observed in the classroom setting. These relationships existed among students as well as between students and Mr. Greene. In his classroom, Mr. Greene removed himself from the central role of knowledge-holder. In part to answer the second research question, Mr. Greene utilized resources to position the students as the scholars. In doing so, he provided them with needed authority (Litman & Greenleaf, 2017; McInerney et al., 2011).

NCTE and InTasc standards position high school teachers to put students on the path to global citizenship. The data showed a connection of teacher behaviors focused on morality, ethics, and social justice to global citizenship. Mr. Greene believes that one of his most important jobs as a teacher is to talk to students about what is right and wrong, the implications of their actions, and to illuminate common assumptions. These are acts which prepare students to participate in modern society (Gruenewald & Smith, 2008).

Mr. Greene Believes His Students Need an Appropriate Level of Autonomy

Mr. Greene feels he has a responsibility to guide high school students, but allows them to see that they are mature adolescents as they near graduation. He does so through a balance of support and "floundering" (Interview, February 19, 2019). He was able to capitalize on the social and developmental level of the young adults. In the writing process, Mr. Greene said he lets the students struggle and then provides strong feedback on a lessening degree of criticism, until they are stronger writers on their own (Interview, January 22, 2019). Mr. Greene felt the capstone project provided just enough support, but students had the autonomy to choose a topic, to decide on a final product, and had the freedom to express a passion.

Students affirmed that this level of autonomy and Mr. Greene's approach was

beneficial to them. Students said that they liked the level of independence and especially

Mr. Greene's confidence in them. The students' own words (Table 4.4) are the best way

to showcase their appreciation for the ways in which Mr. Greene facilitated their learning

with an appropriate level of independence.

"I think that's one of the things [he] does, I think, pretty well. Sort of like he doesn't really give us the answers when we ask for them. He's like, 'Oh, I believe that you're capable of finding it yourself'."

"He's not insulting our intelligence. He's like 'you can do it; I'll guide you, but I'm not gonna, like just give you the answer sheet'."

"He puts us in the right direction or gives us some help, but like he's just sort of like pushing us to find our own answers, which I think is really important for the future." "I don't think success is getting something right. I think it's like learning from a mistake and like the growth and being like 'Hey, you know, I couldn't do that before, but now I'm stronger and I have a skill that I didn't have before.' And even if I got the answer wrong, I know how to tackle the problem now. And that's something you'll use later for anything, not even just science or literature."

Table 4.4 Student Explanations of Autonomy

One student attributed her current success to independent learning like in a flipped

classroom model. Mr. Greene likely utilized this model to allow students to work

independently with material and grapple with their own ideas before approaching them in

a whole-class instructional format. One such experience was not observed in the course

of data collection, but students commented on it during the focus group and said they

enjoyed this format partly because they were in control of the pace and could exercise

their autonomy. Overall, a predisposition to success in autonomous learning formats

could relate to the engagement students exhibited in writing and communication.

Mr. Greene Believes in Preparing Future Citizens

Mr. Greene incorporated equity and social justice into his teaching with the goal

of preparing students to leave the academy and make a positive impact on society.

Current events were utilized as resources to engage students and tie content to the global

context. In speaking with a student, he asked:

"But globally, should we care more about citizenship? We require all kids to take civics [and] government. What better prepares our kids to be citizens than an Environmental Science class?" (Observation, January 25, 2019).

Mr. Greene also feels that he has a responsibility to parent students in teaching them right

and wrong. He acknowledged that it is a personal belief in saying:

"some people don't feel it's our jobs to be parents; a lot of people don't feel that way. We're not their parents, but I think it's still our job to be positive role models and help with those societal norms of right and wrong and expectations. I think all of those are personally important to me," (Interview, January 22, 2019).

Ethics, law, and policy were consistently woven into classroom discussion. Mr.

Greene did mention that the level of emphasis on ethics may vary from year to year based on the cohort's interests. During one observation, Mr. Greene communicated to students that addressing environmental issues is important to end the perpetual cycle of inequity (Observation, February 19, 2019). He commented that many current environmental issues that are receiving a great deal of coverage in the media is because of their relationship to social justice. He pointed out that the progress of environmental policy was "exciting for all of us." Using the term *us* was interpreted as a tool to communicate to students that they were part of a learning community as well as being environmental stewards.

Mr. Greene fostered students' development in many ways. He asked students to think about their daily choices and the impacts of their decisions. In a lesson on GMOs, students were asked to think about their grocery shopping and the snacks they were eating during class. The following vignette offers a look at how large global, humanitarian issues were utilized in addressing content and citizenship. At the beginning of class, Mr. Greene told students they were going to discuss the argument for whether genetically modified crops are good or bad. The students were directed to formulate pros and cons for traditional crops versus genetically modified ones. During preparation, students did not know which side they would argue. He told them to look up social and global issues related to genetic modification. Before releasing students to work independently, Mr. Greene reminded the students that they have a different background and prior knowledge than the general American public. He said a lot of people have no idea, but the question over genetic engineering has become more immersed in our media and everyday life. You can look at a bag and it says 'non-GMO' or 'organic.' Mr. Greene told the students, "knowing what you know, makes you skewed or biased." He then asked students to indicate, if there are two products on a shelf, which do they choose. Mr. Greene mentioned this was hypothetical, but then walked over to a student snacking on the popcorn snack, Boom Chicka Pop. He picked up the bag and proclaimed, "this one says non-GMO, gluten free. Boom! Marketing tool." One student began to argue that popcorn is always gluten free and a few side conversations erupted. Mr. Greene responded by saying, "That's not a social issue. How are we feeding people? How many of you see the labels and pick? Do you have a rational argument for why? Do you consciously make the decision why? How many consumers are going to make a rational decision? Or is it just because it says?" The students did not immediately offer responses to this so Mr. Greene told them to do a little research without knowing which side they would argue in a discussion about the pros and cons, risks and benefits. The class then broke into groups after a team-like "Ready, break" clap.

This observation showcases the several angles from which Mr. Greene approached

teaching citizenship. In debates, when students were forced to argue both sides, they had

to engage in perspective taking. He also asked students to consider their own biases.

When students veered off topic, Mr. Greene centered a content discussion around social

issues. The team clap was a behavior observed on more than one occasion. It was a small

representation of the strong relationships that had been established. To continue in this

observation:

As they were working, Mr. Greene had a conversation with one student about a different food label. He explained that grass-fed was a different issue. The conversation about GMOs was related to the ability to manipulate a crop's gene. Mr. Greene asked the student to think about the ability to manipulate human genes. He reminded the student that we have the ability, but we don't do it, because of the ethical factors. He explained that "we could genetically map and remove DNA from cells for preferential characteristics like height and eye color. But the larger

conversation is when we talk about isolating genes that cause aging, cancer, sickle cell. We could play g-d. Because people are arguing if we can cure and save, why wouldn't we. That's the ethical side. Most scientists would say absolutely. But, what's the line? There's bad with the good, unintended consequences." Mr. Greene brings the conversation back to crops in that genetic modification can make food last longer and ship further and goes back to a conversation they had at the beginning of the year about food shortages, food waste, and starvation. "The FDA allows us to test GMOs with crops, but how would we ethically test the possibilities with humans?" (February 8, 2019).

During this conversation and the larger discussion, Mr. Greene asked the student to consider the good, bad, and unintended consequences of ideas they shared. Mr. Greene asked students to reflect upon and research their choices as they should do in their role as informed citizens. This is just one example of how a place-based approach facilitated the intersection of social and natural systems and created an umbrella for disparate content to be organized under. Over the course of the study, connections between classes were made along congruent threads of the human experience. Water contamination was threaded through a class discussion, a lab, a book chapter, a film, and a guest speaker. The issue of starving populations connected content related to food waste, crop choices, soil, agriculture, and food production (Observation, January 25, 2019).

After watching the film, *A Civil Action*, Mr. Greene asked students what they felt about the ending. One student felt angered. When Mr. Greene asked her why, she explained that she felt frustrated that the audience knows who is in the right, but it does not necessarily work out for the character. Mr. Greene commented to the whole class about how justice is not necessarily served because of righteousness. Mr. Greene shared with the class that he thought the judge and the mom had the two most powerful lines in the whole movie. The mother said nothing will compare to what she has lost; there is no dollar amount to equal the loss of a child. And the judge asks 'where did it all go? What

do you amass in your lifetime?' Mr. Greene asked students what that meant to them and to think about what people value in our society, in our culture. This film brought many opportunities for them to discuss humanistic themes such as: an earnest reputation, career choices versus integrity, fighting injustice, being eaten away by guilt, and personal investment in a noble cause. (Observation, February 19, 2019). When discussing societal values, personal opinions are inherently shared. The discussions should be academic, critical, and open for dispute to support rigorous discourse in the classroom.

Mr. Greene Believes He is Not the Sole Source of Information

The resources that Mr. Greene utilized to support purposeful writing tasks promoted students' independence and lack of reliance on him as the sole source of information. He said in an interview, "I think all schools, all teachers -- your job is to be a mentor and an adult role model, not just a source of ...you know this well of knowledge" (January 22, 2019). Students' choices in the matter of their learning prepares them to have power and make decisions in the world. Pushing students to seek multiple perspectives is also an important part of preparing them as future citizens. The research that students conducted can serve as a catalyst for activism as well as social and scientific awareness.

Mr. Greene went on to explain:

"Part of our jobs as teachers, now for sure in a shifting philosophy of learning especially in our division, is to help facilitate and mentor and mediate. If nothing else, just help them understand those resources, but not be the sole sense of information anymore, the sole source of information anymore. That's being directly disseminated that this is not our jobs anymore; our job is not to be the only source of information. They have so much at their fingertips. It's a global, instant access to so much in that database, kids don't need that anymore, but you have to help them decipher it and understand it. Your job as a good educator is to help set the activities up, the learning up so that they can continue to grow in that big understanding and add pieces of it through the different engagement, enrichment, the different learning," (Interview, February 7, 2019).

Mr. Greene helped students decipher a wide variety of resources throughout the study. In one observation, he presented a picture book to students proclaiming that it had a surprising amount of content (Observation, February 14, 2019). In another, Mr. Greene suggested students watch the film *Erin Brockovich* as a source of information in their study of water contamination. The guest speaker that Mr. Greene invited during one observation, was utilized as a resource as she essentially served as a co-teacher and engaged in conversation with the teacher and students, rather than coming in as a source of entertainment. Mr. Greene even positioned students as the more knowledgeable other. He was observed telling students to ask their peers for information or expertise. He positioned students to think of themselves as sources of information as well. He once said in response to a student's query: "whatever you think, you are the scientist" (Observation, February 13, 2019).

Mr. Greene's relationships with community members allowed them to be utilized as resources for students and the academy. Mr. Greene was observed placing a student in contact with a community beekeeper to explore his capstone project about insecticides. Mr. Greene was also able to detail his relationship with local apple growers and how they may benefit the student's research. Mr. Greene was seen in almost all interactions with students, surrounding their capstone papers, suggesting they utilize local experts. The availability of local experts may be related to the location of the school site near to several institutes of higher education. Additionally, the professions many community members and parents held proved to be relevant to the students' work.

During the focus group (February 15, 2019), students said that reaching out to community members or professors as resources is useful when they cannot find the

answer. Students learned a willingness to communicate and to reach out to resources. One student said success "is like learning how to use your resources to get to the answer or to a solution rather than just asking the teacher the direct answers ... wanting to go and explore and find it" (Focus Group, February 15, 2019). A likely skill necessary for the future.

Some of the sources students utilized in their capstone papers include:

professional journalists, Wikipedia, news sites, journal articles, nonfiction books, a cacao farmer, JMU professor, government websites, product sites, sources that address alternate perspectives, people who were personally affected by an environmental disaster, local ski resort manager, a water advocate, MSU Professor, Buffalo professor, and an NYU faculty member.

Mr. Greene Believes Building Relationships is an Important Facet of Providing Autonomy

The second research question attends to what resources the teacher utilizes in instruction. An abstract answer to this question lies in the relationships developed in Mr. Greene's classroom. These relationships served as a resource in designing instruction where students frequently and predominantly worked independently under an assumption of trust.

Mr. Greene described the value of these relationships:

"I felt like that was always how you got the investment in the student learning was caring first, learning second... Kids are screaming and crying for people to care and pay attention to them...I don't think you have any choice in order to be successful teaching youth if you're not building those relationships and helping them through a lot of the other things beyond just the teaching," (Interview, January 22, 2019).

These relationships continue after students graduate from the academy. Mr. Greene shared memories of alumni visiting and keeping in contact. In the early days of January before college students returned for the spring semester, there was an alumna visiting during data collection for this study. Mr. Greene felt that while students are mature young adults, creating these teacher-student relationships may not be available to them as college students and they need this opportunity during high school. As indicated in the conceptual framework, the classroom offers the highest opportunities for relationship building. Mr. Greene attributed his beliefs about the importance of creating relationships with students to his own experiences as a student. Additionally, the division-wide goal of "relationships, relevance, rigor" likely supported him professionally in attending to this facet of instruction.

Mr. Greene facilitated a balance of independent and group work. In the focus group, (February 15, 2019) students shared that working with other students on group projects was one of the most beneficial experiences from their time in the academy. They felt that collaborative experiences prepared them to ask for help in the future.

Constraints on Autonomy

The challenges that teachers have reported in earlier survey data (Applebee & Langer, 2011; Kiuhara et al., 2009) about their reservations in implementing curricula like place-based education, related to a loss of control. The relationships that Mr. Greene fostered became a tool in classroom management. By promoting students as future citizens, Mr. Greene, held students accountable personally and academically in the classroom. He was able to identify appropriately high expectations with his deep knowledge of students' individual capabilities. Mr. Greene managed safety during labs

by communicating to students in a future-looking model. He asked them to consider how negligence and carelessness could result in real human hazards in the type of work they do (Observation, February 13, 2019).

To combat common classroom issues with student cell phone usage, Mr. Greene and students seemed to have an agreement about when the technology resource was appropriate. Students were observed using a smart phone to quickly reference a map when Mr. Greene talked about the location of oil rigs in the Gulf of Mexico and shared it with peers (Observation, February 14, 2019). The classroom management strategies were unique and adaptable to the student- and environmentally-centered learning environment. Students were in a routine to leave their phones inside when they went out to complete work on the patio or in the academy gardens. When students leave high school they will need the skills to adapt their behavior and hold themselves accountable in a wide range of personal and professional settings.

Finding 4: The Teacher Has Designed P-based Curricula to Enact a Place-based Approach to Writing Instruction

The subquestions of this study's first research question read:

- a. How are global and community contexts used in facilitating writing?
- b. How are students addressing place-based problems and inquiries through writing?

It became evident that making connections to and situating classroom content in a global context was a consistent theme in Mr. Greene's instruction. Students were able to address place-based problems as seen in the capstone papers, yet the curriculum is not holistically place-based. The current study relies on two definitions of place-based education (PBE).

- 1. A progressive curricular framework grounded in the resources, issues, and values of a local community, which focuses on using the near environment as an integrating context for learning.
- 2. Place-based education immerses students in local heritage, cultures, landscapes, opportunities and experiences, using these as a foundation for interdisciplinary study across the curriculum. PBE emphasizes learning through participation in the community.

The first comes from the literature and is integrated into the conceptual framework. The second is practitioner-oriented and was shared with Mr. Greene. It is interpreted that Mr. Greene has designed a place-based approach to instruction, but it is not wholly a model of place-based education. Mr. Greene's natural tendencies were to include place-based experiences, actually experiential learning situated in place, as secondary to other P-based (passion-, problem-, and project-based) learning. Place offered an opportunity for application, but was not motivating the instructional decisions.

When Mr. Greene was asked if he has developed a place-based curriculum, his answer was pretty clear: "I'd say that some of that for sure. Our whole curriculum isn't built that way, but that is absolutely part of the mentality of designing" (Interview, February 19, 2019). I only asked Mr. Greene this at the end of the study to limit any influence and to observe his natural tendencies in planning and implementation. The teacher's understanding of the students' prior knowledge and influence on the curriculum allowed him to cultivate student-centered active learning experiences.

Mr. Greene Believes that P-based Learning Experiences Authenticate Classroom Learning

Mr. Greene defined authenticity for me in two ways. He first defined authenticity in connection with experiential learning:

"The idea of 'authentic learning experience' is not new and is an educational buzz phrase now. To me it means, to give them a real and tangible example or experience that attaches to the learning idea/concept/topic/content; that makes it an authentic experience. Learning from someone lecturing on riparian buffers, or showing a [PowerPoint] or reading it in a textbook is not what I would call an authentic experience. Going to the field and planting the trees in a field damaged by generational poor farming practices and cattle mismanagement to repair the damage, being knee deep in the mud, digging the holes, planting the tubes and trees is. That is a memorable experience that authenticates the learning..."

The second connected authenticity to project-based learning:

"...The second way it could be authentic, is that it is owned by them. That is the project-based approach. The relevance connecting to a practical application or to something that they create, design, build, make, etc., that authenticates the learning when the field experience is not a realistic option," (email correspondence, February 12, 2019).

The lack of PowerPoints and textbooks as resources was immediately noticed in Mr.

Greene's classroom. Although, students had access to textbooks and were seen as capable

using reference materials on their own accord to formulate arguments within the classes.

Many learning experiences and projects that were practical and engaging were captured

in this study as elements of Mr. Greene's place-based approach to instruction.

Passion- and project-based learning are feasible and engaging. As observed,

these are approaches to learning that can be authentic, yet offer a practical studentcentered model that can be executed within the school environment. Mr. Greene described passion-based learning as something the school division has shifted toward and communicated as "the way that they want kids learning" (Interview, February 7, 2019). This shift from a strictly problem-based approach incorporated a new interdisciplinary focus. While Mr. Greene did attach passion-based learning to a division-level motivation, it aligned with his own philosophy. When speaking of this, his tone of voice was positive and he did not express frustration as with other division-level initiatives. Mr. Greene

coupled his own philosophy of education with that of the division in most cases. Mr. Greene said that following students' passions was motivation for him to plan unit by unit and modify curricula from year to year.

The capstone project was designed as a passion- and project-based concept. Mr. Greene designed it to be the project which serves as a culmination to authentic learning experiences. Students chose what they were interested in based on a lingering inquiry. Mr. Greene said they are not able to cover everything over the four years of high school and students find things they are interested in and want to learn more about; the capstone project provides them a platform to learn more about, what he describes as, a passion. One student said, "I think success as a student is like being passionate about what you're learning" (Focus Group, February 15, 2019). When I asked students how they define success, they did not associate it with test scores. Test scores do not necessarily represent intelligence; the students described intelligence as knowing what you care about and being able to answer how you are going to make an impact (Focus Group, February 15, 2019). This was seen as an atypical response from a high school senior with intentions to attend a four-year university. The capstone project, however, may have facilitated a unique opportunity for the seniors to formulate as a college entrance essay or otherwise résumé builder.

There are examples of both, feasibility and student-engagement, through projectbased learning represented in the data. Mr. Greene recounted what he believed to be one student's greatest accomplishment throughout her high school tenure in a project. The student analyzed a Supreme Court case and synthesized her knowledge to create an animated LEGO video. Mr. Greene said through this project she was able to demonstrate

learning that tests have never been able to show and that was awesome. Project-based learning experiences stand in when place-based experiences, such as traveling to outer space, are not feasible. As Mr. Greene said, "we cannot take them to the moon, but they can build models replicating discovery missions and take them to the Air and Space Museum to see the actual Apollo capsule" (email correspondence, February 12, 2019).

Problem-based learning marries engagement with authenticity. Mr. Greene

described problem-based learning as one of his favorite approaches to teaching and

opportunity for students to address real-world issues. He described it as so:

"Problem-based is more like what we do with our case studies, which I really enjoy that – that may be one of my personal favorites. All three of them (project-, passion-, problem-based) I think are good in doses. I think it's that nice mixture that keeps kids - the novelty keeps them interested – engaged. Sometimes interest, passion that's what you're aiming for. Their [passion] keeps them engaged, but the problembased, once they have that base knowledge, you have to solve some issues, some case. And I really like that because it is in a way project-based, but you're not saying 'I want you to create a booklet at the end of it.' It's 'solve a problem. Solve world problems. Solve this fake scenario or this very real scenario'," (Interview, February 7, 2019).

A problem-based approach to learning is congruent with the conceptual framework of this study. Mr. Greene described using problem-based activities to support students in higher-order thinking and to promote collaboration. He said, "we have to solve a problem together there's a crisis there's a disease outbreak there's something ...whatever it is and I think, inherently, we all are interested and that creates a higher level of inquiry" (Interview, February 19, 2019). The engagement of passion-based learning is important to Mr. Greene, but he values the learning more. He said,

"I think engagement is so critical too, but when they dive right into something and they are excited about coming up with solutions, that's what learning should really look like...I love problem-based learning. I use a lot of it right now," (Interview, February 19, 2019).

The observations were able to verify this claim over the duration of the study.

In one observation (January 25, 2019) students were presented with a case study that depicted Protensia's, an African man's, dilemma with his corn fields. Prior to engaging with the case study, Mr. Greene designed several other learning experiences that attended to the base knowledge he references in the quote above. Students read a journal article about the history of maize as a crop. They participated in a discussion about the global and personal impacts of maize. Mr. Greene then shared slides entitled "The Evolution of Maize" with the students which covered some ecology- and geography-related information.

When Mr. Greene introduced the title of the case study and one student exclaimed "are we doing a case study!?" and another "we get to role play!" (Observation, January 25, 2019). In groups, students tackled and posed hypothetical solutions to the case of Protensia's dilemma. Students were given the following guiding questions: what would do if you were Protensia; why would you take this course of action; what are the tradeoffs Protensia faces? Students came up with responses that included consequences about his neighbors, his family, and his health as well as hypothesizing possible impacts of the weather, pesticides, and government subsidies. Mr. Greene probed students to explain why they had chosen the solutions they had. Along with this problem-based approach, afterward students engaged in an individual writing task in which they summarized problems African farmers face. Mr. Green provided the purpose for this writing task to be helping students develop ideas for a policy they would write in regards to traditional and hybrid crops.

A student in the focus group (February 15, 2019) responded to a question about how they learn best by saying: "Applying it and doing labs or other case studies and stuff

like that where you can ask questions to the person who's giving you the information in the first place." Even in an abstract way, the student conceptualized case studies as authentic sources of information.

Experiential and place-based learning foster purpose and relationship building. The two pillars of a socioconstructivist theory of learning are experiences and relationships. Experiential learning in this study is defined as: learning from experience by immersing learners in an experience and then encouraging reflection about the experience to develop new skills, new attitudes, or new ways of thinking. An example of experiential learning was not observed over the course of the study. Both, students and Mr. Greene, however, described some of the experiences they have had.

Mr. Greene described planning class trips and designing experiences to "support the learning with real, tangible practical application," (Interview, February 19, 2019). Mr. Greene clarified that the experiences are not the students' only interaction with learning; they learn in the classroom, as well, and the experiences are not standalone instances, but they are woven into the curriculum. Mr. Greene said he makes things real and tangible in response to *how do students learn*. He does this by engaging them through trips to wildlife preserves, stays in the mountains, and experiences at research stations of varying lengths from days to overnight weekends.

The students shared their feelings about the experiences. The experiences, for example at the Chesapeake Bay, allowed them to "actually go out and see all the things that we're learning so like the connection to the real world and like the applications of everything" (Focus Group, February 15, 2019). One student was able to clarify why that learning might be so impactful. She said:

"I think we learn stuff in the ESA, we watch documentaries, we learn about stuff and then suddenly we leave school and then we keep seeing that stuff. Like we go to the grocery store wherever and we started noticing themes and what we learned about and connecting it to things. It's like the learning just continues. It's just a lot more valuable," (Focus Group, February 15, 2019).

Another student echoed the sentiment that the extended real-world connections were her favorite experiences. Some of those real-world experiences were situated locally at the James River Bay. Students claimed they really liked the field trips, seeing the state, and said: "we've gotten to know our own community in a new context through environmental studies" (Focus Group, February 15, 2019). Opportunities to leave the classroom and school grounds may be preferred by many students for a variety of reasons.

These local and state-based experiences offered students opportunities to learn outside. Mr. Greene said, "I think learning happens a lot better there," (Interview, Jan 22, 2019). In his objectives for teaching, Mr. Greene mentioned taking kids outside as much as possible. In response to the definition *place-based education is a curriculum that immerses students in local cultures, landscapes, opportunities and experiences in order to use those as a foundation for interdisciplinary study and that it emphasizes learning*

through participation in the local community, Mr. Greene said:

"I'd say that some of that for sure. Our whole curriculum isn't built that way, but that is absolutely part of the mentality of designing. We try to do community service every year for our kids in our community, our freshmen do work with [a local refugee organization] and their gardens. And then we tie that in with geography because they learn about some of the cultures of the people that are living there and using that and they're helping. We planted - our sophomores have done some tree planting, like repair and buffer zone plantings along the James – again, in our greater [Collins] County community. So, some of that for sure. Just within learning we used to take our freshmen every year, the beginning the year when I was doing the Earth Science, we would do a little meteorology unit where they would design their own weather equipment. We would take them up on top of Afton mountain and do a lesson on geology, [a] lesson on geography, on earth science and meteorology. Like all together, but specifically because there's some exposed, you know, several million-year-old rocks that the colleges take core

samples out of and that they can see the Rockfish Valley in the Shenandoah Valley. They can see all the way up to Wintergreen; we can do some geography and some... I think that's a cool one for that" (Interview, February 19, 2019).

Some of the place-based experiences are facilitated right at the academy within

the greenhouse or on the grounds. He shared:

"Our horticulture kids: they till the garden; they plant; they collect; they do four by four flower beds which is a project-based -- a really cool project for them. So, during the winter right now, they design and they have to learn about how landscape architects would design like blooms, spread, color, you know. They do vertical and horizontal profile drawings, detail drawings, and then they have a budget where they order flower seeds, they plant them, they grow and then they amend their beds. As soon as the frost is done, they'll plant and transplant all the flowers they are growing inside. So, it's a really nice kind of culminating project for that little, for our Horticulture-1 kids. They design and plan and plant and then they have to learn about mulching and weeding and they have to learn about soil amendments and testing soil and limiting factors and macro and micronutrients and soil. It's one of the best examples of a long-term project-based learning because all of that stuff is learned through that project versus you could do it in a day with a PowerPoint probably like this is a flower bed; this is a four by four this is what a landscape architect [does]. This is bloom; this is spread; this is a color chart. You know, you could probably drill all those things in, in an hour-long lecture, but it's way, way, way, way better. The kids love doing it" (Interview, February 19, 2019).

The data show that place-based and experiential experiences were not done so

much in the literature class, but students had opportunities to read outside. Students

engaged in nature journaling and observations in connection with the almanac project.

Constraints on P-Based Learning

Mr. Greene shared that attending to students passions and inquiries often requires flexible planning. As he described this, he confessed this may sound like chaos. This may be a downfall in the way that a place-based approach to writing instruction was enacted.

The students in the focus group (February 15, 2019) perceived the curriculum as chaotic.

Other constraints were money and time. Mr. Greene explained that "as the students get older, the experiences become a little more expensive, more expansive, and

they become more impactful, but less frequent. It happens more in our younger cohort" (Interview, February 19, 2019). The academy had access to a greenhouse, indoor ponds, and usable land to subsidize experiences. Many times resources are perceived to be the most limiting constraint on place-based experiences.

Chapter Summary

Deductive and inductive analysis, analytic memoing, and pattern matching of data from three hour-long interviews with the participant, fifteen hours of classroom observation, one hour-long focus group with three students, and review of relevant documents led to the assertion of four primary findings. These were:

- 1. The teacher has designed the curriculum around a purposeful writing task in the form of a capstone project.
- 2. The teacher believes that writing and communication are lifelong skills necessary for college and career success.
- 3. With a goal of preparing active citizens, the teacher supports students in developing autonomy and dealing with issues of morality and humanity.
- 4. The teacher has designed p-based curricula to enact a place-based approach to writing instruction.

These findings address the study's purpose in describing how the teacher facilitates purposeful writing experiences in the secondary classroom. More specifically, how this is facilitated through a place-based approach. Primarily, writing instruction extended beyond instruction directly related to writing tasks. The teacher's goals for students as productive global citizens resulted in a wide-spread instructional attention to communication and student-centered learning. The teacher utilized a multitude of resources to facilitate this model of instruction. The teacher managed to combat common constraints and in the particular context, may have faced fewer constraints than the

average high school teacher. It was found that place-based methods were utilized in facilitating learning experiences in this teacher's classroom. Many aspects of place-based education, including experiential learning, authentic tasks, interdisciplinary learning, problem-based learning, and local relevance were evident in the teacher's beliefs and had been incorporated into the curricula. Place, however, did not play a lead role in guiding instructional decisions.

These findings can add to a discussion of possibilities for purposeful writing instruction and continued research in place-based education. This discussion can be found in the next chapter.

Chapter 5: Discussion and Recommendations

In order to address the problem of ineffective writing instruction, one major goal in conducting this study was to understand how a place-based approach to instruction could marry quality and authenticity. A single case study was designed to learn how one teacher utilized a model of authenticity in place-based education (PBE) to enact highquality, evidence-based writing practices. The practices relevant to this study include collaborative learning, purposeful writing, inquiry activities, a process approach to writing, and writing to learn.

The problem of inauthentic, teacher-focused writing was targeted in this study to address the larger problem of students' deficiencies in writing and communication. There are several micro problems identified in the literature that were also attended to in this study. First, teachers lack preparation and professional support in enacting high-quality writing instruction (Kiuhara et al., 2009). Second, teacher education programs do not prepare candidates to mediate how students display knowledge (Grisham & Wolsey, 2011). Third, schools are not focused on writing (National Commission on Writing, 2003). Fourth, teachers lack self-efficacy in writing as well as in teaching writing (Read & Landon-Hays, 2013). Fifth, when teachers do include writing in their classrooms, it is focused on form (Hillocks, 2005). Finally, when teachers do teach writing it is devoid of real-life application for students (Liu, 2015). The participant of this study focused on clear communication and expression in his classroom while providing students with

opportunities to individually demonstrate unique knowledge. The place-based instruction that was observed addressed several of the micro-problems mentioned above.

The conceptual framework of this study was designed to highlight the elements found in purposeful writing instruction and demonstrate how a framework of place-based education could structure a teacher's planning and implementation of writing instruction. As seen on page 70 of this report, the framework supports building relationships and providing purpose for writing. It was found that the teacher utilizes the elements of PBE as a way to prepare effective communicators and thinkers for a global society. The global context was used by the classroom teacher for situating inquiry activities and framing the purpose for writing and communication. The community context was used to form partnerships and provide resources for learning experiences. And in the school context, the teacher used an interdisciplinary approach to facilitate experiential learning opportunities.

Earlier research has indicated that teachers struggle with authenticity and engagement when working toward rigor and fear that their writing instruction will lack complexity when designed in a student-centered manner (e.g., Grossman et al., 2000). This case study explored how one teacher designed student-centered instruction through an environmental studies curriculum. The findings indicate that place was used to create engaging experiences to support students in important meaning-making of science and humanity. This chapter will discuss implications for both practice and research along with the limitations that emerged in data analysis. It will also outline recommendations for future study including those for the teacher and school on which the case focused.

Limitations

While there were limitations in constructing and presenting the findings of this study, the outcomes offer implications for specific practices and provide a direction for future inquiries related to the problem of practice. The limitations addressed here relate to those in the process of data analysis. Limitations of the methodology can be found in chapter three. First, because I did not analyze my data in terms of discourse analysis, my findings were limited to explicit instances of meaning-making. During these instances, the teacher clearly indicated his beliefs and goals for teaching and learning. The findings rely on ideas presented through interviews and what was said by the teacher during observations. Utilizing discourse analysis to dive deeper into the language used in both interviews and observations could have drawn out more robust findings to understand how students made meaning as well—an opportunity for others to use.

Furthermore, in designing the study, I aimed to engage in a focus group with at least three students to ensure multiple perspectives were represented and to create a conversational exchange rather than a formal interview. Three students volunteered and provided consent to participate in the focus group. Additional students would have offered a greater understanding of their experiences and varied perceptions of the writing instruction. Additionally, I aimed to collect data for a minimum of six weeks. Time constraints limited the data collection to four weeks. Given more time, I might have uncovered additional opportunities to describe authentic writing and instructional tasks. This would potentially garner a deeper understanding of how the teacher and students ascribed meaning and their behaviors in relation to writing tasks.

Additionally, findings are unique to this particular context; they can only be transferred with consideration of the similarities and differences in a new context. The teacher's deep content knowledge and familiarity with his particular community make it less likely that the findings would be replicated in other settings. The recommendations in this chapter are specific to the context, as well. It is necessary to take what is known about the student demographics into consideration when interpreting the findings. For example, the teacher reported that his students are typically at a 100% pass rate for state assessments and his students' AP scores are above the national averages. Thus, the teacher was free of having an administrator "breathing down [his] neck" and had the freedom to teach what he wanted (Interview, January 22, 2019). Furthermore, the findings are specific to a student population of graduating seniors who are all preparing to attend institutes of higher education and therefore may differ from secondary students in different contexts.

Discussion

The findings of this study indicate that the teacher's approach to instruction gave his students the opportunities to take a stance, write about something meaningful, and negotiate perspectives to connect personally with content. Additionally, the choices students were afforded allowed them to express their opinions and gave them power to impact their place in the world. It is acknowledged that the students' feelings of agency and success with writing tasks, however, may not be entirely related to this teacher's instruction.

The implications discussed in this chapter present how the teacher's enactment of a place-based approach to writing instruction occurred in a particular context. The first

implication uses the study's findings for including place in designing purposeful writing instruction for secondary students as a model of high-quality instruction. The second implication extends the discussion of preparing students as active global citizens through environment-based writing instruction. Finally, the third implication draws on the findings related to the teacher's role in the planning and enactment of place-based writing instruction with the goal of preparing students for college and careers.

Implication 1: Teachers Can Meet Standards of High-Quality Teaching Through PBE

Teachers expressed concerns in the literature that if they were to enact studentcentered, authentic writing instruction, it would cease to be rigorous. Therefore, in order to address these concerns, I sought empirical and practical indicators of high-quality teaching in conjunction with Mr. Greene's planning and implementation of writing instruction that I observed. Three sources suggest the teaching practices of Mr. Greene were aligned with high quality teaching practices. These are: the InTasc standards; the Classroom Assessment Scoring System (CLASS); and the Protocol for English Language Arts Teacher Observations (PLATO). The data indicate that the teacher was able to meet the following InTasc teaching standards deemed relevant to the current study.

InTasc Standard	Description of Standard
Standard 3:	The teacher works with others to create environments that
Learning	support individual and collaborative learning, and that
Environments	encourage positive social interaction, active engagement in learning, and self-motivation.
Standard 4: Content Knowledge	The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.

Standard 5:The teacher understands how to connect concepts and useApplication ofdiffering perspectives to engage learners in critical thinking,
creativity, and collaborative problem solving related to
authentic local and global issues.

Table 5.1 Relevant InTasc Standards

This teacher was able to encourage self-motivation by promoting students' power and agency. These are thought to be two critical student outcomes that are not measured by standardized test scores. The teacher guided students in applying content and the research they conducted for their capstone projects served as a catalyst for activism as well as social and scientific awareness. The observed learning environment and assessment practices supported individualized and collaborative formats of learning. The teacher engaged students through relevant place-based learning through his knowledge of content and the tools of inquiry throughout the study. By facilitating learning experiences through equitable resources, content knowledge and skills became accessible. Connecting concepts through authentic global issues was prominent and promising in the context of this study. Local issues were not as predominant in the data.

The CLASS tool can be used to describe the teacher's practices. The relevant secondary classroom dimensions of positive climate, regard for adolescent perspective, quality of feedback, and instructional dialogue informed the findings as they were evident in interviews, focus groups, and observations. Positive climate includes the relationships Mr. Greene formed with students and they did with one another. Students were observed sharing personal accomplishments and Mr. Greene showed his interest and knowledge in students' lives outside of the classroom (Observation, February 19, 2019).

Regard for adolescent perspective includes the teacher's attention to social and developmental needs of the adolescents in relation to autonomy and leadership. Mr.

Greene spoke of the physical attributes of the academy building that attended to students' needs for independent work space and his support of students' going outside their comfort zones (Interview, February 19, 2019). There were many examples of Mr. Greene's attention to students' needs in and outside of the classroom.

Quality of feedback quantifies the teacher's ability to utilize feedback for expanding and extending learning and engages the student in content-related discourse. During writing conferences and classroom discussions, Mr. Greene was observed responding to students by furthering their understandings with series of follow-up questions. Mr. Greene and students made connections to other coursework, their personal lives, and other courses during discussions. CLASS's dimension of instructional dialogue is an element that captures classroom discussion and opportunities for student talk. An abundance of student talk is represented by the findings of opportunities for expression. All of these were seen to be supported in the place-based approach to communication and writing in the environmental studies context.

The PLATO rubric's purpose is described by the creators as follows:

"The rubric was designed to capture features of English/Language Arts (ELA) instruction. It was originally developed for a study of the relationship between teachers' classroom practices and their impact on student achievement. It is currently being used as a professional development tool to support teachers' use of rigorous, research-based teaching practices" (Stanford, 2013).

The designers indicate that "PLATO is designed to work across a variety of curricula and instructional approaches." It offers robust language to describe what was observed and the relation of that to evidence-based writing instructional practices. When talking about cleaning up environmental disasters, Mr. Greene made connections to prior knowledge in addition to students' personal. He asked the students,

"that's what [our guest speaker] was talking about, right? It's the same idea about bacon grease or salad dressing...there are bacterium that can break down oil and plastics – it's like when we were talking about GMOs, there is a gene you can insert... imagine if you didn't have plastics, bottles, and diapers sitting in landfills?" (Observation, February 14, 2019).

This is an example of how the teacher used connections to "new material [to] explicitly [build] on prior academic knowledge to develop skills, strategies, and conceptual understandings" as well as to "engage students in a lesson, pique their interest in a topic, and illustrate ideas and concepts," (Stanford, 2013). The teacher's use of PLATO elements such as literary models, authentic texts, classroom discourse, and connections to content represented student-centered and high-quality practices in this study.

Other important elements in these tools, not explicitly addressed in the current study or not directly related to writing instruction, include: productivity; content understanding; the teacher's ability to teach ELA strategies, representation of ELA content; students' opportunities for metacognition. A rigorous observation tool of writing instruction does not currently exist.

Implication 2: Environmental Studies Can Frame High Quality Writing Instruction

The context of the environmental studies classroom in this case supported the teacher in utilizing elements of PBE as a way to prepare effective communicators and thinkers for a global society. High quality writing instruction does not occur only in language arts or English classrooms. Through the place-based elements of the teacher's instruction, students made connections between resources, to other coursework, and to other classes outside of the environmental studies academy. Studies have shown (e.g., Brooks et al., 2011; Martina et al., 2009; Webber & Miller, 2016) this cohesion to be beneficial for retention of conceptual learning. These concepts are connected through the

ties from the classroom to the community and to global issues and settings. These contexts supported the evidence-based writing practices of inquiry, purposeful writing, and collaboration.

Global Context. The global context was used for situating inquiry activities and framing the purpose for writing. From 11 capstone paper samples, 100% of them included a global context or issue. More than half of student capstone samples (6/11) included a connection to the local context or a localized issue through the lens of the broader global issue. Many students utilized local (in-state) experts as sources of research and expertise. The titles and topics of the capstone samples can be found on page 71 of this paper.

A few of the global topics observed in the environmental studies context included sustainability, ethical decision-making, and environmental lobbying. Dyches & Boyd (2017) describe how a teacher who has goals for empowering democratic and critical citizens, will design instruction to recognize and teach students about inequities and injustices. In this study's context, students were asked to interpret various and minority perspectives while studying the relationship between humans and the environment. Students studied agriculture and environmental disasters and considered multiple viewpoints when proposing solutions to those encountered in case studies and in their own garden or greenhouse. Students proposed action and engaged in activism through their capstone projects and addressed social justice and morality in their writing and discussions. Thus, it may be important for teachers to know the issues and content surrounding principles of social justice.

Community Context. The community context was used to form partnerships and provide resources for authentic learning experiences in the classroom and during field experiences. The teacher guided students in inquiry processes that began with their passions, to crafting arguments and potential solutions related to their concerns. As Webber and Miller (2016) note, "while the term place-based education may not be familiar to teachers in the field, they may incorporate it or aspects of it in their teaching practice" (p. 1066). Mr. Greene incorporated many aspects of PBE as indicated by observations and beliefs shared in interviews. Although, this study did not reveal the teacher directing students to address concerns within their own communities. There was a lack of opportunities for students to be immersed in their communities in connection with learning. The implications for practice include recognizing the ways PBE can support these teachers who have an interest in enacting inquiry-based, multidisciplinary approaches to teaching.

School Context. In the school context, the teacher used a multidisciplinary cotaught approach to facilitate experiential learning opportunities. This case study provided an example of interdisciplinary teaching within the participant's courses as well as throughout the school in which he taught. "Most school buildings are designed assuming that students will be taught in classrooms led by a single teacher. The dominant and familiar architectural model is the 'egg crate,' with identical classrooms," (Martina et al., 2009). Mr. Greene and a co-teacher shared one class (21 or 14) of students. There were also multiple teachers who taught in the academy building and its gardens throughout the school day.

Mr. Greene's experiences were quite different from that of other teachers within the same school in co-taught environments. These other teachers were described as having two full classes of students combined, totaling 40 to 50 students. The traditional classrooms were not accommodating for this many students. The teachers' traditional schedules did not allow for them to co-plan for these classes regularly. There could be benefits for educators and students in moving away from the tradition of singularity.

Implication 3: Professional Autonomy Supports Enactment of Effective P-based Curricula

It was found in this case study that p-based learning is an example of studentcentered teaching. P-based includes passion-, problem-, and project-based learning and a combination of the three may represent a new conceptualization of place-based education. Although p-based learning was prominent in the data, the teacher clarified that it does not happen all the time. The data indicate a connection between expression and communication with p-based learning. There were several aspects of the context related to the teacher's autonomy and level of support which seemingly allowed for the successful enactment of this model of authentic writing instruction. On two occasions (Observations, January 24 & February 8, 2019), Mr. Greene shared with the students his decisions to alter the schedule to allow more time for students to participate in writing conferences, conduct additional research, and attend to revisions. He also had the freedom to redesign the sequence of instruction to make stronger connections between content, a guest speaker, and a film before a discussion.

The teacher's role. This particular teacher had a unique role as both the director of the academy as well as a classroom teacher. This granted him two additional planning periods, involved him in administrative meetings, gave him control over developing the

curricula, and placed him in relationships with every cohort of students in the academy. His flexibility in planning and knowledge of student's backgrounds are attributed to this role. He was able to draw from this knowledge and use extra time for effective instructional planning and enactment. Mr. Greene spoke about his role and the professional freedom he experienced. He feels this freedom supports his excitement about teaching and the lack of restrictions on pacing and lesson design encourage him to be a better-than-average teacher. He feels that he is fortunate to have this ability to be passionate about teaching.

Grading. Grading procedures emerged as a heavy constraint on the teacher's instruction. The teacher brought up grading practices, individual teachers' policies, and the fact that the district is trying to limit inconsistencies in grading. There was a push for normalizing grading practices to clarify communication between the teachers and outside stakeholders. As presented in the findings, the purposeful writing experiences and opportunities for expression in environmental studies created a format of individualized demonstration of unique knowledge. Traditional grading schemes may not be aligned to this approach.

The teacher shared the difficult in accurately representing passion-based learning with letter grades. There was trouble in separating effort when it is so closely tied with investment, but incredibly difficult to measure. The teacher commented on standards-based instruction, saying, "they tell you have to do it, but they don't tell you how" (Observation, January 25, 2019). While this study did not focus on standards-based instruction, it is important to continue to understand the implications for teaching and learning standards when designing authentic, student-centered instruction when taking a

place-based approach. It is important to consider the practical application, such as those related to assessment, for supporting p-based instruction.

Designing instruction. Mr. Greene described his process in developing the curricula for the two observed courses. He often perused material from colleges' environmental studies programs. Mr. Greene also engaged with model programs for himself to design and scaffold instruction and field experiences for the environmental studies coursework. He said:

"I looked at a lot of different programs, a lot of different colleges, a lot of different degrees that you could get out there and I tried to assimilate as much of that information as I could to streamline it, scaffold it to a high school level, to what I felt like was important that we could fit into a one-credit class...When I first started teaching, I looked at across the country, different people's AP curriculum and their syllabus and what labs they use and I try to pick ones that I thought that were good. And that gives you a starting place" (Interview, January 22, 2019).

Like Mr. Greene, more and more teachers are taking content from the internet. Grossman & Thompson (2008) contest, however, that teachers lack adequate practice in evaluating curriculum. Mr. Greene did not articulate how he determined the quality of what he assimilated into his teaching. Nor did he describe the process of streamlining or scaffolding or how he determined the value of the content. Mr. Greene did use high-quality writing instruction elements and it is important to understand what curriculum support promotes these instructional practices. This is an area ripe for further study.

Support through coherent professional development. Coherence between the academy's goals, individual class objectives, and the mission of the school was achieved. Mr. Greened described student successes as likely related to this cohesion. Grossman et al. (2000) found that secondary teachers were successful in enacting high-quality writing instruction when they grasped a conceptual understanding, attained practical knowledge and tools in planning and enactment, and when the context of their teaching supported the

evidence-based practices. Therefore, this may imply a need for the school's goals to focus on student-centered authenticity in order to support p-based curricular revisions.

Teachers do not have time to attend to curricular revisions (Powers 2004), however, and many may be lacking the skills to do so. Powers (2004) identified a major challenge in implementing PBE was the level of support teachers received in developing skills in curriculum planning. Mr. Greene described the need for professional support from the school. He said in an interview:

"There are a lot of times when teachers don't feel like they are [supported]. Whether it's through divisions or administrators ... The difference in terms of professional respect and support but I think me personally I've had good administrators and I've had good support from this division" (January 22, 2019).

Thus, an initial step in enacting effective writing instruction may be to focus efforts toward professional development and school-wide revisions attending to writing curricula.

Recommendations

Borrowing words from the participant, "let's figure out how to support making it happen and not making excuses why it can't." In this case *it* referring to high-quality, place-based writing instruction. Based on the implications of the findings, continuing to use place to frame writing instruction could offer a cohesive and student-centered approach to supporting teachers in designing instruction.

To the Teacher

The following recommendations draw on the findings implying the teacher's facilitation of writing through p-based instruction is effective in creating authenticity and rigor for students. These recommendations could be beneficial to other educators, though have been designed with Mr. Greene and his teaching context in mind.

Starting with place. Minor modifications in instructional planning will allow the teacher to flip the script, per se. Instead of utilizing place as a follow up to content learning, it can serve as the motivation. Based on students' engagement and interest in their community it seems like a feasible approach. Students were observed passionately discussing a local concern over the deforestation and bear populations in their hometown when describing it to the guest speaker (Observation, February 13, 2019). This, however, was not attended to beyond this instance in my observations. It could have been a great opportunity for place-based instruction.

By leading with inquiries about place, the teacher can continue to facilitate students' ability to communicate and develop inquiry skills through effective questioning. In alignment with teaching standards (InTasc) and effective elicitation of students' ideas (CLASS), the teacher engaged students in feedback loops and higher order thinking teaching skills that demonstrate high-quality instruction. Coker et al. (2017) found significantly positive impacts of place-based experiential learning on relationship building and communication skills. These skills are in alignment with theories of learning (Dewey, 1938; Piaget, 1970; Tyler, 2013). Graham and Harris (2016) describe how constructing "a positive classroom atmosphere where students are encouraged to try hard, believe that what they are learning will help them be a better writer, and attribute success to effort" has implications for student writing. Mr. Greene could potentially remain diligent in building relationships while emphasizing a place-based approach and increasing relationships with the community.

Provide literary models for the capstone paper. The study of exemplary models was reported as the least used evidence-based practice among high school

teachers (Lacina & Collins Block, 2012). Literacy experts, however, indicate the benefits

for the use of literary models. Graham & Perin (2007) write:

"Providing students with models of a good essay provides immediate help, as it illustrates in a concrete fashion what they should try to achieve in their own writing. It is further assumed that as students repeatedly analyze these models and attempt to emulate them over time, they develop a better understanding of the criteria underlying good writing and that they increasingly apply this newly acquired knowledge without having to rely on the models for assistance" (p. 451).

Mr. Greene indicated that he does not provide models for students' capstone papers. He communicated that he felt this limited students' creativity. Mr. Greene's reasoning may be commonly held.

The PLATO rubric captures a teacher's use of models:

"to support students in completing the task at hand. At the high end, the teacher decomposes specific features of the process by using modeling or models to provide detailed instruction. At the low end, the teacher may simply refer to a model, without using it to provide instruction in the task at hand or visibly enacting the strategies, skills or processes that are targeted (Stanford, 2013).

Grossman et al. (2015) found that modeling was more often used in classrooms with

higher ELL populations and students identified with special needs. However, this

evidence-based practice is beneficial for the students in the academy, even seniors at the

AP level. When and how models should be used is an important question. Perhaps, Mr.

Greene and other teachers in the academy should engage in research and discussions

about how, why, and when instructional models should be used. It could be that

instructional models enhance rather than inhibit creativity.

To the School

Institutional goals influence the prevalence and objectives of writing instruction (Beck, 2009). If the school districts place an emphasis on effective communication, it is

more likely to become a priority. As seen through this case study, placing emphasis on -

p-based instruction, supporting teachers in student-centered classrooms with a focus on literacy might increase high-quality writing instruction.

Connect students to their communities. As one of the most important facets of place-based education, students are able to engage in identity development as well as address issues by situating learning in their communities. Mr. Greene utilizes the community for field experiences, resources, and partnerships. He said in an interview, "I think the community wants to support you if it's not just asking for money, but especially for experience and businesses and taking kids out or bringing guest speakers in, I think it's just a matter of access" (January 22, 2019). It is presumed that teachers would benefit from support in gaining access and forming connections with community partners, especially teachers who may be new to the school district.

One of the biggest barriers to enacting place-based education is a lack of resources for facilitating field experiences. Though it seems Mr. Greene has recognized community partners' willingness to participate. Elementary schools often benefit from volunteers coming into classrooms to read and interact with students. It is probable that there are willing volunteers to contribute positively to secondary classrooms. Teachers need assistance in locating community partners, developing protocol to recognize community partners, volunteers, and parents, and to help build capacity of community partners (Powers, 2004).

A strong connection to the community is perceived to include a positive relationship with parents. Mr. Greene described relationships with parents who help with field trips and even one who volunteers as the academy's beekeeper. Keeping parents in the loop and allowing them to experience what is happening could potentially decrease

conflict over traditional grading practices and lapses in communication between the school and families.

"At its most fundamental level, place-based education must overcome the traditional isolation of schooling from community life. The walls of the school must become more permeable, and local collaboratives and support structures must be built and maintained so that education truly becomes a larger community effort" (Gruenewald & Smith, 2008, p. xx).

It is proposed that schools are able to enact place-based curricula "by gaining buy-in from multiple stakeholders from the beginning and thereby providing teachers with a broader, longer-term base of support" (Powers, 2004, p. 24).

Support teachers as instructional designers and writing instructors. Mr.

Greene was successful in designing authentic writing instruction with the affordances of adequate time and a nontraditional teaching environment. His planning time, knowledge of the curriculum, and co-teaching arrangement in the environmental studies building are unique benefits. There is the potential for any teacher to be successful in addressing deficiencies in writing and communication when given time and support in planning and class sizes and resources to enact authentic p-based instruction. The National Commission on Writing (2003) encourages all teachers to be in the position as teachers of writing. As seen in this case study an environmental studies teacher focused on expression and communication in his curriculum when attending to global issues through inquiry-based activities and writing. This became possible with access to resources and networks of partners as well as control over instructional planning and course design with other content-area educators. Grossman et al. (2015) suggest that "districts could consider increasing instructional support around the teaching of writing to make lessons more intellectually challenging, to help teachers engage students in conversations about their

writing, and to use time efficiently and effectively" (p. 324). Perhaps, the school could look to address how to equitably provide time for instructional planning, experiential professional development for teachers, and support a movement of wide-spread, multidisciplinary writing instruction.

In sum, my recommendations for both the teacher and the school are:

- 1. Begin curriculum planning and instructional moves with the elements of place-based education.
- 2. Provide a variety of literary models for the capstone project.
- 3. Connect students to local problems and issues.
- 4. Support teachers as instructional designers.

Directions for Future Research

This case study was designed to address a problem of practice of inauthentic writing instruction. This small, bounded case study has provided some direction for further investigations related to high-quality writing instruction and the placed-based education model. The context of the study is still ripe for further investigation and the findings indicate some starting points for new studies.

The Observed Academy Model

Throughout the study, it became apparent that the academy model – including the teacher's role, the class schedule, and the physical attributes – offered several unique opportunities for instructional design. I began thinking it followed an organization much like an elementary school where students are with the same group of students, with the same teacher, in the same classroom for multiple "subjects." The fact that the teacher was able to teach a group of students in some capacity from freshman through senior year allowed him an in-depth knowledge of their backgrounds and to leverage the relationships they had built. Students mentioned that the isolated building kept them from

wandering the halls and in turn they really enjoyed the people they spent much of their time with. An interesting, unexpected finding was the level of responsibility students took for regulating their own behavior. Students were observed taking responsibility for keeping their peers on task as well.

Looking at the physical setting and the instructional characteristics of the academy more deeply, with different cohorts of students and in comparison with other specialized academies can offer a plethora of information. This study provided a strong grounding for one teacher's efforts at high-quality instruction. Relating student achievement to some of these contextual characteristics offers ground for further study.

The academy model also has similarities to a college setting with its content focus on environmental studies. This has implications for exploring the way in which writing and communication are taught.

"While K-12 (ages 5–18) schools historically have served to develop basic competencies in their graduates, higher education institutions aim to qualify students in a specific discipline. As a result, writing is taught – or at least, learned – as a tool for developing and demonstrating understanding of the key concepts and domains of knowledge in a discipline," (Beck, 2009, p. 313).

From the academy, longitudinal studies following graduates into their post-secondary lives would offer insight into the impacts of this learning environment and the instruction they received there on their performance in college and the workplace. It is necessary to inquire further about the benefits and disadvantages of the content-specific academy model on writing performance.

Writing and Place

This study is one of few that seeks to understand the relationship between placebased education and writing instruction. The current study unveiled a lack of explicit

opportunities for collaborative writing, but a clear focus on relationship building. The teacher's planned experiential learning and problem-based approach to teaching positioned students to work in groups and teams often. The teacher's use of the global and community contexts to sensitize students to issues of inequality has the potential to inform social justice pedagogy research. The purpose and impact of writing was addressed in this study as way in which social action exists in the high school classroom. Studying the impacts of students' writing based on the perceived or intended impacts is important to continue the understanding of purposeful writing instruction.

Little research has occurred at the intersection of writing and place. There are many directions in which empirical study can go to develop a clearer picture of this field. This study attended to one meeting of place and writing in environmental studies classes with seniors in a Virginia high school. It would be beneficial to understand the enactment of purposeful writing tasks in other content areas. Furthermore, replicating this study within a different school setting (i.e. urban, racially or ethnically diverse) could offer additional insight into the planning and implementation of a place-based approach to writing instruction. Identity development and students' voice has been studied in writing research, although PBE is found to offer students opportunities for complex identity development through writing (Martina et al., 2009). There are many questions that remain and would benefit from future research necessary in addressing student deficiencies in writing and communication.

Chapter Summary

This case study offers insight for supporting teachers to enact equally rigorous and authentic instruction. The implications are the result of a rich description of

instruction that emphasized evidence-based practices and supported a socioconstructivist approach to student development. Based on the findings and implications, recommendations have been made to the school and teacher. Future research is necessary to continue to understand how to better prepare teachers to improve students' skills in writing and communication.

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Proposal Accepted	Pilot Interview Protocol w/teacher not in sample		
Access Granted			
Week 1	Interview 1		
Week 1	Observations 1 (Lit) & 2 (Lit & APES)		
Week 3	Interview 2		
Week 3	Observations 3 (Lit), 4 (Lit & APES), and 5 (Lit)		
Week 3	Observations 6 (APES) & 7 (Lit x2)		
Week 3	Focus Group		
Week 5	Final Interview		
Week 5	Observation 8 (Lit)		

Appendix A: Timeline of Data Collection

		Notes	Comments
1.	Time/Duration		
2.	Date		
3.	Class Period		
4.	# Students		
	Present		
5.	Climate		
Notes to Cons	sider from		
Previous Obse	ervations		
Focus /Forma	t of the Instruction	(Time Stamps)	
1.	Communicated	· • • • •	
	Objectives		
2.	Direct		
	Instruction		
3.	Modeling		
4.	Vocabulary		
5.	Workshop		
6.	Circulating		
7.	Conferencing		
8.	Co-teaching		
0.	eo tottoining		
Setup of the F	Room		
1.	Physical		
1.	Arrangement		
2.	What is written		
2.	on the board		
3.	What is posted/		
J.	anchor charts		
	anchor charts		
Student Role			
	Opportunition for		
1.	Opportunities for student talk		
2			
2.	Opportunities for		
	collaboration		
	a. Group format		
	b. Roles		

Appendix B: Observation Protocol

Teacher		
3. Questions		
4. Response to		
Student		
Questions		
5. References to		
other		
material/previous		
lessons		
Teacher-Student Encounters		
Student-Student Encounters		
Student-Student Encounters		
Materials/Resources		
Patterns/ Repeated Activities or		
Behavior		
Adherence to or Deviation from		
Plan (if available)		
Observer Interactions		
	ι	1

Appendix C: Interview Protocol

- 1. Start audio recording device
- 2. Thank participant, remind of rights to respond/dismiss
- 3. Address purpose of interview (topic/observation/previous conversation/document)

1. Interview 1

- a. What beliefs do you hold about how students learn?
 - i. In general
 - ii. Specific to students in the academy
- b. Can you describe your philosophy of education?
 - i. Goals of public education/for students
 - ii. What purpose does public education serve
- c. How are you supported in your role as an educator?
 - i. Your school/admins/colleagues/community
 - ii. Specific to academy director
- d. What/Who influences your instructional decisions
 - i. In general
 - ii. About writing
 - 1. Admins/other teachers/students/resources
 - iii. If an administrator said you were required to develop a writing intensive unit, how would you feel?
 - 1. What would that look like?
- e. Could you describe your feelings about writing instruction
 - i. Probes: what does writing instruction mean to you/your students
 - ii. Probes: where do you think your feelings developed (personal, school, professional)
- f. Walk me through your approach to writing instruction
 - i. Planning
 - ii. Resources
 - iii. Needs assessment diagnostic/formative assessment
 - iv. Objectives
 - v. Assessment/Feedback
- g. What does collaborative writing mean to you?
- h. What does a process approach to writing mean to you?
- i. What makes a task purposeful?

2. Interview 2

- a. Can you walk me through this Capstone Paper
 - i. Students' initial ideas
 - ii. How this is presented to them
 - iii. Graphic organizers?
 - iv. What's next?
- b. In an observation of APES, I noticed you assigned reading(case study)and asked students to reflect (not summarize). Can you explain the difference?

- i. How often do students do this?
- ii. What is the purpose?
- c. In an observation of a writing conference, I noticed you word-smithing or thinking aloud about students' theses. Can you explain your goals for those interactions?
 - i. What frustrates you in writing conferences?
- d. In a writing conference, you said: "What's the most important is you start with what did you want to learn about and what you have learned, the research you've done, that's why you write it after you research, your thesis has got to match what your evidence is telling you."
 - i. What do you think that communicates to the student?
 - ii. What is the relationship between a thesis and research?
 - iii. What is the relationship between passion-and problem or projectbased approach here?
- e. How do you target instruction/interaction for students who struggle to identify their interest?
- f. How would you describe the format of teaching with the CT (one teach, one assist; one teach, one observe; parallel teaching; team teaching; stations)
 - i. When you were teaching, cooperating teacher does conferences as well, sometimes more classroom management.
- g. You used the term "working professional knowledge" with a student, can you define that for me?
- h. What would you like to know from students in a focus group?

3. Interview 3

- a. Have you had a chance to read students' capstone papers?
 - i. What are your first impressions?
 - ii. What are the weaknesses/strengths?
- b. CAPSTONE PAPER:

the biggest challenges are just sort of like actually picking a topic like really getting into a topic that was interesting for me. But then another one of the big challenges was like talking with professionals in the field or finding professionals in the field. But I think that was also the experience that was sort of the most valuable is actually reaching out and making those connections and stuff.

I thought like, just <u>it was like my first experience with a paper that big like organizing it.</u> <u>like just kind of figuring out how to make sure everything you don't get off topic or</u> <u>anything.</u>

My problem was that like I was so passionate about what I was writing about. And then I wanted to add a whole other section ... But I had to figure out when to stop ... <u>I was struggling to figure out time management.</u>

- i. How do you interpret that?
- ii. How might you respond to that through instruction?

- c. How do you feel about yourself as a writer?
 - i. Are there critical moments that may have changed those feelings?
- d. What have your experiences with professional development been recently?
 - i. What do you need to be a better teacher?
 - ii. How are you encouraged to stay up with educational research/trends?
 - iii. Of writing?
- e. I haven't observed a field trip or even going outside in my time so far
 - i. How do you plan for those experiences?
 - ii. When are they important/how do they fit into a research, evaluate, reflect model?
- f. How would you describe your biggest classroom management struggles?
- g. What do you know of place-based education?
 - i. Would you describe ESA as utilizing a PBE curriculum?
 - ii. (PBE) immerses students in local heritage, cultures, landscapes, opportunities and experiences, using these as a foundation for interdisciplinary study across the curriculum. PBE emphasizes learning through participation in the community.
- h. If you could change one thing about your teaching environment what would it be?
 - i. Why?

Appendix D: Focus Group Protocol

- I. Remind students they are welcome to leave at any time tell them they will be recorded
- II. Start audio recording
- III. Explain procedure I'm just going to listen, talk in any turn
- IV. Guiding Questions
 - a. What are your favorite experiences from academy coursework?
 - b. How do you feel about writing?
 - 1. Have you always felt this way?
 - 2. How do you feel about writing for Environmental Lit?
 - 3. What influences your feelings about writing?
 - c. The capstone paper:
 - 1. What were the biggest challenges?
 - 2. What experiences are the most valuable?
 - d. How does NG help you the most?
 - 1. Who else helps you?
 - e. What will you use most when you graduate from ESA?
 - f. Is there anything you would change about ESA?
 - g. How do you define success as a student?
 - h. How do you learn best?
 - i. What do you get invested in at school the most?
 - j. Anything else you want to tell me?

Appendix E: Code Book

Code	Description	# of Coded Segments
Accountability	Attends to a notion of teacher's responsibility to their job, themselves, and/or requirements from a person/structure in a position of power	7
Audience	The intended recipient of written or verbal communication or research	11
Behavior	Off or on-task student actions	23
Loss of Control	Attends to a fear or actual experience with a teacher's loss of control of his classroom/students	16
Collaboration	Positive social interaction; a student working with another individual (beside the teacher) to complete or work toward completing a task	47
Communication	Pertaining to speaking, writing, arguing, clarity, formulation of thought	78
Community	Individuals, issues, resources, learning experiences and/or communication outside of the classroom	38
Critical Thinking	Question and challenge assumptions; evaluate ideas with diverse perspectives and in varied contexts; develop novel ideas	38
Form/Test Prep	Writing or instructional task that focuses on a 5P essay or completing a test question/response	36
Global Context/Issue	An issue, activity, task or thought that is situated within another country or across the world	53
Local Context/Issue	An issue, activity, task or thought that is situated within the city, town, state, country of learning	48
Modeling	The teacher utilizes a representation of an intended or desired outcome	3
Outside Influence	A factor in the school environment that has an impact on instructional decisions or curricular enactment	56
Perception of Writing	An espoused thought, belief, or feeling about ability to, value of, or experience with writing	23
Power/Agency +/-	Student voice in written or verbal communication; opportunity for students to influence tasks/outcomes	26
Problem-Solving	Addressing an issue, presenting/discussing/gathering possible solutions	26
Process Approach	Writing tasks related to drafting, revision, publication, feedback	34
Purpose/Impact	The intended outcome or result of written or verbal communication or research	50

Research	Asking questions, gathering data, gathering information, analyzing information and data	32
Resource	Tool, individual, technology, etc. utilized	47
Student Engagement	As indicated by observance or proclamation of positive affect, participation, prolonged attention	72
Self-motivation	A students' personal drive to complete or work toward completing a task	5
Transferrable Goals	Outcomes of learning or instructional task is related to future use/application of skills and knowledge	50
Writing Mechanics	Grammar, Spelling, Editing	14
Writing to Respond	Writing is done to answer a closed-ended question to communicate a correct, content-based answer (typically in a paragraph or less)	20
WTL	Writing-to-learn: a writing task is used to support students in acquiring content knowledge	27
3P	Problem, project, passion-based	48
Assignment Parameters	detailing the submission or completion requirements for a learning task	36
Connections	Ties between levels of context and/or between lessons and courses are created	68
Demonstrate Knowledge	How (in what form) students indicate their knowledge gained and/or the application of learning	43
Design Thinking	incorporating the reworking and/or tinkering, iterative process associated with designing and building and making	19
ESA/Cohort/Schedule	the class schedule, physical building, or cohort model influences teaching, teachers, or students	85
Hope/Dream/Ideal	an ideal situation, dream goal is communicated or observed	22
Humanities/ morals/ ethics	the lesson, teachers, or students attend to morals, ethics, social systems, social justice, the humanities	57
Individualized/ Personal	Learning Opportunities/Experiences/Tasks are unique for each student	44
Interdisciplinary	multiple traditional "content areas" are included in a single experience, lesson, discussion, etc.	26
Relationships	A human connection involving student(s) made in relation to a task or experiences in ESA	73
student/adolescent development	related to student development as a k-12 progression or adolescents in terms of neurological and/or biological needs	56
teacher role	the communicated or observed role of the teacher/teachers as professionals	45

Observation	Group Work = Student Talk	Independent Work	Whole Group Discussion	Writing	"Lecture"	Directions/ House Keeping
1				1:04- 2:20		12:55-1:04
2	10:39- 11:09 (case study)		10:39- 11:09; 11:27- 11:51	11:51- 12:05	11:09- 11:27 (Google Slides)	
3				1:03- 2:05		12:55-1:03
4		1:00-1:40 (reading Silent Spring)	1:40-2:20			12:55-1:00
5		1:05-2:01 (reading Silent Spring)	2:01-2:20			12:55-1:05
6	2:25-3:23 (research)		2:25-3:50			
7			2:00-2:20		12:55- 2:00 (Guest speaker)	
8	10:30- 11:30 (lab)			11:32- 12:05		
9			1:01-1:35 (presenting)			
10			2:05-2:20 (presenting)		1:40-2:05 (children's book)	
11			1:35-1:50	1:50- 2:20	1:03-1:35 (movie)	
KEY:			l			

Appendix F: Observation Details

Lit	8 Observations
APES	3 Observations
A Block	4 Observations