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From Project to Teacher to Student: A Qualitative Case Study Exploring the Complexities of Student Writing at a Project-Based Learning High School

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**FROM PROJECT TO TEACHER TO STUDENT: A QUALITATIVE CASE STUDY
EXPLORING THE COMPLEXITIES OF STUDENT WRITING AT A PROJECT-
BASED LEARNING HIGH SCHOOL**

By

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B.S., English Education, Oral Roberts University, 2005

M.A., English Education and the Aesthetics, Teachers College at Columbia University, 2011

DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

**Doctor of Philosophy
Language, Literacy, and Sociocultural Studies**

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ABSTRACT

In this qualitative case, I explore the complexities of adolescent student writing within one project over the course of one trimester at a project-based learning (PBL) high school. With this study, I seek to both understand how students write within project work and open-up a conversation between the fields of adolescent literacy development and PBL. From my extensive collection of data—field notes; student writing samples; photographs; teacher artifacts; and audio records of teacher interviews, planning sessions, and implementation of writing activities—I sought to answer my overarching research question: What happens with student writing during one project in a PBL high school? With five research sub-questions, I present multiple perspectives on student writing. For analysis, I coded the various functions of student writing, conducted axial coding of project teacher interviews and instruction (Corbin and Strauss, 2007), presented a chronological account of teacher planning and instruction, and analyzed student writing from a literacy practices approach. From these findings, I explained my understandings of student writing as a

contested space, how project teachers used writing to combat student resistance, and how student writing can be understood as students building relationships with the projects through writing. I concluded this study by proposing ways project teachers might implement a literacy *practices* approach to writing within PBL settings, suggesting project teachers support students as they maneuver between the material world of the project and the immaterial world of thinking as it is expressed through writing.

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Chapter One: An Overview

When I first stepped onto the newly built campus of Southwest High School, I was fulfilling my role as a graduate assistant. I had already spent time during the previous trimester observing the teachers and meeting with the school's leadership at this public not-for-profit, project-based learning charter high school. The school's teachers and leadership eagerly opened up their projects, their teaching, and their lives to me and the group of researchers that I was working with during the Spring of 2015. My formal exposure to the project-based learning (PBL) approach consisted of interviews I conducted with a few PBL teachers for a research project in the Fall of 2014. However, I was familiar with it in practice because I had spent my last two years of teaching implementing many of the principles and strategies characteristic of the PBL approach. As I spent a considerable amount of time working with the teachers and students of Southwest High School, I grew more and more interested in the reading and writing practices of the adolescent students who were learning within the PBL approach. I was also interested in how the teachers understood the role of reading and writing within the project setting and how they worked together collaboratively to embed reading and writing activities within student projects.

The following dissertation is a qualitative case study, developed as a structured, research-based means for me to answer some of the questions Southwest High School inspired me to ask. This first chapter includes a brief background to orient the reader to the setting and explain how I came to be involved with Southwest High School. Following this background, I provide an overview of the study's purpose, conceptual framework, scope, and how I organized the entire dissertation.

The School and My Involvement

The setting. Take a moment and imagine a school without any interior walls and gray concrete floors stretching from the entrance all the way to the back of a large open learning space. Surrounding this large open space on all sides is a commercial kitchen serving breakfast and lunch, the student counselor offices separated by glass windows, a teacher lounge referred to as a coffee bar, two large labs for students to work with power tools and build large structures, and one wall of large orange garage doors. The school was designed with the input of students at Southwest High School and intentionally built to facilitate the school's mission to provide a PBL experience for students who had not been successful at traditional public schools.

Project teachers change this flexible learning environment as they push and pull large brown partitions on wheels creating temporary learning spaces that change throughout the day. There is more to this setting than just the non-traditional space and projects. This Title 1 School seeks out historically underserved minority students from low socio-economic backgrounds, many of whom are English Language Learners who have not been successful at other public schools. According to the National Center for Education Statistics (2016), during the time I was at the school, 93% of students registered as being "Hispanic," 5% as "White," 1% as "American Indian/Alaskan," and 1% as "Black" or "Two or More Races." According to this same source, 54% are registered for free and reduced lunch, however, the school's principal explained to me that the number was actually closer to 80 or 85%.

This local, public not-for-profit charter high school has the expressed mission to design collaborative PBL curriculum to engage students who have not been successful in traditional public schools and are interested in learning through projects connected to

architecture, construction, and engineering fields. The school strives to use collaboration, communication, and client-driven design-based learning to help students learn as they create products within various projects. Teachers collaboratively create interdisciplinary curriculum around a driving question, requiring students to develop final products presented at an exhibition concluding each trimester. Additionally, industry partners work with students and attend the exhibitions to interact with students concerning their products.

In this school, assessment is individualized and mastery-based. Each trimester culminates in a public exhibition of work attended by community members, industry partners, and local business professionals. During these exhibitions, students communicate their learning with visitors, display their final products, and give responses to questions posed by attendees. Attendees are then invited to complete rubrics to judge the final projects and the students' success in expressing the ways in which their learning was anchored to and enriched by working on the project. Project teachers then use these completed rubrics to help them assign grades reflecting how the students' individual performances showed mastery of the benchmarks teachers used to guide the project.

My background with Southwest High School. During my third year of graduate study at the University of New Mexico, I worked with Dr. Vanessa Svihla as a graduate research assistant. Dr. Svihla encouraged me to visit a local, not-for-profit public charter school she had been working with. I contacted the principal and visited the school several times during the Fall of 2014. I developed personal relationships with the teachers, principal, staff, and some of the students. For the spring semester of 2015, Dr. Svihla received a NAEd/Spencer Fellowship Grant to conduct an extensive year long research project at Southwest High School. For the grant, our research team followed two specific projects as

well as all of the meetings and activities held at the school during the spring semester of 2015. I visited the school multiple times each week, spending several hours at the school for each visit. During these visits, I collected field notes and audio recordings documenting project work, meetings, and activities; conducted semi-formal and impromptu interviews; and managed other graduate students helping with data collection. When I began the dissertation proposal for this project, we had collected roughly 800 pieces of data.

The Problem and The Purpose

At Southwest High School, I observed students building structures, drawing sketches, and completing large projects as part of the learning process facilitated by project teachers. I also observed the English Language Arts teachers using reading and writing within the project context to accomplish the project goals. From my observations, I developed questions pertaining to my own research interests. I was curious as to how adolescent literacy development was being affected by the PBL approach to learning. With so many different types of artifacts being created, I began to ask myself what my definition of literacy was and what purpose literacy development served?

I decided to conduct my own small pilot study at the school during the first two months of 2015. My intention was to get an idea of how reading and writing was being understood individually by the school's teachers and leadership, how teachers used reading and writing within their projects, how they perceived the students at Southwest, and how that perception affected the ways they embedded reading and writing into the project. I conducted multiple interviews of five teachers, the principal, and the head counselor. As I conducted these interviews, I actively sought out research-based understandings of how adolescent reading and writing had been studied and understood within the PBL approach. I soon

realized little research had been done concerning how students develop their reading and writing abilities in the PBL approach. During my interviews, I found teachers and the leadership eager for advice and input from me concerning how to implement reading and writing in their curriculum.

My interaction with the school's leadership and faculty caused me to wonder how the PBL setting affected project teachers' planning and instruction. My time spent in the projects working with and talking with students caused me to wonder how they were collectively and independently writing through the project and using composition to make sense of their learning, communicate their project work, and build connections among the ideas of the project. While I was interested in the reading and writing practices of the teachers and students, for this study, I chose to focus on the student writing, of one project. I was interested in developing an understanding of what was occurring with student writing on several different levels. I wanted to understand how student writing functioned when it operated outside of a traditional English Language Arts class. English Language Arts was not conceptualized as a specific course at Southwest High School; it was brought into projects as embedded tasks. Project teachers used the various components of English Language Arts, as defined by benchmarks from Common Core State Standards, to work reading and writing into the project from a PBL approach.

PBL is often described as a constructionist approach to learning (Papert & Harel, 1991). The constructionist approach focuses on the projecting out of ideas, concepts, and even feelings by using various materials to share learning and understandings with others. Constructionism can be understood as a cycle of "self-directed learning" involving "an iterative process by which learners invent for themselves the tools and mediations that best

support the exploration of what they most care about” (Ackerman, 2001, p. 4). PBL is primarily used in science and mathematics classrooms (Krajcik, 2008), and little research currently exists defining how PBL pedagogy directly addresses ways teachers might implement instruction in areas of reading and writing (Moje, Young, Readence, & Moore, 2000, p. 405). We do know the PBL approach supports students’ learning when it comes to new concepts and unfamiliar content (Palincsar & Magnusson, 2000). We also know the process of artifact creation provides multiple ways of learning a single concept and for students who struggle with a specific type of text (for example reading or even writing alphabetic text) this may increase their support and create multiple opportunities for them to access various concepts or processes (Hutchinson & Suhor, 1996). On the other hand, we also know learning problems may arise when struggling students are asked to navigate challenging project work heavily dependent on the understanding and use of multiple texts, the use of certain social discourses students may not be familiar with, and discipline specific discourses (Krajcik, McNeill, & Reiser, 2008; Goldman, 1997).

The projects at Southwest High School were intentionally focused on a design approach to learning, and we know challenging design work—involved in fields such as engineering—is intimately bound up in students’ abilities to read and write (Geisler, 1993). Designers are constantly writing, reading, and talking “their way through the design process” (Lewis, 2000, p.110). Literacy activities are therefore integral to the designing process (Bucciarelli, 1994; Geisler, 1993). Through this study, I became aware of not just how writing is understood as an important resource for the designer to use, but also how writing can be conceptualized as design activity in and of itself. Southwest High School’s design approach to learning invited me to explore how we might see writing as rich design work in

itself. When we position writing as design work we are able to focus on how knowledge can change across contexts and shift in meaning and use, focusing on the “borrowing, appropriating, juxtaposing, blending, remixing, and recontextualizing” of various materials into different texts (Lewison & Heffernan, 2008, p. 457). Some literacy researchers have even adopted the language of design to talk about ways in which individuals are “both inheritors of patterns and conventions of meaning and at the same time active designers of meaning” (The New London Group, 1996, p. 65). This maneuvering of meaning and knowledge by students authoring texts challenges the notion that student writing is about basic skills, the acquisition of writing mechanics, and the successful implementation of lock-step cognitive strategies.

Design as an approach to learning allows students to engage in a multiliteracies approach to learning that involves pedagogical models engaging students in effective critical engagement as they understand “values, identity, power, and design” from a transformational agenda (Jewett, 2008, p. 245). This utilization of the concepts of design enables literacy researchers to understand the process of creative transformation of texts by readers and writers (Chandler-Olcott & Mahar, 2003) and the ways individuals work within a semiotic process to make meaning by combining and altering various texts and materials to create new resources (Kress & van Leeuwen, 2006). I came to see the PBL approach as a dialogic, collaborative, and semiotic meaning making space in which I could explore how students used their reading and writing to both learn and get work done within various social and cultural contexts (Nixon, 2003). Through this study, I hope to illustrate how the fields of adolescent literacy research and pedagogy have important contributions to make in

understanding student learning and enriching student work within the project-based learning setting.

As I considered what I knew of the PBL approach as well as my developing interests in the literacy development of the students at Southwest High School, I chose to design a qualitative case study to focus my analysis on student writing completed in the one project, titled the *Using Waste* project, that took place during the spring trimester of 2015. I was fortunate to have a large collection of student writing because project teachers instructed students to collect their writing throughout the project in individual student notebooks. I, therefore, had a collection of student writing spanning the entire project. This collection of writing proved to be the backbone of my study from which I branched off and was able to construct a case study exploring multiple perspectives of student writing within the project. As I reviewed their work in light of the interviews I conducted and the extensive time I spent at the school, my wonderings and curiosity materialized into more specific research questions. The following report is a qualitative case study designed to answer the questions that rose to the surface as I considered the writing, students, and project teachers of one project at Southwest High School.

Case Study Design

My intention was to develop a rich understanding of student writing from multiple perspectives and sources of data. My experience as a high school English Language Arts teacher as well as my time spent at Southwest High School observing students and teachers caused me to understand there are many factors at play when it comes to student writing. These factors range from broad contextual factors such as the school, learning space, and the perspectives of the teachers (Applebee & Langer, 2013) to more specific social and cultural

factors of the learning process (Scribner & Cole, 1981; Lave & Wenger, 1991) and the developing identities of students (Gee, 1990). While I was unable to explore all of these with a single case study, I sought to include several types of data and consider the data from multiple perspectives to reveal the complexities inherent in student writing from the perspectives of students, project teachers, and the school. I therefore bound my research to data pertaining to student writing collected from one project spanning January 20th through March 25th, 2015. In an effort to honor the complexities of student writing, I included several different perspectives of student writing. From the perspective of the project teachers, I reported on student writing as it pertained to individual interviews, collaborative planning, and instruction to students carried out by the two project teachers, Clay and Owen. Within the project, I analyzed student writing from three different writing activities. To understand how student writing occurred over the duration of the project, I analyzed the entire collection of student writing present in the project notebooks used by students throughout the entire project. To understand individual student writing, I analyzed one student's notebook as she used it throughout the project and then I analyzed three examples of students' writing from two different writing activities. These two writing activities were the first and last writing activities of the project. My case record consisted of the project summary created by the project teachers, field notes written by Dr. Svihla and myself, audio files I recorded of the two projects teachers planning and instructing, and photographs of student writing in the student notebooks taken by Dr. Svihla at the conclusion of the project. I organized my study around my research questions and the data I used to develop my findings.

I conducted various forms of analysis. I chose specific analytical approaches depending on the research sub question I asked and the type of data I used to answer the

question. I analyzed the case carefully using chronological representations, summaries based on an axial coding process (Corbin & Strauss, 2007), extensive coding using a prescribed coding scheme, and my own qualitative analysis. I often shared these questions and challenges with my committee and trusted colleagues in efforts to conduct effective analysis. I sought to be transparent and honest, keeping a journal throughout the entire analysis process recording my thoughts, challenges, findings, and questions.

Critical Frame

While there are innumerable ways to approach and define literacy, I subscribe to a rich notion of literacy as primarily a communication understood by local and situated (Lave & Wenger, 1991) meanings (Christenbury, et. al., 2009). As a social constructivist, I understand literacy as social artifacts constructed by humans (Schwandt, 1994) from a process of social exchange, historically situated as a collective generation of meaning among people (Au, 1998). Literacy should be understood as it relates to a particular society or culture (Kintgen, Kroll, & Rose, 1988) because it is embedded in our cultural ways of thinking and communicating. Literacy is more than knowing the technicalities of a specific script; it is understanding how to take the knowledge of a particular script or sign system and appropriately apply it, using it in specific contexts and for specific purposes (Scribner & Cole, 1981).

As Chapter Two reveals, I come from a literacy practices approach to adolescent literacy development. I intentionally chose the term *literacy practices approach*, because I envision literacy as activities in a classroom drawing upon and exploiting “student knowledge, experiences, and passions in ways that help them” achieve shared goals in effective independent and collaborative learning contexts that are committed to assisting and

mentoring relationships for academic success (Beach, et. al., 2012, p. 7). The literacy practices approach in its most simplified definition can be understood as the process of interpretation and composition of various texts involving traditional notions of literacy as well as varied notions that honor the social, cultural, historical, and political factors of communication within educational contexts. I position in-school reading and writing as one type of many literacy practices used by students to achieve independent and collaborative goals in the school setting. I then explore how the literacy practices approach is understood through various pedagogical approaches.

Street's (1995) conception of literacy as either autonomous or ideological offers two extremes on the pendulum of conceptualizing literacy, which in turn affects how we seek to develop it in our students. The autonomous approach authorizes the use of standardized measurement practices because it assumes a student learns to read and write while implementing certain practices and processes. *Literacy*, as a word, has etymological roots in the sign system of letters, so it is often understood as the basic act of reading and writing alphabetical texts. However, it is not as simple as that because reading and writing are always situated in participants' social practices, purposes, and contexts (Scribner & Cole, 1981; Lave & Wenger, 1991). This opening of the social and cultural aspects inherent in reading and writing offers, in my opinion, a conceptual orientation reinforcing Street's (1995) ideological conception of literacy and supporting my perspective that literacy is a collection of meaning making practices that are affected by social and cultural factors at play in the individuals and communities of learning forming around our in-school learning activities. When we focus on the participants of our learning processes, we position the students at the center of the activity and not the content of the course. From this social constructivist

perspective, I developed my understandings of what happened with student writing throughout the project.

Research Questions

I designed this qualitative case study to answer the following overarching research question: What happened with student writing during one project in a PBL high school?

I then developed five sub-questions to answer my overarching research question:

1. In what ways did students write throughout the *Using Waste* project?
2. What were the two project teachers' expressed perspectives of the students and their writing within the school's PBL context?
3. How did the two project teachers plan and instruct students concerning writing activities during the project time?
4. How did student writing function according to Applebee and Langer's defined functions (informational, without composition, personal, and imaginative) and each function's more specific categories?
5. How did students use writing to build connections between ideas, activities, and their own perspectives within the *Using Waste* project?

For each of the five sub-questions, I present findings from my analysis of data I specifically selected from the corpus.

Significance of the study. As a result of this study, I came to agree with Moffett (1966) that student writing is “amorphous” and “untidy” (p. 18). This study does not seek to make writing tidy but to understand the various implications of this untidiness and explore ways to use its amorphous nature to empower students within the thinking and working of the project. This study occupies a place of intersections—the intersection of educational

structures and adolescent literacy development; the intersection of teacher implementation and student writing; and the intersection of practice and theory. My case study adds to the pedagogically-focused research around PBL, bringing additional literacy perspectives to the already established math and science orientations of PBL. Additionally, teachers in both traditional and non-traditional school settings can benefit from understanding how student writing might be understood and used within a project. As far as literacy research, this study offers the beginning of an important and necessary field of adolescent literacy research concerning learning spaces in which in-school student writing is not highly structured nor connected to a specific English Language Arts course or classroom. This study seeks to build theory about ways in which PBL and current adolescent literacy research might support one another in accomplishing rich meaning making experiences by connecting adolescents to various disciplines and contexts inside and outside of the school setting.

Scope. This study considers the writing students completed for one project during the Spring of 2015 and is limited to the data related to the *Using Waste* project, January 20th through March 25th, 2015. I used data to develop rich details to convey the setting, participants, and various details for the purpose of thick description that is characteristic of my case study approach. However, there are many social, cultural, and contextual issues I was not able to take up in this study due to the limitation of my data, my selected critical frame, time, and resources. While I primarily worked with data I personally collected, there were instances in which I conducted analysis of data I did not personally collect. In these instances, I had to rely on the perceptions and interpretations of others. I seek to add to the scope of our literacy research by understanding the work of adolescent student writers in a PBL setting.

Organization of the Dissertation

This dissertation is organized into five chapters. This section concludes Chapter One. Chapter Two is a literature review providing a research-based explanation of my literacy practices perspective, student writing within the literacy practices approach, a multiliteracies approach to understanding literacy practices pedagogically, and the work of literacy theorists who argue for a focus on thought and dialogue when it comes to student writing. Chapter Two also includes a summary of PBL to familiarize the reader with this pedagogical approach. Chapter Three contains the methodology of my study. I first present the purpose of the study, then my research questions, followed by an explanation of my case. I then describe how I analyzed the data. I organized the explanation of my analysis by presenting my research question then the data used then the analyses I conducted. In Chapter Four, I present my findings. I follow the same organization as laid out in Chapter three by providing the research sub-question, the data I used, and then my findings. With my final chapter, Chapter Five, I collect all of my findings and consider them from a literacy practices approach. I then propose a way we might understand and use student writing within PBL to support student learning through writing.

Chapter Two: Literature Review

The concept of being literate—and therefore what constitutes acts of literacy—has changed dramatically over the years. From using an X to sign one's name to more recent views of how literacy intersects with identity, there have been and continue to be many different conceptualizations of what literacy is and how it is formed both individually and collectively. My literature review will first provide a very brief overview of the evolution of literacy within western thought and more specifically the literacy of the United States and its European-descended citizens. Literacy education varies extensively within the United States as it relates to ethnicities, cultures, economics, and politics, but for the purpose of this paper, I focus my historical account on a socially and culturally dependent concept of literacy as it was developed among primarily European immigrants. I then explain literacy in the two different ways I have come to understand it, as a social process, situated and contextually understood, and as a collection of meaning making practices.

Following this explanation, I tie the concepts I developed around what literacy is to how literacy might be taught within schools by explaining the literacy practices approach. From a sociocultural perspective, I position literacy as a collection of meaning making practices. Then, I further define the literacy practices approach by exploring its connections to the pedagogies of both multiliteracies and multimodal approaches to literacy development within schools. These pedagogical understandings of students and the work they do in our schools challenges us to see literacy as more than just words on a page to be written or read. I, therefore, turn to the work of Judith Langer (2000) and explore her idea of literate thinking and how literate thinking comes to life in the classroom. In addition to these pedagogical understandings, I included a section exploring how adolescents are understood within literacy

research as well as a short summary of the PBL setting in which the case study takes place. I deemed including the research of both adolescent students and my particular school setting as very important because the literacy practices approach positions the student as well as the contexts around learning as highly important and influential aspects of literacy development.

As already mentioned, for this case study I chose to focus on the writing students completed during the project. As a result of conducting this research, I returned to my literature review and added an additional section focused on student writing. I included a short history of how writing has been understood and therefore implemented within education over the last century. My historical review ends with a researched-based understanding of student writing from a literacy practices approach. I also included a summary of the ways in which composition is understood from a design-based approach because of Southwest High School's focus on design activity for the purpose of learning.

The final section of this literature review summarizes the research from well established and highly regarded literacy scholars who perceived writing from a student-centered approach and as a highly involved process including both internal and external social acts of meaning making. The explanation of student writing by these two scholars, James Moffett and James Britton, connects us back to the ideas conveyed throughout my literature review, affirming that in-school student writing is highly affected by implementation and has the potential to provide adolescent writers with powerful roles as meaning makers within a project.

Understanding Literacy: Past to Present

Historical overview of literacy. Our current social and cultural landscape of communication is riddled with intellectual, social, political, cultural, and economic

complications. Jewitt (2008) argues the “terrain of communication is changing in profound ways and extends to schools and ubiquitous elements of everyday life” (p. 241). These profound changes beg us to revisit our conceptions of literacy within educational contexts and the ways we define what it means to be literate and therefore an active participant in the global and networked world of the 21st century. While many of these global changes are out of our control, we can seek out new understandings of literacy and its uses to equip students with adaptable means and communication skills to maneuver through this constantly changing world riddled with various modes of communication.

Historically, literacy’s definition has expressed itself in multiple ways; thus, what constitutes as a literate person has changed as well. Resnick and Resnick (1977) describe four stages of the evolution of literacy within the western world: signature, recitation, comprehension, and analysis. Like Resnick and Resnick, Meyers (1996) outlines similar periods of literacy in the United States (see Table 1). His explanation shows a complicated evolution of cultural and economic experiences, historical events, and various uses of literate acts occurring outside of school but directly affecting how literacy was being conceptualized within the school setting. What is most fascinating, in my opinion, about these accounts is not the discreet skills outlined within the historical explanations, but the direct relationship between the historical events and, subsequently, the way literacy was valued and taught within school.

Table 2.1

The Evolution of Literacy 1600-Present. (Meyers, 1996. p. 56-57)

Literacy for Masses	Education: religious Knowledge: transparent Consciousness of Literacy: inactive		Education: secular Knowledge: objectified Consciousness of Literacy: symbolic and textual		Education: diverse Knowledge: interactive Consciousness of Literacy: conceptual
Cultural Variables	1600 Oracy	1776 Signature	1864 Recitation	1916 Decoding	1983 Translation
Markets, travel, and work relationships	Stable, face-to-face, little travel, family to family	Stranger-to-Stranger, village markets, some written relationships, more mobile population, need for mobile records	Urbanized markets among fragmented population, new mobility, factories, and written agreements Need for stable records and categories	Increased automobile mobility, centralized corporations and markets, written contracts, and corporate law Need for combinable information centralized	Increased travel, decentralization of institutions, and new diversity in world recognized
Literacy Education	At home: literacy as memory storage of stories, people, and transactions	In halls: literacy as hand/eye coordination, print as art, and memorization through copying	In classrooms: literacy as touchstone, as recitations or tradition, as memory of information, and as copying texts	In school: literacy as decoding, extracting knowledge from unfamiliar works, and analyzing parts	Literacy as construction and reconstruction and translation of past and present

Table 2.1 continued

Literacy for Masses	Education: religious Knowledge: transparent Consciousness of Literacy: inactive		Education: secular Knowledge: objectified Consciousness of Literacy: symbolic and textual		Education: diverse Knowledge: interactive Consciousness of Literacy: conceptual
Cultural Variables	1600 Oracy	1776 Signature	1864 Recitation	1916 Decoding	1983 Translation
Purpose of Literacy	Maintain oral traditions and oral records of social compact, develop conversational skills	Begin written records / contracts-inventories Records were lists and visual designs Handwriting was a visual art	Establish national cohesion among immigrants, new urban population after civil war, develop presentation skills, and copying skills	Decode / Analyze / produce new knowledge in scientific records, establish records through writing, process information for storage, and academic skills	Develop multiple perspectives, translations of culture, negotiation of differences, and flexibility among speech agents
Role of Student	Listener / Reactor face-to-face	Copier and Listener	Reactor, copier, and impression reader	Analyzer, decoder, and analytic reader	Translator, interpreter

One of Meyers' (1996) primary arguments is that the majority of our literacy challenges in the United States stem from constantly shifting definitions, expectations, implementations, and assessment practices around how we define and what we expect of school-based literacy. Teachers and students often suffer because of these shifts, resulting in conflicting values with a misuse of assessments causing schools to appear as if they are

ineffective. Surveying the history of literacy explained by Meyers and others provides us with a perspective supporting a social and cultural understanding of literacy as a situated social practice. These practices connect us in a variety of ways to the larger worlds outside of our schools, the smaller worlds within our school, and the everyday lives of our students. Amid these shifting notions of what it means to be literate, we find in our school various conceptions of literacy directly affecting the ways we go about teaching literacy to adolescents.

Street (1995) explains two current competing conceptions of literacy, autonomous and ideological. I find it helpful to position these two conceptions on either side of pendulum. They are opposing perspectives, but as the pendulum swings, we find our understandings of each conception are based on one type decreasing as the other type increases. An autonomous view of literacy removes literacy from its social and cultural context and positions it as a collection of discreet independent skills instead of a socially and culturally derived practice. Autonomous views of literacy interrupt student engagement because they are reductive, eliminating the importance of context, intertexts, intercontext, and other important factors (Christenbury, Bomer, & Smagorinsky, 2009). The autonomous approach authorizes and empowers standardized measurement practices because it assumes one learns to read and write as he or she implements certain practices and processes. The autonomous view of literacy positions reading and writing as individual activities disconnected from the social and cultural practices they represent and presents reading and writing as products, the result of step-by-step processes and specific skills developed through practice then proved on assessments.

Literacy, as a word, has etymological roots in the sign system of letters and is therefore often understood as the basic act of reading and writing of alphabetical texts. However, it is not as simple as that because reading and writing are always situated in participants' social practices, purposes, and contexts (Lave & Wenger, 1991; Scribner & Cole, 1981), and if we view alphabetic systems as one of many ways to communicate then suddenly the "text" can assume many different forms. These different forms take on different meanings based on the social and cultural backgrounds and contexts of the individuals using them. This opening of the social and cultural aspects inherent in reading and writing offers a conceptual orientation supporting Street's (1995) ideological conception of literacy. We find schools creating certain expectations of youth social sites and practices, and this includes acts of reading and writing (Heath, 1983; Scribner & Cole, 1981; Vadeboncoeur & Stevens, 2005). Literacy, therefore, becomes more than just reading and writing; it becomes the engagement in a social process with culturally situated acts by individuals who are attempting to communicate meaning.

Literacy as a social process. While there are innumerable ways to approach and define literacy, I subscribe to a rich notion of literacy as primarily or basically a communication intermingled with local and situated meanings (Christenbury, et. al., 2009). As a social constructivist, I understand literacy as social artifacts constructed by humans (Schwandt, 1994) from a process of social exchange, historically situated as a collective generation of meaning among people (Au, 1998). Literacy should be understood as it relates to a particular society or culture (Kintgen, Kroll, & Rose, 1988) because it is embedded in our cultural ways of thinking and communicating; this often appears stable but is, in fact, ever changing (Langer, 1986). Literacy is more than knowing the technicalities of a specific

script; it is understanding how to take the knowledge of a particular script or sign system and appropriately apply it, using it in specific contexts and for specific purposes (Scribner & Cole, 1981).

When viewing literacy as that which is meaningfully situated and local, we can engage Gee's (1990) argument that literacy is not limited to words, but is a full set of thinking and doing attributes and attitudes one brings to a social interaction. This collection of attitudes and attributes are termed discourses by Gee. This discourse perspective ascribes each person as having a primary Discourse and additional secondary discourses, each with their own spoken and unspoken components. I locate literacy within these big "D" and little "d" discourses. I believe literacy is ideological in nature. Therefore, our literate acts can be understood as the ways in which we choose to stand in relation to the world (Christenbury, et. al., 2009). Literacy activity is deeply embedded in our social and cultural connections and directly affects our cognitive functions. Literacy provides a means for individuals to develop cognitive abilities within the context of creating and re-creating relationships with their own and others' worlds. To understand this development of relationships, I now turn to research theorizing how literacy builds meaning through the creation and recreation of signs.

Literacy as a mediation of sign systems. Semiotics gained importance in the 1980's and is based on the notion that every human communication is constructed from signs. These signs, in various forms, hold within them contextual meanings for both communicator and the interpreter (Blonsky, 1985; Innis, 1985; Street, 1984). This approach to studying communication positions print literacy and language as one of the many available signs systems, not privileging one type over another (Siegel, 2006). The study of semiotics works to make the familiar strange "so that the very processes we use, consciously and

unconsciously, to interpret and communicate can become visible for analysis and critique” (Siegel, 2006, p. 68). Sausurre proposed that a sign is the association of the signified (concept) as it was communicated by the signifier (material form). Pierce created a taxonomy of symbol types and coined the term “semiosis” to explain how signs become meaningful. Kress and VanLeeuwen (1996) have more recently described signs as a two-step analogy process in which one creates a sign as an analogy of a thought and then uses additional signs with more analogies to build on the original thought. This two-step conceptualization reveals the potential for an infinite building of meanings as signs are employed to communicate thought.

We find among our sign systems a generative nature because “a sign is something [that] by knowing, we know something more.” (Hardwick, 1977, p. 31). The interpreter takes up the sign and by interacting with it, connects the initial sign to other signs in an unending process of translation and interpretation. Eco (1976) writes, “the sign always opens up something new. No interpretant, in adjusting the sign interpreted, fails to change its borders to some degree” (p. 44). From the perspective of semiosis, knowledge is flexible and ever changing, growing and adjusting based on the individual working with the signs.

Semiosis, as an approach to understanding literacy, positions communication as a complicated process of both understanding and transformation, requiring us to translate within and among different signs, expanding and enriching meanings with each translation (Siegel, 2006). From a semiosis perspective, we are thus able to renegotiate our relationship to literacy as a construction and reconstruction of knowledge communicated through meaning that is dependent on the meaning makers involved in the communication. Semiosis allows us to engage students with multiple systems to develop and communicate rich,

personally meaningful knowledge across various contexts and disciplines. The plural nature of our world and our acts of meaning making require students to understand how multiple perspectives develop and affect knowledge transfer, how to translate information among various cultures and navigate the differences, and the flexibility inherent in speech agents (or sign systems).

Early efforts by educators to make room for semiotic systems other than just oral language in the school literacy curricula revealed that children come to school with well-stocked semiotic toolkits that, when tapped, positioned them as meaning makers. This was particularly significant for students who acquired labels when they failed to display the language required for successful participation in school (Siegel). Taking on a multiple signs systems approach in our literacy curriculum connects with the toolkits students bring into the classroom. Dyson's (2001) research on the literacies children bring to school confirms these toolkits and argues for bringing more authentic literacy practices into the school context by using multiple modes and signs to more effectively connect to the actual lived-in literacy lives of children outside of school.

This multiple signs approach addresses two important aspects of literacy learning. First, students' perspectives are honored as they are treated as representations of various cultural groups with valid sign systems beneficial and supportive to enriching learning inside the classroom context. Second, students are engaged in a meaning making culture in the classroom where they co-create what is valid knowledge and act as capable, literate participants in classroom discourses. Lemke (1993) argues that when children are engaged in curriculum valuing multiple sign systems, there is a multiplication of meaning as their ample experiences as sign-makers become resources. Research on signs systems in educational

contexts revealed students who did not previously describe themselves as readers and writers worked to reposition themselves as active literate participants when curricula included expanded meanings of literacy to include multiple signs systems (Siegel, 2006, p. 71) and these multiple ways of communication can account for what some call adolescent literacy practices (Moje, 2000; Beach, Thein, & Webb, 2012).

Literacy as a Collection of Various Practices

The literacy practices approach. The Partnership for 21st Century Skills (2011) identified the necessary skills needed to prepare students for careers in the 21st century. They outlined learning skills (critical thinking, creative thinking, collaborating, communicating), literacy skills (information literacy, media literacy, and technology literacy), and life skills (flexibility, initiative, social skills, productivity, and leadership) as necessary in an individual's success after he or she graduates (2011). They also disseminated a "toolkit" to support schools in connecting these areas to the Common Core State Standards. Many of these toolkits are communicated as ways to help students develop civic literacy, health literacy, and environmental literacy. Here, we find one of the many examples of the term "literacy" being used in increasingly broader ways. Because of this challenge in word and meaning, I intentionally choose the term *literacy practices*, which helps us envision literacy as activities in a classroom drawing upon and exploiting "student knowledge, experiences, and passions in ways that help them" achieve shared goals in effective independent and collaborative learning contexts committed to assisting and mentoring relationships for academic success (Beach, et. al., 2012, p. 7). Literacy practices in its most simplified definition is the process of interpretation and composition of various texts involving

traditional notions of literacy as well as varied notions that honor the social, cultural, historical, and political factors of communication within educational contexts.

Literacy practices can be understood by Gee and Hayes' (2011) term "passionate affinity spaces" (p.69). Literacy as *practice* becomes the means by which students maneuver around and through a space with characteristics drawn from Gee and Hayes but summarized by Beach, et al. (2012).

1. People's shared endeavor and interest in achieving a common goal.
2. A deep passion resulting in a strong commitment to achieve the common goal.
3. People's production of knowledge or products based on standards for what constitutes high quality.
4. People who adopt leadership or mentoring roles to involve and assist others or new members.
5. Knowledge that is distributed according to an individual's expertise and uses of language, genre, image, or digital tools mediating participation in a space.
6. Continual varied involvement by different people who adopt alternative learning trajectories in a space.
7. An openness to keep learning and changing in acquiring new forms of expertise. (p. 6-7)

As seen in these seven characteristics, literacy practices in the school setting are based on what people do individually and collaboratively with the information of the course. Literacy practices, as an approach to understanding literacy, combines the social, cultural, cognitive, and traditional notions of literacy as students engage in text comprehension and constructions to engage with one another and content in rich and meaningful ways.

This survey of the definition as well as the conceptions of literacy as practice was an important step in my study. As already mentioned, Southwest High School's reconstruction of the learning space as well as a reorientation of the learning around projects caused me to question what it meant to be literate and therefore what it meant to engage in acts of literacy. I position reading and writing as two of the many acts used by students who are operating as individual meaning makers. This study focuses on student writing and project teacher instruction and planning around student writing, so I deemed it necessary to establish research-based understanding of literacy as practice by including the following section, surveying the theoretical background as well as the pedagogical approaches of multiliteracies and multimodal approaches to literacy development. These two approaches to literacy development within the school provide a rich understanding of how the literacy practices approach takes place within the school setting.

Literacy practices and the pedagogy of multiliteracies and multimodal approaches to literacy learning. Several sources name the 1996 publication of the New London Group's manifesto as the catalyst leading literacy educators to take notice of the changes in communication and culture and respond with new basics in the classroom to address changes in literacy across the world. This manifesto laid out the term "multiliteracies" for the first time. The term multiliteracies accounts for the plural nature of the creation and consumption of various texts as well as the cultural and interrelated aspects of understanding texts and multimedia technologies (New London Group, 1996, p. 61). As a result of the multiliteracies approach to literacy learning, the goal of literacy shifted to an intentional development of a semiotic toolkit (Dyson, 2001, 2003; Jewitt & Kress, 2003;

New London Group, 1996) used to construct literacy practices and discourse resources constituting the social landscape of contemporary society (Luke, 2000).

Multimodal approaches then arose from the multiliteracies stance. Understanding how these two approaches are conceptualized and enacted is important because, as Jewett (2008) writes, “how knowledge is represented, as well as the mode and media chosen, is a crucial aspect of knowledge construction, making the form of representation integral to meaning and learning more generally” (p. 241). In other words, Jewett argues that the way curriculum content is represented by the teachers and the students shapes what and how students learn. I now highlight key components of multiliteracies and multimodal approaches because they provide a way to view the enactment of my social constructivist view of literacy practices in the school context. In no way is this an exhaustive explanation; however, I believe understanding these two approaches is integral to understanding the current landscape of research and orientations around literacy learning for adolescents in our schools, especially schools like Southwest High School that seek less traditionally structured learning activity around acts of reading and writing.

Multiliteracies is a pedagogy grounded in social semiotic theory and comes from a literacy practices approach (Siegel, 2006). Multiliteracies seeks to change the educational and social landscape by remaking the boundaries of literacy and redesigning the curriculum agenda to engage in political and social theory from a global perspective (Jewett, 2008). This approach seeks to develop socially and politically responsible curricula. It is informed by Paulo Freire (2000) and Donaldo Macedo’s (1987) political pedagogies of literacy, Australian approaches to teaching writing as genre (Cope & Kalantzis, 1993), critical pedagogy (McLauren, 1998), and critical literacy models (Lewison, Flint, & Van Sluys, 2002). To

engage students in this political and social agenda, multimodal and multiple types of literacies are employed within the classroom. “Overall, multiliteracies pedagogy can be described as developing models of effective critical engagement with students’ values, identity, power, and design from a transformational agenda” (Jewett, 2008, p. 245). Students are treated as co-learners and creators within the learning process, with special attention paid to the literacies they bring to the classroom. Student understanding and experience is the starting point as multiliteracies often focus on developing student competency and confidence as an active literate participant in the classroom as well as the larger conversations within the social, political, and cultural issues of the content and learning process. While multiliteracies emphasizes the importance of multiple means to communicate meaning, historically this approach has focused on writing or alphabetic representations (Kress, 1997; Marsh, 2005).

Multiliteracies, as a theoretical approach to teaching and learning, operates from four factors driving pedagogical models (New London Group, 1996). Jewett (2008) explains that the teacher begins by immersing students in an “acquisition-rich environment” (p. 248). The students are the starting point from a (1) situated practice, focusing on the learner’s experiences and the various designs available to them from their “life worlds” (p. 248). Teachers then incorporate metalanguages of intentional design by teaching through (2) overt instruction to support students in understanding the design processes and decisions involved in various system and structures of meaning. Social and cultural contexts and purposes are then explored as a means to understand the (3) critical framing of the design work. Finally, the pedagogical model of (4) transformed practice involves students moving across various contexts by creating and recreating, contextualizing and recontextualizing meanings. From

this approach, design, as a process, is used to support students in making decisions and constructing meaning in ways specific to the work of the course. This is a zooming in on the construction within the learning context. As students engage in this construction, teachers require students to then zoom out and explore, with a critical or analytical lens, the frame of the work. This frame might include but is not limited to the exploration of the discipline specific discourses or the social, cultural, ethical, or political factors involved in the ideas and issues inherent in the course work. From this zoomed out perspective, students then consider how the products showing their learning might be transformed, or re-contextualized, and adjusted to consider how meaning is made, re-made, and even changed based on different audiences, cultures, expectations, and settings. In other words, this is the interpretation and then the translation characteristic of our current notion of literacy development (Meyers, 1996).

Multimodality (Kress & van Leeuwen, 2001) emerged in response to the shifting social and semiotic landscape from the multiliteracies perspective. “Key to multimodal perspectives on literacy is the basic assumption that meanings are made (as well as distributed, interpreted, and remade) through many representational and communicational resources” (Jewitt, 2008, p. 246). From the multimodal perspective, various modes of communication exist and are used as resources for meaning making. These modes are situated but span across image, gesture, body posture, gaze, sound, speech, music, writing, and so on. We know a great deal concerning the semiotic resources of written and spoken language. However, we know considerably less about the potential of other modes such as gesture, sound, movement, and image (Jewitt, 2008). What we do understand is that individuals will make meaning by using modes available to them and their specific context, and the more a

particular mode is used in a community the “more fully articulated its regularities and patterns become” (p. 247). Multimodal learning invites teachers to consider the different modes they are normalizing within the classroom space and be intentional with what and how various modes are used to help students make meaning of the course information and the learning processes. Multimodality asserts all modes as partial in nature, and each mode plays a certain role in the meaning of the whole.

Pedagogically, research from the multimodal perspective has “examined the ways in which language policies, student identities, official curricula, and school knowledge are mediated through multimodal communication in the classroom (Bourne & Jewitt, 2003; Kenner & Kress, 2003). Research concerning multimodal frameworks is often analytical in nature and focuses on the “conditions and processes of learning, the ways in which students draw on practices, the social categories and practices that inform pedagogy, and so on, rather than presenting a theory of pedagogy itself” (Jewitt, 2008, p. 251). Often, multimodal literacy as a pedagogical approach is used to bring new technological resources into the classroom. However, multimodal literacy also allows us to understand all types of classrooms from the traditional to the nontraditional as complex communities enacting and normalizing different modes of learning. From the literacy practices approach, the pedagogy of multiliteracies and multimodal approaches offers educators a literacy pedagogy that is ideological in nature and focused on the processes involved as students’ take the individual and collaborative role of meaning maker and then translator. This broader conception of literacy and practices of meaning making invites us to consider literacy as more than the act of reading and writing. It is a way of being, doing, and thinking. I end this section of pedagogical implications of the literacy practices approach by exploring Langer’s (2000) work on literacy as a way to think.

The pedagogy of adolescent literate thinking: literacy as a means to think. I

would like to close this section with what Langer (2000) calls “literate thinking.” Literate thinking reaches beyond reading and writing and includes how the mind thinks and works with new knowledge, inviting new conceptualizations of literacy into the classroom. Literate thinking is the term for what happens when “people gain knowledge, reason with it, and communicate about it in a variety of contexts” (p. 51). Literate thinking draws on the social constructivist approach already discussed as a primary means by which students engage with content and each other. Additionally, engaging adolescents in literate thinking involves them in larger conversations and invites them to participate in multimodal communication forms mixing various signs and modes.

I appreciate the focus of literacy thinking because it employs various means to identify differences and similarities between traditional notions of reading and writing texts and recent renegotiations of literacy. Literacy thinking uses literacy practices to support students in developing a literate sense of self in relationship to traditional and current understandings of literacy and what it means to be a literate participant in various arenas locally and globally. Literate thinking, argues Langer, opens our classrooms to “new visions of successful school contexts for adolescent literacy,” by extending our understanding of literacy activities beyond basic acts of reading and writing (p. 51). This extension includes the communicative arts like film, music, images, dance, websites, multimodal constructions, and performance. This approach seeks to highlight literacy-related behaviors and help students understand that these behaviors are central to success in today’s society.

Socially speaking, each adolescent is part of several complex cultures. What counts as smart and being successful differs from group to group. Literate thinking makes the

definition of what it means to be literate more flexible and accounts for the perspectives of students from various experiences and cultures to be taken into account and given an active role in the learning process. Literate thinking assumes individual, cultural, and group differences and leaves room for the teacher to invite students to use what they understand and have experienced as a starting place for learning (see Figure 2.1). This approach expects differing perspectives and gives students a place to try out ideas, manipulate what they think, and use language to refine and rethink ideas (p. 51). This approach expects students to be analytical about course content and develop skills in connecting this analysis to other knowledge and their own learning. In Figure 2.1, I provide a short summary of what Langer (2009) means when she asserts that literate thinking involves a certain type of dialogic activity among students, an approach to learning that focuses on its generative nature, and the intentional positioning of students as credible builders of knowledge within the course's meaning making processes.

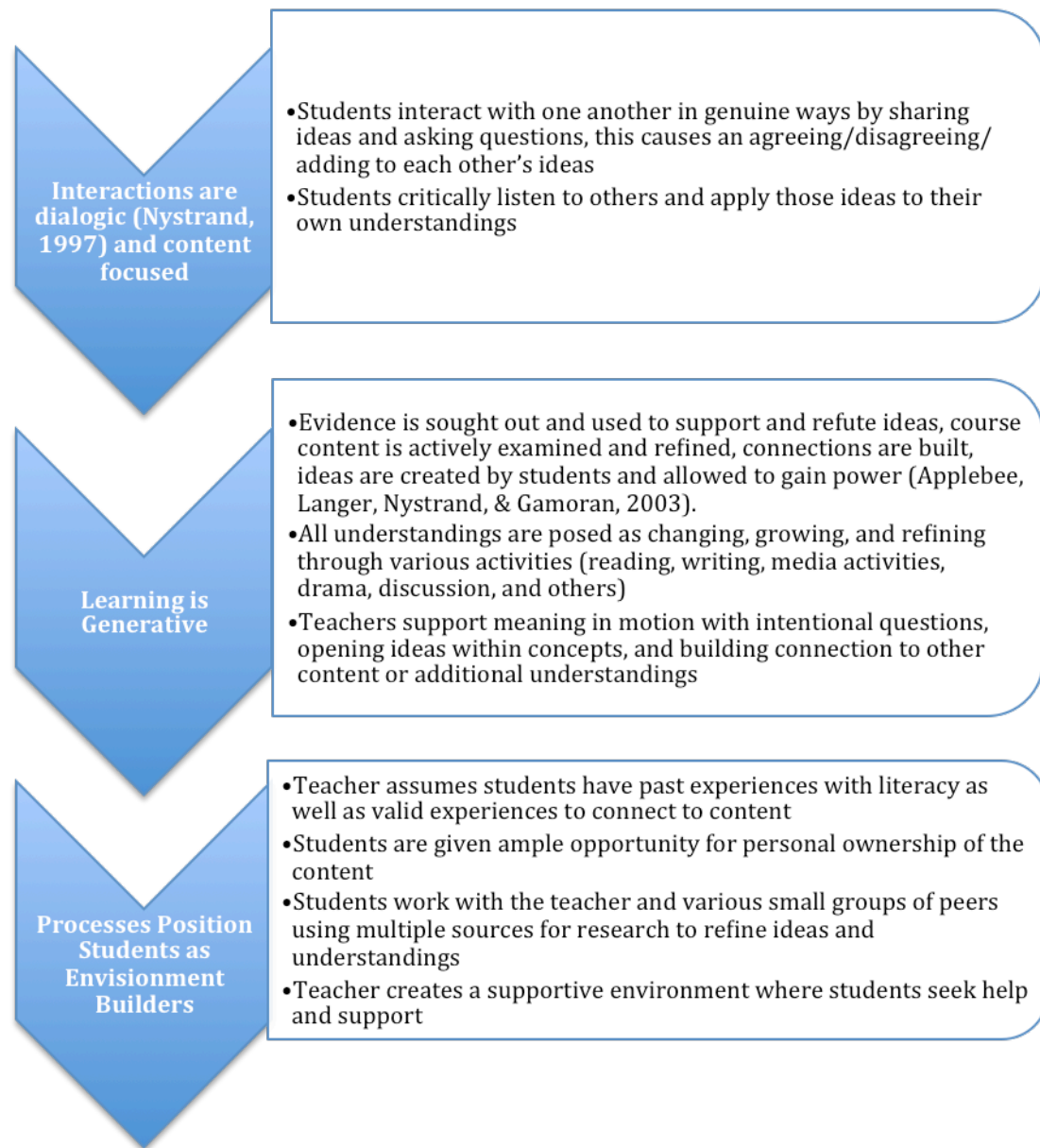


Figure 2.1. “Literacy Thinking” in the Classroom (Langer 2009, p. 58-59). How literacy thinking is enacted in the classroom.

In recognition of writing being positioned within the literacy practices approach—and therefore being understood as a social process, situated and contextually understood, involving a collection of meaning making practices—I included the following section on

adolescents and literacy research. Due to my literacy practices approach, I deemed it necessary to consider our current research-based understandings of how our culture has historically understood adolescents as well as how adolescents are being understood from the perspective of literacy research.

Adolescents and literacy research. My study focused on the ways in which students chose to write and teachers chose to plan and implement writing as intentional acts of meaning construction within the context of a project. The school required its teachers to collaboratively create their own project-based curriculum grounded in their perceptions of who adolescents are and what they are capable of doing within this particular structured educational setting. Therefore, I would like to briefly discuss the ways in which we often define adolescents and the role adolescent research is playing in the development of literacy research. I include this research to highlight how the various participants and the perspectives they have of one another are important dimensions we must consider if we approach literacy from an ideological perspective and position it as part of our social and cultural understandings and meaning making activities.

Adolescent is a term often used for young people spanning ages 11-20 (Christenbury et. al, 2009). The term became popular when schooling expectations and child labor laws were developed in the late 19th and early 20th centuries (Kett, 1977; Modell & Goodman, 1990; Tyack, 1990). Recent brain research suggests adolescence involves a period of brain development—second only to the first year of life—during which decision making ability and higher order thinking skills advance at an accelerated rate (Strauch, 2003). It is a developmental space occupied by individuals who are no longer considered children but have

yet to reach what the respective culture considers adulthood; it can be seen as “a kind of purgatory between childhood and adulthood” (Appleman, 2000, p.1).

Adolescents, as a group, are often approached from a deficit perspective. They are perceived as “adults in training” lacking in culturally deemed mature ways of feeling, thinking, and believing (Cotton, 1989). In response, Lesko (2001) challenged the notion that all adolescents are the same and essentially different than adults by turning to sociohistorical research to develop richer understandings of adolescent individuals. Her study, and others, encouraged a new orientation around adolescents *as* individuals. Instead of viewing them as a group lacking in adult knowledge and experience, they can be understood as interdependent and in possession of knowledge concerning what is relevant to their particular situations. This approach connects youth and adults by exploring how we all, as adolescents and adults, behave provisionally at times within certain circumstances and within particular discourses (Morgan, 1997). This approach also argues for adolescents being able to have some degree of agency within a larger collection of social practices (Marsh & Stolle, 2006). This agency is important and often overlooked in the classroom. However, when we view adolescents as individuals and active participants in an interdependent culture, we are challenged to develop in-school curriculum both honoring their possession of agency, and encouraging their potential to be active participants in the learning process.

The focus of literacy education is often on what information teachers should teach instead of which developmentally appropriate approaches should be used (Langer, 2009). The English Language Arts classroom occupies an important space not just in its fundamental subject matters of teaching reading and writing, but in the enculturation process of equipping adolescents to engage with an actively communicating world beyond the

classroom. Literacy curriculum implemented by teachers is filled with various messages and certain tasks concerning what it means to be literate and this in turn shapes “students beliefs about what counts as academic learning, as well as their capacities to do rigorous discipline-based work” (Schoenbach, Greenleaf, Cziko, & Hurwitz, 1999). Adults, in a given community, initiate learners into what it means to be literate as they model learning and scaffold practices within the curriculum (Majors, Kim, & Ansori, 2009).

Currently, the research community is actively developing ways to merge our understandings of adolescents as a specific group of individuals with age appropriate conception of how to supporting dynamic adolescent literacy development. These two fields of research represented in adolescent literacy are interacting and allowing theories, conceptions, and ideas to work together and challenge one another. In the international research community, new conceptualization and possible implementations of how literacy and adolescents are affecting one another are being taken up, researched, and discussed at length in peer-reviewed journals and at conferences across the nation. However, the “potential for research on multiliteracies and the NLS [New Literacy Studies] to inform the discourse of adolescence, and ultimately adolescent literacy instruction, remains largely unfulfilled in the United States” (Alverman, 2009, p.19). Graff (1987) writes, “It is symptomatic that, in a period when literary studies have gone through the most fundamental conflict in their history, that conflict has informed very little of the average student’s study and is still generally regarded as little more than a tempest in a teapot” (p. 251). From this current research activity, we have several additional understandings of how literacy can be conceptualized and implemented in the classroom, however we have seen little change in the

ways in which the education or the enculturation of reading and writing takes places within American schools.

These assertions, concerning the lack of change in our American classrooms, further establishes the importance of this study and its potential to add to our understanding of adolescent writers in the field of adolescent literacy research. This case study seeks to develop research-based understandings of ways in which the metaphorical tempest might leave the teapot. The following section is therefore dedicated to providing a research-based understanding of PBL's pedagogy, expectations of teachers and students, and finally the basic principals involved in a PBL approach to student learning.

The pedagogical approach of project-based learning. In choosing to consider this case study from a sociocultural perspective, I find it important to briefly explore current research regarding the PBL focus of the school. At Southwest High School, project teachers collaboratively plan PBL units for each trimester. Project-based learning (PBL) is vast in its scope and implementation, with no two teachers implementing it in the same way (Ravitz, 2010). However, a survey of current research exploring PBL provides us with a basic understanding of several components that make PBL a distinctive educational approach. PBL removes the teacher from the center of the classroom and places students as active learners and co-creators of knowledge and typically culminates in a student-created product that is revised and improved upon throughout the unit of study. PBL is a modern enactment of Dewey's (1897, 1938, 1974) proposal that learning by doing is an effective way to engage children in understanding learning as an innate process of life not a preparation for a distant experience in the future (Bell, 2010; Blumenfeld, Soloway, Marx, Krajcik, Guzdial, & Palincsar, 1991).

PBL can engage students in an academically rigorous process of solving open-ended problems. The approach uses the creation of an artifact or the process of a project to support students showing and being able to communicate their learning in material demonstrations that help them make meaningful connections between skills and content throughout the learning process (Ravitz, 2010). Students design, problem solve, make decisions, work in collaborative settings with peers, conduct various assessments of their own work and the work of others, and investigate various questions. They do this while working rather autonomously over an extended period of time. Student work culminates in the creation of realistic products and or presentations (Jones, Rasmussen, & Moffitt, 1997; Thomas, Mergendoller, & Michaelson, 1999).

Teacher and student roles. PBL is not just a supplemental activity but also a teacher facilitated and student-driven curricular approach (Bell, 2010). Projects are built around student inquiry as students are often charged with the role of being independent thinkers. Teachers strategically position various learning resources and experiences within the timeline of the project to increase student curiosity and generate momentum towards the product creation goal. Students are encouraged to engage teachers as co-learners throughout the project's various phases, and teachers are encouraged to focus on students' interactions with their own learning processes as well as the learning processes of their peers. Collaboration is an important part of PBL as this approach seeks to foster relationships between the teacher and the students, the students and their peers, and the students and the project work.

PBL seeks to facilitate students' ownership of their own learning as they engage with the teacher, their peers, and the community—both inside and outside of the school (Hernandez-Ramos & De La Paz, 2009). An important part of this ownership process is

PBL's intentional and strategic use of reflection. When developing the project, teachers design activities in which students reflect on their own learning and their progress toward their product creation goals. This intentional reflection coupled with the focus on independent thinking encourages students to take ownership of their own learning process and positions teachers as a resource for students to use as they work through reflections focused on their individual learning process.

The principles of project-based learning. PBL is based on the following assumptions: students can be self-reliant in their learning by developing and planning with various organization skills; collaborative skills are enhanced through self-guided learning; differentiation provides intrinsic motivation for learning; technology is a useful tool to support problem solving and enhance creativity in learning; one of the primary guides of the project is the students' pursuit of success; and students benefit from connections between in-school learning and the world outside of school. Among the many types of implementation, we often find three common characteristics: (1) learning is perceived as the intentional building of knowledge; (2) assessment is used as part of the learning process; and (3) cognitive apprenticeship is the goal (Bell, 2010).

While PBL is understood and enacted in different ways, I sought out principles common to PBL to generate a basic understanding of how the approach guides curriculum development. My understanding of PBL is primarily guided by my orientation in the classroom as a learner and teacher. Because of this, I find the Essential Project Design Elements (Larmer & Mergendoller, 2015) designed for educators a well-communicated and concise explanation of how PBL is enacted within curriculum (see Table 2.2).

Table 2.2

Essential Project Design Elements (Larmer & Mergendoller, 2015).

Principle	Student Enactment
Key Knowledge, Understanding, and Success Skills	The project is focused on student learning goals, including standards-based content and skills such as critical thinking/problem solving, collaboration, and self-management.
Challenging Problem or Question	The project is framed by a meaningful problem to solve or a question to answer, at the appropriate level of challenge.
Sustained Inquiry	Students engage in a rigorous, extended process of asking questions, finding resources, and applying information.
Authenticity	The project features real-world context, tasks and tools, quality standards, or impact – or speaks to students’ personal concerns, interests, and issues in their lives.
Student Voice & Choice	Students make some decisions about the project, including how they work and what they create.
Reflection	Students and teachers reflect on learning, the effectiveness of their inquiry and project activities, the quality of student work, obstacles and how to overcome them.
Critique & Revision	Students give, receive, and use feedback to improve their process and products.
Public Product	Students make their project work public by explaining, displaying and/or presenting it to people beyond the classroom.

Student Writing within the Literacy Practices Approach

The history of in-school student writing. Traditional approaches to writing provided teachers with the role of prescribing conventions and focusing on the student creation of a final product. These specific structures were widely accepted as formal discourse and guided much of the writing in American schools up until the 1970’s and 1980’s. Within this approach, students receive instruction on the sentence level—grammatical rules and usage—and the text level—abiding by the established discourses of narration, description, exposition, persuasion, and poetry. In its purest form this traditional approach involves students analyzing classic examples along with the rules governing those

examples. Following this analysis of examples and guiding rules, students are then invited to practice these rules by responding to various exercises or writing imitations closely following the examples (Applebee & Langer, 2006).

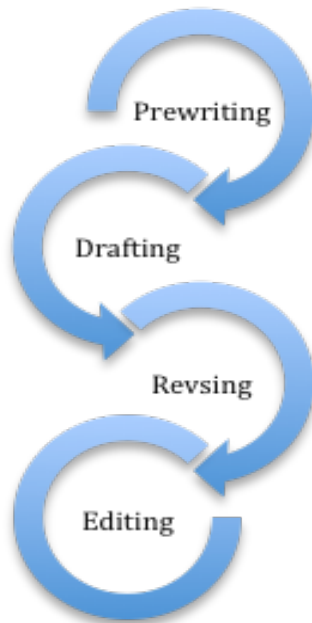


Figure 2.2. The Four Stages of the Writing Process.

A major shift occurred in the 1970's and 1980's known as the process approach. This process approach focused on writing as a way of thinking and developed strategies that supported students in the process of composing a text. While the definitions of this process approach vary greatly throughout the field of writing instruction and research, activities often included brainstorming, journal and or expressive writing opportunities, small-group interactions around writing, teacher-student conferences focused on the student's writing, student ideas and experiences utilized and emphasized, the writing of multiple drafts, an intentional waiting for the final draft before editing, and teachers postponing or eliminating grades.

Figure 2.2 shows how the writing process is often divided into stages four different stages:

prewriting, drafting, revising, and editing. Teachers using the process approach often treat writing as recursive instead of linear and complex instead of simple. This process-centered approach provides the writer with an active role and requires him or her to organize and reformulate ideas and experiences, treat learning as cumulative, expect errors and (even encourages them as signs the writer is taking on greater challenges), and gives greater attention to the process than the product (Applebee & Langer, 2006).

In the 1980's, scholars from the sociocultural perspective began to argue there was more to student writing than a focus on product and the process and the teaching of skills to maneuver between those two components. Teachers' perspectives of writing and students' abilities to write affect the ways in which they implement writing in the classroom. Sociocultural scholars began focusing on teacher perspective, which included the ways in which teachers implementing writing within the classroom. From a textual or cognitive process perspective, writing instruction's purpose is to help students develop certain essential skills and psychological processes to effectively perform a given writing task. Students' abilities to acquire these skills and processes are evidence of effective instruction and student achievement of specific writing abilities. When students struggle with writing the struggle is viewed as the result of incompetency on the part of instruction or the students' inability to acquire a certain skill (Beach, Newell, & VanDerHeide, 2016). The sociocultural perspective argues that rather than seeing student writing from purely a textual dimension or a cognitive dimension, writing should be viewed as "a social event involving the construction of that event and relationships with others" (p. 89). Students become independent, decision-making participants in a meaning making activity requiring them to use their writing to accomplish their goals while considering purpose and context.

By conceptualizing reading and writing within the literacy practices approach, writing becomes one of the many means to communicate meaning, “It is learned and produced in social circumstances, establishes social relationships, changes the writer’s social presence, creates shared meanings, and accomplishes social interaction” (Bazerman, 2016, p. 11). Student writers are seen as more than creators of written products resulting from a specific writing process. The focus is on participation, requiring students to be active participants in various contexts both inside and outside of the classroom. This participation is “distributed in ways that shape how students write and respond to one another’s writing, how identities or ethos are assumed, and how meaning is constructed within rhetorical contexts” (Beach, et. al., 2016, p. 90). A sociocultural perspective of writing revolves around the social and cultural practices of students as writers, highlighting the importance of the ways in which teachers and students construct context (Beach, et. al., 2016). Context is further complicated when we realize how vast contexts are considering various students, classroom, schools, districts and so on.

But what is context? What does it mean to contextualize student writing? One of the most important aspects of writing within a literacy practices approach requires the contextualization of activity (Goffman, 1986). Rather than seeing context as a thing to consider or a box that holds specific assumptions or definitions or practices, writing within a literacy practices approach is used to help students understand how to contextualize their writing by making it meaningful across modes and to various audiences. Contextualizing positions student writing as the result of students’ understandings of the purpose of the activity, the possible audiences, and the situations related to the issues of writing. Students’ understand their choices require relevant uses of genre, registers, discourses, and various

media forms as well as the construction of individual expression of beliefs and perspectives (Andrews & Smith, 2011).

Current conceptualizations of writing from a sociocultural perspective. In Table 2.3, I summarize Bazerman's synthesis of the general principles that a sociocultural understanding of writing has added to our current conceptualizations of writing. Bazerman explores many different principals but here I focused on the understandings dealing with context. The top row of the table is the conceptual area of research, and the phrases below are the specific issues concerning writing within that conceptual area.

As already mentioned, we are experiencing huge shifts in what it means to be literate as well as what will prepare adolescents in our schools to deal with quickly changing technology and career models as a result of the changing globalizing economy. "Student writers need to learn not simply how to write specific texts and genres, but more significantly how to continually write across this ever-changing constellation of technologies, modalities, and contexts" (Leu, Slomp, Zawilinski, & Corrigan, 2016, p. 42). New models of how to understand writing within this perspective are being developed to account for "complex thinking to develop alongside and with beginning skills" (Yancey, 2009, p. 6). Two frameworks that approach knowledge conceptually and provide helpful conceptions of writing from the sociocultural perspective are composition as design and Beaufort's Conceptual Model of Expertise. In these two approaches, writers are not positioned as only text creators but idea communicators making their decisions around what and how to communicate ideas and information, an important aspect of the work of writing. These two approaches are especially pertinent to this study because of Southwest High School's focus on design as means to learning within their project work.

Table 2.3

Principles of Writing Developed from a Sociocultural Perspective. (Bazerman, 2016, p. 11-18)

When and Why People Write	Consequences of Writing	How Writing Gets Done	How Writing Is Learned
Writers write to participate in social situations	Writing build relationships with readers	Writing process allows planning and refinement	Development of writing skills depends on passages through situations, solving problems and becoming articulate in those situations
Writing takes place in the context of prior texts	Through participation writers gain voice and identities within forums.	Writing processes are influenced by situations and are often distributed among participants	Learning to write within certain domains is closely integrated with learning the knowledge, forms of reasoning, criteria of evaluation, and forms of action in those domains.
	Writing creates sharable meanings and representations of the world		Moving from one social domain to another requires adjusting writing, learning new skills, and transforming the knowledge one brings from previous experience.
			Enculturation into writing is socially sponsored and shaped by the sponsor's agenda.
			School creates specialized writing activities within a specialized activity system with specialized school genres
			Ideologies of schooling shape school writing experiences and students' trajectories of learning to write.

A design approach to student writing. Design as an approach to composition involves a focus on idea development. Composition as design comes from the multiliteracies

perspective (defined earlier in this chapter) from the New London Group (1996). This design perspective positions writing as a process instead of a product. In light of the process approach, “it also highlights the multimodal nature of composition” (Leu et. al., 2016). This approach recognizes that decisions about how the text is presented are just as important as what information is included in the text (George, 2002).

Design approaches to writing come from a sociocultural understanding of writing because they emphasize the importance of repurposing and redesigning work with various materials and across multiple contexts. Composition as design focuses on the act of writing as an act of design in and of itself and honors the intertextuality of knowledge involving “borrowing, appropriating, juxtaposing, blending, remixing, and recontextualizing” various materials into different texts (Lewison & Heffernan, 2008, p. 457). Writers manipulate and maneuver ideas within various contexts and materials, paying attention to the decisions made concerning how communication is formed and what materials are used to communicate the information. Just as design work relies heavily on the client’s needs and desires, so composition as design understands that the interplay between the writer and the reader is managed by paying close attention to the use of ideas, understanding of needs, and appropriate selection of communication means.

Beaufort (2007) conceptualized broad knowledge domains used by the writer to engage with design work. On a basic level we know that a student’s ability to design is intimately bound up in his or her ability to read and write (Geisler, 1993). While understanding the role of basic acts of reading and writing within design work is important, knowledge domains are not about the use of reading and writing to accomplish a design task. These broad knowledge domains position student writing as a problem-solving exercise.

This approach presents writing as a problem needing to be solved. The first task is to “deconstruct the rhetorical context for which they are writing” and the second task is to “respond to what was learned in the process of deconstruction” (Leu, et.al., 2016, p. 43). There are five domains of knowledge in Beaufort’s model: discourse community knowledge, rhetorical knowledge, genre knowledge, writing process knowledge, and subject matter knowledge. In this approach, students use their writing to move through these various domains, increasing their understanding as they further develop their ideas within each domain.

If we want our students to develop the ability to understand multiple perspectives and various modes and contexts of communication then our classrooms must offer more open-ended and dialogical opportunities to explore ideas and processes unrestrained by an overpowering focus on specific technical skills, prescribed strategies, and predetermined outcomes (Aukerman, 2013). When considering writing development from a sociocultural perspective applied within a literacy practices approach, student writers need ample time as well as intentional support for “making their own rhetorical decisions related to topic, genre, audience, and purpose” (Beach, et. al., 2016, p. 89).

If students are limited to achieving a certain prescribed outcome or demonstrating use of a certain strategy in a prescribed manner, they may be less likely to entertain alternative perspectives than when they are operating in classroom culture that values open-ended exploration of ideas. (Beach et. al., p. 98)

The sociocultural perspective asks us to seriously consider the ways in which we are positioning writing and the culture we are developing around students’ use of writing.

Driscoll and Wells (2012), in light of the new literacies conception of writing, highlight our current need for a more complex research agenda. We need research examining “intrapersonal, institutional, and broader context factors that shape the demands that writers face, and it also requires examining how writers acquire and repurpose knowledge about writing as they apply it across a range of contexts” (Leu, et. al., 2016). Furthermore, we must also consider the contextual factors of our schools and the ways in which we must accept, adapt, or dismiss these literacies practices. We must move beyond a focus on the text’s features and the students use of specific cognitive strategies in order to better understand writing development as students uses of discourses (Bloome & Clark, 2006).

Understanding the Immaterial Nature of Student Writing

In the previous sections of my literature review, I explored a research-based definition of literacy and how I have come to understand it as a practice socially situated and involving processes of meaning making. I also included a review of the ways in which we have viewed and therefore instructed, within the school setting, students in acts of writing from a sociocultural perspective. With each of these explanations, I attempted to show there is much more to writing than merely putting words on a page and much more to students’ development of literacy than merely completing specific activities outlined in the curriculum. I highlighted how students are greatly affected by various seen and unseen social and cultural aspects involved in their schools, relationships with adults, and experiences engaging in the very processes used to support them in their writing. Up until now, this review of literature was a widening of a lens to intentionally invite a broadened understanding of what literacy is and how it is enacted in our schools. In this final section, I want to tighten my focus, and zoom in on what the act of student writing involves when it comes to the internal processes

of students. I turn to the work of two prominent scholars in the area of literacy research who highlight the internal nature of writing and propose we consider the developing inner relationships the student is building by using his or her own inner language. These relationships are constantly evolving, being made and re-made between ideas, individuals, and communities of people. This theoretical work is especially important to this study because it extends our understanding of student writing in yet another direction and invites us to consider what occurs within the internal workings of the student long before and long after any words are committed to paper. This perspective invites us to consider what's before, behind, and beyond the act of writing so that we might better support students in producing writing that is meaningful to in-school work and to the students' developing knowledge.

Students' internal language and their writing. In his essay, *Writing to Learn and Learning to Write*, Britton (1972) explores the complexities involved in the relationship between the teacher and the learner in areas of reading and more specifically writing. "Language is an *internal* operation, (emphasis from original text)" Britton writes, and "the child must grapple with his own thoughts and feelings in situations where he must express something relatively complex ideas (for him) to someone he truly wishes to convince or make understand" (p. 33). This internal operation involves a struggle between what the student understands and what the student wishes to communicate first to himself and then to others through writing. According to Britton, inherent in this understanding is the teacher's assumption that the student has something of value to say and must be given opportunities to interact with relatively complex situations or information in order to experience this grappling and struggle as he or she moves the internal to the external.

Britton emphasized that our focus should not solely be on what students read and write but also on how they build relationships between thoughts, feelings, and language. Pushing up against some of the same educational trends we face today, Britton asserted “it is a dangerous oversimplification to reduce the power over language to such mechanics as pronunciation, spelling, or explicit knowledge of grammar,” Britton argues, “they are not the true basic fundamentals of language arts.” Britton suggested we support children in developing their own individual power of language to nurture growth in expressions of thoughts and feelings.

In helping the young child acquire language power teachers are aware of the necessity, first of providing opportunities for him to enlarge his experience, and then of helping him find appropriate words to *clarify and organize thinking* about that experience. The same holds true whatever the age or degree of advancement of the learner: understanding comes from dealing not with words alone but rather with the concepts for which the words appear. (p.35)

From this perspective, the teacher becomes a facilitator of experiences and enables students to use language to first understand what one is thinking and then extend that thinking to other ideas and perspectives.

Britton metaphorically warns teachers that these are “deep and dangerous waters” because the development of language is a process of growth, working beneath the surface and unable to present itself as information to be accurately measured by drills and tests (p. 36). It was with this perspective of language development and its messy growth in the process of reading and writing that Britton, along with his colleagues, used their research in the 1970’s to develop alternative ways of understanding writing from the perspective of the

student and their writing function (In Chapter Three I include an explanation of this study and the resulting coding system that has been extensively used in both London and the United States to conduct research projects that seek to understand what students are actually writing in schools. Following the explanation, I explain my own process of using this coding scheme to answer one of my research sub questions). Britton challenges us to understand writing as a wrestling of not just words but ideas, no matter the level on which the student is operating. Britton challenges teachers to provide classrooms offering students the opportunity to step into challenging experiences and find empowerment in the difficult work of using language to first clarify their thinking and then organize it in order to communicate it to others. Both Britton and Moffett (1979) argue for an understanding of student writing that includes an intentional consideration of the internal dialogue students use to make sense of their learning and then communicate that sense making to themselves and others. I now turn to Moffett's (1966, 1979) work around student writing and present his ideas around the inner dialogue and how authoring might come from a focus on the immaterial activity happening before, during, and after students write words on a page.

The extensive processes involved in student writing. Moffett (1979) defines writing from the lowest to the highest conception. First there is handwriting (drawing letters), then transcribing (making the oral visual and focusing on spelling and punctuation), followed by copying (rewriting texts by other authors). After copying comes paraphrasing (rewording or summarizing another's text), then crafting (constructing effective sentences and organizing ideas into forms), and finally authoring (authentic expression of one's own ideas). Moffett argues that writing should not be used to test or improve reading, as teachers often use it in the English Language Arts classroom. Instead, writing should be viewed as an

extensive process beginning long before words are put to paper.

Due to its “amorphous” and “untidy” structure, English Language Arts and especially student writing within the subject of English Language Arts is often “the caboose on the train of educational renovation” (Moffett, 1966, p. 18). Our focus on the material of education can cause us to empower the institution over the individual and seek form over content (Moffett, 1979). This focus on the material “anchors the teaching of writing to inferior levels of any scale aspiring excellence” (p. 277). When we do this, we run the risk of mistaking the tools of English Language Art’s various parts for the craft itself. Furthermore, the ambiguous term of “writing” causes confusion allowing any definition and motive to hijack it and use it to suit any number of ends (Moffett). Schools often use student writing to accomplish their various goals and those goals often cause writing to be more about the mechanics of word creation, sentence building, or book reports. “Once we acknowledge that ‘English’ is not properly about itself, then a lot of phony assignments and much of the teacher’s confusion can go out the window” (Moffett, 1966, p. 22). However, “if undertaken seriously, it threatens to be dangerous, unmanageable, and untestable” (Moffett, 1979, p. 279). In order to improve student writing within current educational reform, increased standardized testing, and the use of Common Core State Standards we must conceive of writing within higher conceptions or we run the risk of “locking in even more tightly the errors of the past” (p. 279).

This focus on the material and the various individual parts favors the concrete or superficial view that Language Arts is about basic skills such as spelling, vocabulary, or punctuation instead of speaking and thinking. Due to this material focus of the various parts of the Language Arts, the teacher faces external pressure to develop curriculum with the

material product as the goal instead of student-centered authoring of individually pertinent writing rich in content of authentic learning.

But teachers have no business preferring either and have no choice but to work *in the gap* between thought and speech, Writing is a manifestation of thought, but however tempting, we cannot deal with it only as it finally manifests itself visually in writing or even audibly as speech. Too much precedes the physical sounds or sites for teachers to take up only at these forms. (p. 278)

Teachers must therefore use student writing to encourage authoring and aim their curriculum at student thinking and communication in order to support student writing in the classroom.

Moffett therefore argues for a classroom rich in experiences for students to author authentic texts. Moffett describes authoring as the use of raw material (not previously abstracted or formulated by someone else) to synthesize and express ideas for oneself. The writer “re-abstracts” firsthand content (feelings, fantasies, sensations, memories, and reflections) and secondhand content (content taken from interviews, stored information, and other’s writings) into his or her own synthesis (p. 278). The work of authoring is therefore a “revision of inner speech” in which student thinking is “manifested in a verbal way” (p. 278). Writing, or true authorship, requires teachers to stand in the gap between what students think and what they communicate, and support students as they do the challenging work of expressing authentic thought as a result of having authentic experiences.

Moffett argues for a shift in writing curriculum that focuses on the inner speech or internal dialogue of students and includes within the writing process the entire continuum of student thought. This continuum includes the writer’s thoughts concerning the subject being written about and the extensive process involving what the writer is trying to both

communicate to himself or herself and as well as recast in light of that expression and interaction with other information. Students must experience raw phenomenon and then try to communicate their responses with different symbols and representations from various levels of abstraction and then discuss these representations with a “linguistically and semantically sophisticated” teacher (Moffett, 1966, p. 23). We must extend our scope when it comes to student writing and include the extensive processes happening long before and after anything is written down on paper.

I agree with Moffett that writing consists of all of the activities of his definitions at once. “None is wrong” he writes, “but failing to include all is wrong” (p. 278). “Older students who say they have nothing to write have simply spent their school days copying, paraphrasing, and fitting given content into given forms: they have never had the chance to see themselves as authors composing their inner speech toward a creation of their own” (p.278). The heartbeat of writing is the subjective internal life of the writer. This life is neither audible nor visible but it is the most important part of writing. We must consider this inner dialogue and not merely focus on the final production presented in written form.

How do these conceptions of students wrestling with their internal language (Britton, 1972) and working through challenging invisible work of thought and expression (Moffett, 1966) connect back to the larger structures of English Language Arts, and the challenges teacher face in this gap between what is thought and what is communicated? Moffett suggests we consider how students operate within the elements of discourse. The trinity elements of discourse are the first, second, and third person; “speaker, listener, and subject; informer, informed, and information; narrator, auditor, and story; transmitter, receiver, and message” (p. 23). Moffett argues for a curriculum structure focusing on the relationships of

these three elements and asserts it requires that we position students in the middle of the drama and teachers as supporters of the unfolding theatrics.

Based on my experiences as a teacher and researcher, students often occupy the role of listener or receiver of information, a third person perspective according to Moffett's (1966) conceptualizations. However, Moffett argues that students should take up the first or second person if at all possible when relating to the subject or course content.

This amounts to proposing that curriculum units and sequence be founded on different kinds of discourse, a 'discourse' being defined as any piece of verbalization complete for its original purpose. What creates different kinds of discourse are shifts in the relations among person—increasing rhetorical distance between speaker and listener, and increasing abstractive altitude between the raw matter of some subject and the speaker's symbolization of it. (p. 24)

This repositioning of students puts them in direct relationship with raw experiences and offers opportunities for them to express the process of making sense and building connections between their own ideas and the ideas of others. Students take center stage in the middle of the drama and occupy the identity of being somebody who is important because they have something of value to say to someone else. Moffett suggests that the most effective way to allow students to try out different discourses and the identities that go along with them is to offer them the role of making sense using "I and you" instead of "them or it" (p. 25). This intentional use of "I" and "you" positions the student at the center, as the originator of thought inhabiting a specific time and space, and it removes the abstraction that often comes along with third person pronouns such as he, them, or it. Moffett asserts instead of focusing our classrooms on analyzing the work of others, students should try to understand

the world by mimicking others and experience how ideas and words work within various discourses from the inside out. By reading and writing with authentic whole discourses we come to see the English Language Arts Classroom as “the richest laboratory of all” (p. 28). This laboratory invites students to use information to better understand how and what they think and encourages new ideas and understandings to emerge among the relationships students create between their own thoughts, their expressed communication, and the perceptions of others.

While there is little current research concerning English Language Arts as a subject operating within the PBL approach, there are literacy theorists who explore the structures of English Language Arts and how student writing operates within our various educational structures from a student-centered approach. The work of James Britton and James Moffett span many aspects of education, literacy, and teaching. I included here the summary of a small portion of these scholars’ conceptual explanations of the power of inner language and thought within the English Language Arts curriculum and more specifically student writing. Throughout their work, both Britton and Moffett challenge the assumption that English Language Arts is about mechanics and written products and beg us to consider the immensity of the immaterial work happening within students as they seek to make sense of their thoughts and then communicate those to themselves and then to others.

This literature review sets forth my theoretical framework as well as the complex and multifaceted ways we have come to understand how adolescents literacy development and more specifically student writing from a sociocultural perspective and literacy practices approach. To close this literature review, I included an explanation of student writing that considers the internal working of students’ inner dialogue and thoughts concerning the act of

writing. This literature review lays the groundwork for the following chapters. The next chapter, Chapter Three, is the methodology of my case study. In this chapter, I included how I bound my case, the data I used, my research questions, and the ways in which I analyzed the data to answer each of my research questions. I also included measures I took to increase credibility. Chapters Four and Five include what I found as I answered my questions and then sought to make sense of those findings in light of this review of literature.

Chapter Three: Methodology

Background of the Related Data Collection

For the 2015-2016 school year, Dr. Vanessa Svihla received a grant from the National Academy of Education / Spencer Foundation funding her efforts to conduct a research project focused on the role of design within the learning process.¹ She conducted two separate semesters of data collection during the Spring of 2015 and the Spring of 2016. I participated in data collection during both semesters, but this study focuses on data collected during the Spring of 2015.

Data collection. I attended planning sessions before the trimester began, observed the school moving into the new building, and spent at least two days per week of the spring 2015 semester at the school collecting data. My role was to help manage the team of researchers, observe the students and teachers, take field notes, take pictures, and film certain activities in addition to the two projects our research team was closely following. I participated in the school's day-to-day activities, including teacher professional development, additional meetings and activities, and the end of the semester exhibitions. As I spent more time at the school and developed a good rapport with the teachers and leadership, several of the teachers asked me for support. We often discussed ways they might support individual students struggling with reading and writing and incorporate various reading and writing activities within their project.

¹ Design in this context focuses on the various opportunities students have to engage with the process of designing, and the ways it supports student learning with its iterative nature and embedded design problems allowing students to construct and test their developing knowledge, ideas, and feelings by using them within the design process (e.g., Papert & Harel, 1991; Kafai, 1994)

I collected data from the trimester planning sessions before the trimester began; closely followed two projects throughout the trimester; conducted structured, semi-structured, and impromptu interviews with teachers, students, and staff; met with faculty, staff, and the Public Education Department of New Mexico; and interacted with students, teachers, and the community at the end of the trimester exhibitions. The majority of the teachers were consented participants in the project as were several students. The entire school was aware of the research project and readily accepted me and the other researchers. I was able to walk from space to space and stand on the outside of several different learning environments, observing teachers and students engaging in all sorts of learning activities. Because of the unique nature of this environment, I was also able carry on rich impromptu conversations with the teachers, staff and students. The teachers invited me into their project spaces and often came to talk with me about what they were teaching or struggling with in their projects.

An Initial Pilot Study

As I was gathering data, I began to ask my own questions to make sense of my experiences working as a Language Arts teacher in a traditional classroom setting, a graduate student of literacy and sociocultural studies, and a qualitative researcher. I formulated a basic research question designed to help conduct a small study of my own. I wanted to explore the teachers' perspectives of their roles and the students at Southwest High school when it came to the reading and writing activities of the projects. My initial research question laid the groundwork for this study: How do teachers perceive the students at Southwest High School and their roles in implementing reading and writing within the projects? I then set out to interview five project teachers as well as the principal and the head counselor. For all

seven participants, I conducted one semi-structured interview following a general script (see Table 3.2) and several shorter interviews during project work time, before and after school, and during the teacher prep time. I asked the participants to help me understand their personal conceptions of reading and writing and the ways in which reading and writing worked within their projects.

From these interviews and conversations, I learned that each individual project teacher had a complex understanding of reading and writing. These understandings were directly affecting the ways in which teachers were embedding reading and writing activities within their projects. I decided to design a qualitative case study to investigate and systematically answer my questions that resulted from my time spent observing at the school and meeting with teachers during the interviews.

Developing My Own Case Study

One of the primary characteristics of a case study is that it is a bounding of something for the purpose of intentional studying within its own contexts (Creswell, 2007). According to Merriam (2009), developing a case study is about building fences around a single unit of analysis or a topic of investigation and engaging a study that is holistic and lifelike, both grounded and exploratory. My case study approach required me to build fences around a unit of analysis and investigate it. These fences were necessary because of the massive corpus of data I had spanning an entire trimester. I chose to focus on the project with which I had the most experience, the *Using Waste* project. While I could not possibly review everything done during the project, I knew I could at least try to make sense of students' writing and teacher implementation around student writing. I chose student writing as the primary focus to guide my understanding of the interesting phenomenon of literacy practices within the school's

PBL setting. I therefore designed a research study intended not to “map and conquer the world but to sophisticate the beholding of it” (Stake, 2005, p. 43). I bound my case study to the *Using Waste* project that spanned January 20 to March 25, 2015. For participants, I focused on Owen and Clay's individual interviews and collaborative implementation of writing activities in the *Using Waste* project. I chose these two teachers because I had spent the most time with them and had extensive experience observing their project and working with them in various settings at the school. I selected three different types of writing activities to develop an understanding of writing across the project. These three separate writing activities were the student notebooks used throughout the project, the first writing activity involving the creation of a fictional homeless person, and the final writing activity involving writing a formal letter to a district representative to offer a solution for solving issues connected to homelessness in the students' city.

I primarily used Merriam's (2009) work on qualitative case studies within educational contexts to guide my understanding, analysis, and reporting. In addition to Merriam, I consulted Yin (1981) and Stake (2005) for support in conducting effective qualitative research. I sought to provide accuracy with the facts, consider multiple alternatives of the purposes behind the facts, and develop explanations to connect the various facets and purposes (Yin, 1981). I reported my perspectives and described possible and multiple interpretations of the analysis as they reflected my understanding of the data because I believe qualitative researchers use interpretive analysis to develop “concrete universals” not “abstract universals” (Erickson, 1986, p.130). As a qualitative researcher, I acknowledged the complications inherent in every educational context shaped by the historical, political, and cultural contexts. Therefore, I sought to use my research to develop understandings of reality,

honoring that these realities are situated and socially constructed (Lave & Wenger, 1991).

Research Questions

I was most interested in how student writing operated within the *Using Waste* project. I wanted to understand how the writing occurred over time throughout the project as well as gather multiple perspectives or understandings of student writing within the project. I chose to ask one overarching question—What happens with student writing during one project in a PBL high school?—and then asked five sub-questions that provided me with five different perspectives or understandings of student writing within the project. For each question, I referred to specific data and used a form of analysis appropriate for the type of data and answer I was trying to develop. My overarching research question and sub-questions were as follows:

What happened with student writing during one project in a PBL high school?

1. In what ways did students write throughout the *Using Waste* project?
2. What were the two project teachers' expressed perspectives of the students and their writing within the school's PBL context?
3. How did the two project teachers plan and instruct students concerning writing activities during the project time?
4. How did student writing function according to Applebee and Langer's defined functions (informational, without composition, personal, and imaginative) and each function's more specific categories?
5. How did students use writing to build connections between ideas, activities, and their own perspectives within the *Using Waste* project?

The Case: Building Fences

As shown in Figure 3.1, I chose to focus on the trimester running from January 20 to March 25, 2015. I chose the instruction, planning, and interviews of the two project teachers who lead the *Using Waste* project because I had been actively involved in taking field notes, audio recordings, and pictures of the project. I had developed a good relationship with Owen and Clay, the project teachers, from sitting in on their project and talking with them at length about their teaching practices. The *Using Waste* project focused on the ways in which waste products, including construction waste, can be upcycled into non-conventional structures and provide housing solutions for underserved populations. In the process, students were asked to consider both the economic issues around waste and possible government supported solutions that could address issues of homelessness, poverty, and sub-standard housing.

I identified three specific writing activities to study more closely: student notebooks, Fictional Profile, and Letter to a Representative. These three writing activities provided three very different perspectives of student writing, included artifacts that spanned the entire project and invited me to focus on the first and last writing activity of the project. Additionally, this first and last assignment presented different types of writing as well as different types of instruction from the two project teachers. For the first writing activity, I chose student notebooks. I chose these notebooks because I wanted to understand how writing functioned across the project among the entire collection of student writing. For this writing activity project teachers directly instructed students at the onset of the project how to use the notebooks and what purpose they served. For the second writing activity, I chose the Fictional Profile because it was the first writing activity of the project and it was positioned as the “groundbreaker” activity within the project (in the PBL approach, the groundbreaker is

the very first activity in the project and is intentionally designed to be the student's first opportunity of engagement with the project work). This writing activity occurred on the first day of the project and included project teachers directly instructing students on various ways in which they could format and write a profile of a person who was homeless. This writing activity was then used to complete a design activity that lead to the students' creation of their initial model for the project. The third and final writing activity I chose was the Letter to a Representative. This was the final writing activity of the project. Students wrote letters to local representatives to suggest various government-supported solutions that were individually chosen by each student. This was the most extensive writing activity throughout the whole project. Project teachers conducted direct instruction to all of the students and provided a handout with a specific format for students to fill in the information they chose to include. Following the direct instruction, project teachers held individual conversations with students about their letters. This writing activity spanned three days. I then collected the planning sessions around these three writing activities. This additional data allowed me to understand writing from multiple perspectives and offered detailed representations of various types of student writing within the project.

In my pursuit of multiple perspectives, I wanted to include both a sweeping perspective of all students' writing from their notebooks as well as a more detail perspective of what students were individually writing. I therefore chose to code all of the student notebooks for their functions according to Applebee and Langer and then conduct my own analysis of how individual students were using writing to develop their own ideas and understandings of the project work.

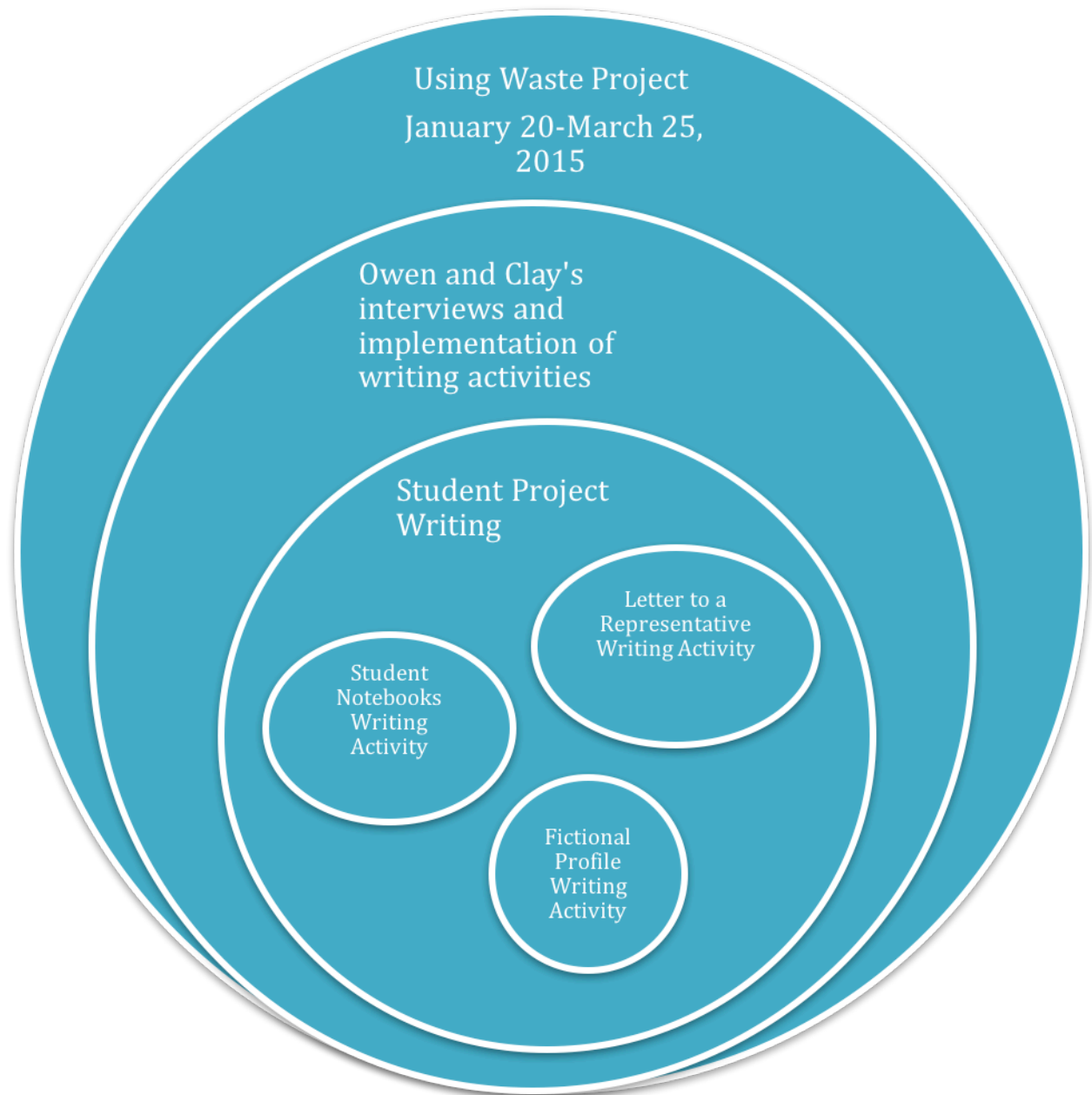


Figure 3.1. My case study's fences. The ways in which I bound the case study and organized my data.

Once I built these fences and selected data from the data corpus, I solidified my case record (Patton, 2002) and created my own my case study database. I developed datasets to

easily locate data and conduct organized and intense analysis (Merriam, 2009). I developed a data map outlining the files of each dataset including participants, dates, and a summary of the file as well as links to the files in the case record. Each dataset provided me with a different understanding of student writing in the *Using Waste* project. Based on the delineations outlined by Figure 3.1, Table 3.1 provides the details of my data collections. The table includes the case study collection, data, summary of the data, data file type, date the data represents, and the title or way I presented the data in the report (I included a few examples of the types of the data presented in the report.

Table 3.1

Summary of Dataset in My Case Study Record.

Data	Summary of data	File Type	Date of data collection
RQ1: In what ways did students write throughout the <i>Using Waste</i> project?			
Performance assessment packet	Project summary completed by Owen and Clay	Word document	Developed before, during, and after the project by teachers (November, 14 2015-March 30, 2015)
My own and Dr. Svihla's field notes	Field notes taken of observations	Word documents	January 20, 2015, - March 25, 2015
RQ2: What were the two project teachers' expressed perspectives of the students and their writing within the school's PBL context?			
Owen interview	Individual interview between myself and Owen	Audio file transcribed into word document	March 3, 2015
Clay interview	Individual interview between myself and Clay	Audio file transcribed into word document	April 4, 2015
RQ3: How did the two project teachers plan and instruct students concerning writing activities during the project time?			
Instruction Student Notebooks Writing Activity	Direct Instruction from Clay and Owen to all students	Audio file transcribed into word document	January 20, 2015

Data	Summary of data	File Type	Date of data collection
Instruction Fictional Profile Writing Activity	Direct Instruction from Clay and Owen to all students	Audio file transcribed into word document	January 20, 2015
Instruction Letter to a Representative Writing Activity	Direct instruction from Clay and Owen to all students (Day #1) and individual students (Day #1-Day #3)	Audio file transcribed into word document	March 13, 16, 17, 2015
Planning Student Notebooks Writing Activity	Pre-project collaboration between Clay, Owen, and Dr. Svihla	Audio file transcribed into word document	January 8-16, 2015
Planning Fictional Profile Writing Activity	Pre-project Collaboration between Clay, Owen, and Dr. Svihla	Audio file transcribed into word document	January 6-16, 2015
Planning Letter to a Representative Writing Activity	Collaboration between Owen and Dr. Svihla	Audio file transcribed into word document	March 10, 2015
<p>RQ4: How did student writing function according to Applebee and Langer's defined functions (informational, without composition, personal, and imaginative) and each function's more specific categories?</p> <p>RQ5: How did students use writing to build connections between ideas, activities, and their own perspectives within the <i>Using Waste</i> project?</p>			
Student Notebooks	One photo taken of each page of student writing from the students' notebooks	411 photos of student notebooks at the completion of the <i>Using Waste</i> Project	January 20- March 25, 2015
Fictional Profile Writing Activity	One photo taken of each page of student writing from the students' notebooks	Photos of 10 students' written profiles	January 20, 2015
Letter to a Representative Writing Activity	One photo taken of each page of student writing from the students' notebooks	Photos of 8 students' written letters	March 13, 16, 17, 2015

Setting and Participants

Setting. Southwest High School is a not-for-profit public charter high school in the Southwest. The school is intentionally small in size in order to offer students a high school education with a project-based learning environment that includes ample one-on-one time and attention from teachers and supportive staff. At the time of data collection, there were 19 teachers, six student support staff members (often called school counselors at other schools), three staff members, and one lead principal. The school was founded in 2009 in partnership with 12 key industry partners. It was designed from its inception to facilitate a PBL approach for students 9th through 12th grade.

When walking into the school, visitors see a small desk with a staff member sitting at a computer. A large open walkway allows one to enter the school by walking around the front desk. To the right of this walkway is a collection of offices primarily surrounded with glass windows. Outside of the offices is a collection of tables. A wall of individual partitions that revolve in order to create an open or closed space separates these tables from the entrance of the school. This space is set aside for the community development team and students who are in the capstone phase of their education and nearing the end of their high school experience. On the other side of to the welcome desk is a large conference room surrounded by windows. These windows allow one to see straight into the large open working space. Next to the conference room is the student health center and staff offices.

Just beyond the desk is the learning area. This area is a large open warehouse, complete with several windows along the ceiling and large orange garage doors along the side of the warehouse space. These doors are opened at different times to allow students ample room to work with power tools and come in and out of the building as they build

various types of structures for their projects. Brown partitions on wheels are moved around to create smaller spaces within the large warehouse. These partitions are covered with all kinds of student work. From sketches to charts, drawings to printed photographs, these artifacts are placed on the walls and used by the students and teachers to document their progression through each trimester's project. Project teachers have various locations along the perimeter where they keep their filing cabinets. In addition to the filing cabinets, teachers have small storage cabinets with several drawers on wheels in which they keep their supplies. Teachers take these cabinets to the various spaces in which student projects are being conducted.

Along the south wall there is a kitchen from which students are served breakfast and lunch. This kitchen has a large metal rolling window that opens twice a day to serve the students. Next to the kitchen, along the same wall, is one large office used by the student support staff. These offices, like the offices at the front of the school are surrounded by glass. Inside the office space are desks and behind the desks are rooms for the support staff to conduct private meetings with students and their families.

The teachers' lounge is next to the counselors. At Southwest High School the teachers' lounge is called the "coffee bar." This open area has a counter with a sink, cabinets, a printer, and tables. The space is separated from the open warehouse area by a large concrete counter. Behind the coffee bar is the principal's office, separated primarily by windows. At the back of the warehouse are two large working areas. These two areas are separated by a wall of glass windows and have large garage doors along their back wall. Project teachers and students use these spaces to design and build necessary components for their projects.

Study participants. My study's participants include the two project teachers who collaboratively taught the *Using Waste* project. These two teachers have varied experiences

within the educational field as well as experiences working occupations outside of education, an aspect Southwest values in its faculty. Clay is a licensed to teach English Language Arts, Social Studies, Spanish, Physical Education, and Health. He has taught a total of 15 years and this includes teaching at the high school as well as three years at the college level. Outside of teaching, he practiced law extensively accumulating 15 years of experience as an attorney in general practice. The other participant, Owen, is licensed in Special Education from Kindergarten through twelfth grade and has taught for four years, primarily at Southwest High School. Prior to teaching, Owen's professional experiences were primarily in construction.

Per our approved IRB, any student work that could be deidentified could be treated as data with a waiver of consent. This means my student participants include both consented and waived participants. I selected examples of student writing representing 19 individual students in the project, but I do not have access to specific information concerning the demographics of the individual students in the Using Waste project. I therefore describe the general demographics of the school.

At the time these data were collected (Spring 2015), the National Center for Education Statistics (2015) reported Southwest High School had 285 students enrolled. Their teacher to student ratio was 1:21, with 33% of the students identifying as female and 67% identifying as male. Of the total 285 students, 93% of students registered as being "Hispanic," 5% "White," 1% as "American Indian/Alaskan," and 1% as "Black" or "Two or More Races". According to this same source, 54% are registered for free and reduced lunch, however, the school's principal explained to me that the number was actually closer to 85 or 90%, making Southwest High School a Title 1 School. Based on my conversations with the

leadership, my extensive time spent at the school, and the school's website (a source I will not include to protect the privacy of the school) I came to learn that this school was focused on providing learning opportunities for students who were not successful at traditional public schools. Students at Southwest have often had negative experiences at other schools and seek an alternative learning experience to complete their high school requirements and be prepared to attend a university, community college, or enter a specific trade or industry. Additionally, the school seeks out historically underserved minority students from low socioeconomic backgrounds, many of whom are English Language Learners.

Data Collection

Interviews. I developed interview questions from an ethnographic approach using Spradley's (1979) *The Ethnographic Interview* as my guide (see Figure 3.2). While I had an extensive collection of semi-structured and impromptu interviews, for this study I chose to only include the semi-structured interviews I conducted with Clay and Owen. I developed questions around two areas: the project teachers' perspectives of Southwest High School students and how they incorporated reading and writing into their projects. I interviewed Owen on March 3, 2015 and Clay on April 4, 2015. I audio recorded these interviews, used the Interview Questionnaire (Table 3.2) to guide my interview, and I took notes while we talked.

Table 3.2

Semi-structured Interview Questions I Posed to the Project Teachers (developed using Spradley's *The Ethnographic Interview*).

Teacher perspective of Southwest High School students	
1.	Help me understand the students at Southwest High School. a. Who are they? b. What experiences do they bring in? c. How do you manage your relationship with them?
2.	For you, how does the background of your students play into how you teach and how you work with reading and writing?
3.	What have you observed about the reading and writing of Southwest High School students inside and outside of school? a. How do your students respond to reading and writing tasks? Why do you think they respond in this way?
Incorporating Reading and Writing into PBL	
1.	As you are designing your unit, how are you thinking about or working in reading and writing elements?
2.	If you were to have a conversation with a traditionally experienced teacher, how might you explain your approach to reading and writing?
3.	Can you tell me about a reading or writing task you have recently used in your _____ project?
4.	What kinds of interactions did you have with your students around that task? In your opinion, how did it go?

Field notes, audio recordings, and photographs. For field notes, I used a template identifying the researcher, date and time, names of files associated with the field notes, a short summary of what occurred in the field notes, and all of the notes I took during the specified time. All field notes were word documents. I sat within the project space to take field notes, complete with detailed description tied to the dialogue and time stamps. When taking field notes, I tried to focus on how the project teachers and students moved throughout the space. I tried to connect the notes to certain phrases. I wanted to connect the observations to the words being spoken so when listening to the audio later, the listener could connect the

field notes to certain phrases in the recording. I took notes of what the students and teachers were doing in response to one another and tried to use thick description of sounds, sights, and even my own thoughts and reflections.

I took photographs (with my phone while it was on airplane mode and not online or with a camera set aside for the research project) of student work, white boards, handouts, and various artifacts created by teachers and students that were posted on the brown partitions. I often included the photographs within my field notes or made a folder and included the title of the folder in the section of the field notes dedicated to additional files connected to that day's activities. I cropped and adjusted the photographs to remove personal information that might identify my participants.

When audio recording, I set up a recorder in the project space near where the instruction would take place for that day's project work. I also carried a recorder with me to record conversations I had with students and project teachers. I audio recorded almost all of my observations and supplemented these recordings with field notes. For the purpose of analysis, I transcribed all audio files I used for this study to word documents.

Each day, data were entered into a FileMaker Pro database designed specifically for the project. The database was searchable by date, time, researcher, file type, and so forth. In addition, many data entries included tags or labels. The tag "literacy" was loosely used to identify that something within that piece of data could be seen as connected to reading and/or writing. A few events, including exhibitions, were video recorded and a few selected activities were documented with time-lapse photography. I did not use video recording or time-lapse photography in any of my datasets. As I developed my case record, I did view

these files and used them to reflect on my study, remember my experiences in the field more clearly, and fine-tune my research sub-questions.

Performance assessment packet. At Southwest, teachers follow a blueprint for performance assessment that guides them to plan, implement, and evaluate mastery learning in projects. Each project is documented in a performance assessment packet. For the *Using Waste* project the performance assessment packet was 64 pages long. The packet includes the state standards and learning goals, a project timeline, details of the involvement of external audiences, documentation of both teacher and student authored artifacts, explanations of how project teachers involve authentic and relevant components, and any changes made while leading the project. This document provided me with an understanding of the project from the project teachers' perspective as well as an understanding of how the project developed over time with various embedded writing activities.

Student work. At the end of the trimester, Dr. Svihla took photographs of every page from the students' notebooks. For each page she took one photograph, resulting in a total of 468 photographs. I turned all of the pictures into PDF files and printed them out single sided to make one 8 ½ by 11 letter sized sheet of paper replicating the students' original sheet of notebook paper. After removing duplicates, handouts without student writing, and photographs that were too unclear to decipher, I ended up with 411 photographs of student writing. I created a master list of students from the names written on the notebook pages. Due to the nature of the IRB as it pertained to students, we did not track the written products and connect them to identified students, so I used the names present on the photographs, provided pseudonyms for each student, and removed the original names.

Analyzing the Case

My overarching research question focused on what happens with student writing during one project in a PBL high school. I used five sub-questions as a guide to develop five different perspectives or understandings of student writing the *Using Waste* project. Because my overarching research question and my sub-questions required I consider student writing as well as the context of teacher implementation and perspectives, I chose to conduct different types of analysis depending on the research question and the type of data present. During the course of analysis, I spent time with each data collection and followed my analysis process by taking extensive notes in my research journal. I found that after I answered each question, my findings informed the understandings I had previously developed when answering the other research sub-questions. In other words, I found my questions and answers informed one another. As I completed the analysis to answer one question, I would revisit my other findings, challenge my assumptions, and adjust my understandings. This process further confirmed my perspective that student writing was complex, multifaceted, and interdependent based on multiple factors at times obvious and other times deeply hidden. I sought to establish specific findings for each question and clearly answer the research question based the collection of data.

I organized the following section of analysis by first presenting my research sub-questions as well as an explanation as to why I asked that particular question. Then, I explained the data I used to answer the question. Finally, I included the ways in which I conducted analysis to answer my questions and provided a brief overview of how I reported the findings in Chapter Four.

For this report, I chose to present my questions and analysis process by moving from a wide angle summary of writing throughout the project and project teachers' perspectives of students writing and PBL setting, to a more focused perspective. First I considered the project teachers by exploring their planning and implementation. Then, using my last two questions I focused on the artifacts of students' writing, exploring how they wrote across the project then how they individually wrote within the Fictional Profile and Letter to a Representative writing activities. Chapter Four follows this same order, presenting the research question, data analyzed, and my findings. Then, in Chapter Five, I collected my findings and identified salient themes that ran throughout my findings and worked to make sense of these findings in light of my experiences and the literature review. I begin with my first research sub-question.

RQ1: In what ways did students write throughout the *Using Waste* project? I asked this question because one of the primary characteristics of a case study is the intentional investigation of a bound system within its own context (Creswell, 2007). I wanted to understand the ways in which students were writing throughout the project. Based on my experiences at this school, project teachers would spend several days working on concepts in multiple ways and often used writing to help students understand the different concepts or to gather student perspective or personal experience in relationship to a given concept. Writing was often positioned as one activity of many as the students moved through multiple steps of their design work. Additionally, I found it necessary for me to understand writing within the context of the project to honor the nature of qualitative inquiry and explore my bounded case by appreciating the case's contextual complexities of embeddedness and interaction (Stake, 1995). During my time at Southwest High School, I often observed student writing being

positioned in service to the project. I therefore wanted to provide myself and my readers with an understanding of how writing was embedded within project. Through my experiences in the project space and my time spent with teachers and staff, I came to understand student writing as activities closely tied to and intentionally created to support the project's development. Also, as outlined in my literature review, writing operated in relationship to the project and this relationship is an important part of understanding the situated and social nature of writing from a literacy practices approach.

Data used and analysis process. To answer my question, I referred to my field notes and the performance assessment packet written by the teachers. Whenever I needed supplemental information or additional details, I also consulted Dr. Svihla's field notes. Using these documents, I explained the timeline and benchmarks of the project, wrote a summary of Phase I and Phase II of the project, and included a basic chronology of the entire project's activities as well as the ways in which students wrote during the project. I included photographs in the summary that were present in the performance assessment packet and field notes.

RQ2: What were the two project teachers' expressed perspectives of writing within the school's PBL context? I asked this question for two reasons. First, I wanted to understand the individual perspectives of my two project teacher participants. Having been a classroom teacher, I understand that personal perspectives and opinions of students and the content strongly affect decisions made around curriculum. Secondly, the collaborative nature of the school made it difficult for me as a researcher to delineate whose perspective was driving the planning and instruction around student writing. It was important to me that each of my participants had space within this report to voice their individual perspectives. The

project teachers' perspectives highlighted my case study's complexity and supplied vivid, detailed material providing differing perspectives and opinions (Rossman & Rallis, 2012). As a qualitative researcher I believe these differing perspectives must be included and valued so each of my participants had the opportunity to express their personal understandings of their own practice.

Data used and analysis process. Project teacher conceptualizations were communicated to me during my two individual interviews with Owen and Clay. I transcribed all of the audio files into word documents, added line numbers to the text, printed them, and then used the word documents to conduct my analysis. I consulted the notes I took during the interview, as well, to help with my understandings.

I coded each document from beginning to end. I first went through the entire transcript and coded for how the participants were talking about student writing and the school's focus of PBL. Then, I went back through the transcript and coded for anything that seemed significant as far as how writing was being talked about in relation to the students or the project. I continued this for all of the documents in the collection, using field notes whenever necessary to gather more understanding of the contexts around the events. Following the analysis of each document, I wrote down personal notes, insights, questions, and wonderings in connection to my research sub-question. After each transcript, I listed all of the individual codes and then grouped them together in an axial coding process (Corbin & Strauss, 2007). I made one central document on which I listed the categories that came from my axial coding process and pasted all quotations from the transcripts addressing that category. I also included additional quotations seeming to have potential for something interesting or contradictory. I then looked across the codes and compared, combined, and

separated them, trying to develop themes and patterns pertaining to the collection of quotations from my two project teachers. I sought to develop categories with a life of their own, able to stand apart from the data as well as reveal themes or patterns within the data (Merriam, 2009). I presented these findings thematically in Chapter Four, by describing the interview and each participant's individual perspectives of student writing within the project and the students at Southwest High School.

RQ3: How did the two project teachers plan and instruct students concerning writing activities during the project time? Jewett (2008) writes, “how knowledge is represented, as well as the mode and media chosen, is a crucial aspect of knowledge construction, making the form of representation integral to meaning and learning more generally” (p. 241). Based on my literacy practices approach, I find the ways knowledge is presented to students as well as the modes and mediums with which students respond are fundamental components in understanding how and what student learn. I asked this question because I wanted to better understand student writing by closely considering how project teachers were planning writing and then instructing students concerning writing. The PBL setting, with its focus on the material aspects of learning and the observable creation of a product tied to learning, presents an interesting opportunity for project teachers to closely consider the various means for both instruction and student product creation. Additionally, the school highly valued engaging students in activities that had purpose and meaning connected to the project. For me, the ways in which student writing was structured and implemented within this setting and from this perspective were important to include as I sought to present multiple perspectives of student writing within the PBL setting.

Data used and analysis process: planning. For the collaborative project teacher planning, I used the audio files recorded by Dr. Svihla during her collaborative planning sessions with Owen and Clay before and during the project. For the student notebooks and Fictional Profile, I referred to Dr. Svihla's audio records of pre-trimester meetings and her supplemental field notes recorded during the planning sessions leading up to the beginning of the trimester. During the Spring of 2015, myself as well as a fellow graduate research assistant, Abigail Stiles, transcribed these audio files for the purpose of publishing a research article under the direction of Dr. Svihla. These planning meetings spanned several days and resulted in multiple pages of transcription.

To conduct analysis, I reviewed the audio files, field notes, and the entire collection of transcripts spanning these planning meetings. I then pulled out sections in which the project teachers and Dr. Svihla mentioned anything remotely connected to student writing. From this focused collection, I took the sections in which the teachers planned the student notebooks and the Fictional Profile. I included several lines of transcript before and after to understand how their conversation developed. I compiled all of these specific sections of transcripts into a single document and added line numbers. For the Letter to the Representative, I used the audio file of a recorded conversation between Dr. Svihla and Owen concerning the handout they would use to prepare students to write their Letter to a Representative. I transcribed this audio file and titled it Transcript Letter Handout 3/10 and added line numbers. I printed all of these documents out, and I conducted my analysis on the printed transcripts. I answered my research question by including a chronological account of how the teachers discussed and then solidified their plans concerning the student notebooks, Fictional Profile, and Letter to a Representative.

Data used and analysis process: instruction. For whole-class instruction, I referred to the audio files, field notes, and photographs documented by myself and Dr. Svihla while we sat in the project space and observed the project teachers providing instruction for the student notebooks, Fictional Profile, and Letter to a Representative. I transcribed all of these audio files, named them, added line numbers, printed them, and then conducted analysis of the transcript. Because the project teachers presented the student notebook then Fictional Profile immediately after, I created one transcript and added line numbers. For the Letter to the Representative, Owen provided direction instruction to introduce the letter format. Following his instruction, he gave the students time to write their letters during the project time. Clay was administering state-mandated testing at this time and was not present on this day. After this first day of instruction and writing, two more days followed in which the entire project time was devoted to student writing and individual conversations between the project teachers and the students. I present a chronological account of the project teachers' instructions concerning the three different writing activities.

I also included in my case record the audio files and subsequent transcripts of the two project teachers walking around the project space and having individual conversations with students about their letter writing. I chose to conduct the same axial coding process I used for the teacher interviews in order to find the salient themes of how teachers were talking with students over the course of the three days. I referred to the transcripts (Transcript, Letter Day #1 3/13, Transcript, Letter Day #2 3/16, Transcript, Letter Day #3 3/17) I made from the audio files of the three letter writing days. First, I went through each transcript and coded for how Owen and Clay were talking to the students about their writing. Then, I went back through the transcripts and coded for anything that seemed significant as far as how the

project teachers or students talked about their writing. After each transcript, I listed all of the individual codes and then grouped them together in an axial coding process (Corbin & Strauss, 2007). Following the analysis of each document, I wrote down personal notes, insights, questions, and wonderings in connection to the research question. I continued this for all of the documents in the collection, using field notes whenever necessary to gather more understanding of the contexts around the events. I made one central document on which I listed the categories and pasted all quotations from the transcripts addressing each category. I also included additional quotations that seemed to have potential for something interesting or contradictory. I then looked across the codes and compared, combined, and separated them, trying to develop themes and patterns pertaining to the collection based on the quotations I had in each category. I sought to develop categories with a life of their own, able to stand apart from the data as well as reveal themes or patterns within the data (Merriam, 2009). I presented these findings thematically, in Chapter Four, and described the ways in which project teachers talked with students concerning how they were developing their opinions and perspectives, using research to support their ideas, and constructing sentences.

RQ4: How did student writing function according to Applebee and Langer's defined functions (informational, without composition, personal, and imaginative) and each function's more specific categories? I had an incredible opportunity with this case study to consider a substantial amount of data and present it in a way that showed how writing occurred throughout the entire trimester. I wanted to include in my study an understanding of how students wrote across time throughout the project. My main interest was in what the students were doing with writing. I intentionally chose to use the functions of Applebee and Langer because their functional approach invites researchers to describe what

is present and what students chose to do with their writing. The coding scheme was developed to help researchers deal with large amounts of data collected over a period of time from various schools, subjects, and grade levels. The coding scheme focuses on defining the broad function and the more descriptive category students chose to use in their writing regardless of the context of the assignment, the final product's format, the length of the writing, or the students' word choices and grammatical decisions.

Data and coding scheme used for analysis. As described previously, I ended up with 411 photographs of student writing. I created a list of pseudonyms for the students. I reviewed all written products together. There were two students with very similar writing. For these two students, I used dates, collaborative partners, the way the two students formatted their writing on the page, and specific letters to decipher who wrote what. I divided all photographs into a separate folder representing the total work of each student, resulting in 19 folders. This total number included the 18 students present at the beginning of the project and the additional student added during the project. Seventeen of the notebooks were named; two were without names. Work in the notebooks was primarily individual. Occasionally, the writing was collaborative (for instance in the case of the collaborative webpages). I collected the 411 images into individual student notebooks representing a total of 19 notebooks. This total number included the 18 students present at the beginning of the project and the additional student added during the project. Seventeen of the notebooks were named; two were without names. Work in the notebooks was primarily individual. Occasionally, the writing was collaborative (for instance in the case of the collaborative webpages, students completed the webpages collaboratively but glued the finished pages into one notebook). I coded each assignment individually because while the writing assignment

was communicated corporately to the entire class, my approach of analysis required that I code how each individual student chose to use his or her writing in response to the writing activity. I looked through each collection carefully, summarized what was present in a document and put it in the folder with the collection, made notes, wrote questions, compared codes, and made adjustments. My next step of analysis was breaking the student notebooks up according to writing activity. I created a file folder for each assignment and collected all writing that followed the format, date, or characteristics according to the themes of a particular assignment. I then compared the codes within the assignment using a constant comparison method (Glaser, 1965) to create further clarification of what function students chose in each writing activity.

I collected the 411 images into individual student notebooks representing a total of 19 notebooks. This total number included the 18 students present at the beginning of the project and the additional student added during the project. Seventeen of the notebooks were named; two were without names. Work in the notebooks was primarily individual. Occasionally, the writing was collaborative (for instance in the case of the collaborative webpages, students completed the webpages collaboratively but glued the finished pages into one notebook). I coded each assignment individually because while the writing assignment was communicated corporately to the entire class, my approach of analysis required that I code how each individual student chose to use his or her writing in response to the writing activity.

I coded each assignment individually because while the writing assignments was communicated corporately to the entire class, my approach of analysis required that I code how each individual student chose to use language to reflect a certain writing function in response to the writing activity. I began coding the notebooks using the *National Study of*

Writing Instruction Multi-State Student Work Coding Manual 6-3-2009 (Applebee & Langer). This coding manual is used for the National Studies of Writing Project that involves multiple individuals reviewing and coding student writing in order to complete a comprehensive report of student writing in U.S. Schools. This coding manual includes a description of the four main student writing functions and the more descriptive categories (Table 3.4) within each function (Table 3.3). The manual includes examples of each function and category, frequently asked questions, and explanations of how to address challenges in the coding process. This coding manual was sent to me, via email correspondence on March 28, 2016, by the Dr. Kristen Wilcox who conducts research at the University at Albany.

Table 3.3

Writing Functions and Subcategories according to Applebee and Langer's National Study of Writing Instruction Multi-State Student Work Coding Manual 6-3-2009 (p. 6-7)

Function	Explanation	Subcategories
Informational	Written responses that focus on the sharing of information or opinions with others. This includes the wide variety of forms of expository writing, ranging from simple reports about specific events to highly abstract, theoretical arguments. It also includes writing where the attempt to persuade overrides all other purposes (as in advertisements or propaganda), and regulative writing (e.g. laws or school rules).	Note taking Record Report Summary Analysis Theory Persuade or regulate Other
Writing without composing (Mechanical uses of writing)	Written responses that do not require the writer to organize text segments of more than paragraph length. Such tasks range from multiple-choice and fill-in-the-blank exercises to extensive translations from one language to another (where the original text provides the overall organization, allowing the student to focus on sentence-level problems).	Multiple-choice exercises Fill-in-the-blank exercises Short answer exercises Transcription from written material (copying) or oral material (dictation) Translation Symbolic expression Other

Function	Explanation	Subcategories
Personal writing	Writing that is embedded within a context of shared, familiar concerns. The audience for such writing is usually the self or a very close friend; the function is to explore new ideas and experiences simply to sort them out, rather than to make a specific point. Gossip in spoken language illustrates the general category; in school writing, this use occurs mostly in journals or “learning logs” where new ideas are explored for the writer’s own benefit.	Journal or diary Notes or personal letters Other
Imaginative writing	Writing within any of the various literary genres.	Stories Poems Play scripts Others

Table 3.4

Subcategories According to Applebee and Langer’s National Study of Writing Instruction Multi-State Student Work Coding Manual 6-3-2009 (p.9-39).

Function Type	Sub-category	Definitions of sub-category
Informational	Note taking	Code this category when the writing is notes for the writer to use. Study notes, laboratory notes, organizing notes made to prepare for another task are all examples of this category.
	Record	Code this category when writers write about how their world is at that moment. The language used in the writing is like that of a play-by-play sports commentary and is frequently in the present tense. The writer is recording what is immediately present in the environment.
	Report	Code this category when writers write about past experiences or observations. Reporting deals with observable events and scenes but does not include generalizations drawn from such observations. Writing of this type is often the retelling of one incident in the past, and usually uses the past tense, although some descriptive passages may not always follow this rule.

Summary	Code this category when writers generalize from a number of events, procedures, or situations in order to tell in a concrete way how things are done or how they occur or what they are like. Summary functions to tell the reader “this is what always happens.” Writing of this type is often the retelling of recurrent events or noting the steps in a procedure. The use of the present tense or words like “always,” “every time,” or “usually” in the language may point to this category although it is not a hard and fast rule. Whenever the writer detects a pattern of repetition in events, the writing is summary.
Analysis	Writing in this category involves classification and categorization. Whenever the writer tries to explain the reasons for an idea or emotion, code analysis. Most writing in this category orders ideas and makes a case for them, making logical or hierarchical connections between generalizations, or explains causality, motivation, or relationships of people or events.
Theory	Code this category when the writer speculates about events relationships using a generalization as a basis for prediction and extrapolation. The writing should have hypotheses and deductions from them. In order to qualify for theory, the writing must speculate about general principles.
Persuade or regulate	Code persuade when there is an explicit attempt in the piece of writing to persuade or instruct. The attempt must be deliberate and a recognizable assault on other people’s behavior in order to qualify for this category. Examples of this type of writing are political speeches or advertisements. (School writing which gives reasons why or why not a position should be held are not usually coded persuade; they are usually coded analysis.) The language used in this writing overtly commands, urges or persuades; and the reader acknowledges that the writing is manipulative.(Note: Virtually all writing attempts to persuade in the sense of being convincing or making a point; but persuade should be coded only if persuasion overrides all other purposes.) Code regulate when the writing tells what should be done and how to do it in situations when the rules must be obeyed. There is a direct attempt to regulate actions and behaviors without any need to persuade or convince (when there is an obligation to obey them) or statements about

		what to do. Regulative writing carries consequences if it is not obeyed; the other informative categories do not.
Without composition	Multiple-choice exercises	Code this category for multiple-choice exercises where student selects one out of a set of possible answers.
	Fill-in-the-blank exercises	Code this category for fill-in-the-blank exercises such as cloze passage exercises and matching vocabulary.
	Short answer exercises	Code this category when the task is designed to draw out short answers from a student. The answer may stretch from incomplete sentences to a single paragraph.
	Transcription from written material (copying) or oral material (dictation)	These two categories are placed together because it is difficult to tell the difference without contextual information. Notes that indicate some sort of student translation/interpretation should be categorized under “Note taking” (informational uses of writing). The difference between this category and note taking is that the student is recording the information word for word in this category. Even this may be difficult to decipher without contextual clues.
	Translation	A more common understanding of translation would be from one language to another, usually found in foreign language classes. However, a Math translation from numerical to linguistic terms can also be seen as a translation from symbolic to linguistic or vice versa.
	Symbolic expression	Code for this category when the work is mainly symbolic representation as in drawing or graphs.
Personal	Journal or diary writing	Code this category of personal writing when the writing is the kind of diary or journal entry that attempts to record and explore the writer’s feelings, moods, opinions, and preoccupations of the moment. This kind of writing looks like “thinking aloud” on paper.
	Personal letters or notes	Writing coded in this category includes note-making activities when the writing is being used to “think aloud” or brainstorm. Also included are letters written for the purpose of maintaining contact with friends or relative

	Other	May include personal reflective essays, reflections.
Imaginative	Stories	Code this category of imaginative writing when the genre of the piece of writing is a story. Remember that in order to qualify as imaginative, the story must have a value as a verbal construct and not be used as a means to an end. Narratives based on personal experience are coded here if the major purpose is the imaginative reconstruction of experience, rather than providing information about “what happened.”
	Poems	Writing coded in this category must be in the form of a poem. It may or may not have the formal elements of a poem (i.e. rhyme scheme, meter, etc.) but it must have an arrangement of the phonic substance of language itself to qualify as a poem.
	Play Scripts	Code this category when the imaginative writing is in the form of dialogue as scripted for a dramatic play.

I read each page of student writing, labeled it with a function, and counted the total words of each document. I defined words as a collection of letters set apart by spaces on either side (this could include abbreviations, misspelled words, or single letters set alone), numbers, names, dates, and symbols. Every document received a tab with the word count and the function label. In the instance of more than one type of function present in the writing, I tallied the total word count for each function type present in the student writing. Then, according to the directions of manual, I labeled the document with the function that had the largest word count or most dominant function. There were only a few symbols in the student notebooks. In the event that a symbol was present I did my best to count each independent aspect of the symbol as a word. In the event that words were also present, I followed my same method of tallying up the total word counts and labeling the document according to the

dominant function. I did, however, keep a note if any kind of sketching was present and noted that in my data summary.

While I coded, I kept a journal of questions, challenges, and issues I came across as far as not knowing what and how to code. I took my journal of questions and issues along with my coding scheme and example student work and met with peers who were familiar with both writing theory and the functional approach to analysis. With these peers, I discussed my coding, explained my understanding, listened to their feedback, and made adjustments.

I created nineteen folders representing the entire collection of writing I had for each student. I looked through each collection carefully, summarized what was present in a document and put it in the folder with the collection, made notes, wrote questions, compared codes, and made adjustments. My next step of analysis was breaking the student notebooks up according to writing activity. I created a file folder for each assignment and collected all writing that followed the format, date, or characteristics according to the themes of a particular assignment. I then compared the codes within the assignment using a constant comparison method (Glaser, 1965) to create further clarification of what function students chose in each writing activity.

After this coding process, I created an Excel spreadsheet complete with the title of the assignment, student pseudonym, assignment date, word count, type of function, type of sub-function, notes around how I understood teachers using the writing assignment based on my experiences in the field, the type of assignment it appeared to be (Written Response, Crossword Puzzles, or Notes), and the name of the file folder in which it was kept. The 411 individual student written documents represented 45 different assignments or specific writing

collections. Of those 45 writing collections, I named the assignments by using the title given by the teacher or students if that information was present. If it was missing, I created my own title based on what I perceived was the main idea of the writing activity. One collection titled “Agendas” (12 documents) was created from miscellaneous agendas students wrote down in their notebooks. These agendas were lists transcribed from the teacher’s writing on the whiteboard. I also had a collection of miscellaneous written documents (21 documents) that I titled “Miscellaneous” then added a colon and the first four to five words of the document. These documents did not relate to any other document in format, content, or theme. From this spreadsheet, I developed tables with totals of function and sub-functions to understand how writing developed across the project. These totals enabled me to see how writing was functioning in the project as a whole. I summarized the main ideas, trends, and questions I had around writing as a result of what I observed in the tables. I present a summary of the functions and subcategories used within the project, a table summarizing which functions each student used in the project, and a more detailed summary of the functions used in the Fictional Profile and Letter to a Representative.

RQ5: How did students use writing to develop their thinking and make meaning of the ideas and activities in the project? As a qualitative researcher I understand that I am also an instrument in process of data analysis. While the coding of functions provided me with a general idea of student writing, I wanted to understand how students used their writing to construct meaning and make sense of their experiences (Merriam, 2009). My assumption is that reality is situated or socially constructed (Lave & Wenger, 1991) and shaped by historical, political, and cultural contexts (Lave & Wenger, 1991). As a qualitative researcher I do not find knowledge as I investigate, I construct it. Therefore, I wanted to present one

more perspective of student writing by reading the students' work myself and constructing one more understanding.

I answered this final sub-question by presenting my own analysis of students' attempts to use writing to make meaning and build connections between their ideas and the context of the project's content and activities. Within my constructivist approach I assume there exists great variance in how each person experiences and then describes their situated and social experiences. As a qualitative researcher I wanted to respect and pursue these multiple perspectives inherent in the studied phenomenon and offer various constructions of reality as well as the interpretations of the various realities (Merriam, 2009, p. 9). Initially, I chose to develop an understanding of the student notebooks as a whole, using the coding manual to provide a general summary of the ways in which writing was functioning across the project. Upon completing this analysis process, I realized the codes only presented a partial understanding of the student writing. The codes revealed how writing in the notebooks functioned generally across the project. However, upon further consideration and more focused analysis of what students actually wrote, I was surprised at how much the functions were not able to capture.

In an effort to enrich my understanding of students writing within this context I considered one complete notebook then examples of writing from the two assignments in my case study. I first analyzed one students' entire notebook from start to finish. I chose Magdalena's notebook because it is one of the largest collections of student writing. I wrote a description of her notebook from start to finish, trying to develop an understanding of how the notebook functioned for Magdalena throughout the project. After this analysis of one complete notebook, I chose three examples of student writing from the Fictional Profile as

well as the three writing prompts that followed the profile. These questions took on a journal type of role, creating a space for students to express personal experiences and opinions concerning their individual ideas and experiences and how those ideas and experiences were connected to the project work. These written responses offered opportunities for students to express their opinions concerning shelter design and the issue of homelessness. Students often referred to their profiles and the ideas in their profiles during these written responses. I also consulted these writings because I wanted to understand how students wrote using the most common function—Personal, and sub function— Journal/Diary. I also chose three student writing examples from the Letter to the Representative collection. My focus during this stage of analysis was to further understand how students used writing within the project to make meaningful connections to the project’s exploration of homelessness.

Data used and analysis process. For the Fictional Profile, I collected a total of 10 entries from 10 different students that I coded and counted. However, I revisited and adjusted my codes and total words counts after I spent extensive time with the audio records and transcripts of the project teachers giving instruction to the students. The context of the writing assignment enabled me to see the connection between students writing first as a list of the categories and then a more extensive response with additional lists or a paragraph. I consolidated 13 total photographs of student writing into 10 separately-coded written responses.

For the Letter to a Representative, I had 8 total student responses. Because the letter came at the end of the project and was mailed to a representative, I was not able to find many final drafts in my collection of student notebooks. I therefore consulted the Performance Assessment Packet for photographs the project teachers included in their final summary of

the unit. I coded and counted the most finished draft I could find. Some students only had a rough draft present, other students had a rough draft and final draft, and others had only a final draft.

I referred to the photographs and transcribed the text into a word document so that I could analyze what the students wrote. I read each collection of writing by students multiple times. I first tried to understand what was present, and I assumed every student had something to say and sought to respect his or her perspective. I was not concerned with grammar, word choice, or spelling. I focused on how I might use the students' writing to understand their ideas within the PBL setting. Then, I used my own understandings of the project and the school as well as my personal experience as a high school English Language Arts teacher to understand how each student was communicating their perspective, making sense of information, and building connections between ideas and activities. I first described each writing assignment with a short summary of what was present and then included my own understandings of how each student used writing to process the project work and ideas.

Credibility

In efforts to increase the credibility of my research, I include in this final section measures I took to ensure persistent observation, peer debriefing, and progressive subjectivity (Mertens, 1998). For persistent observation, I spent a considerable amount of time at the school before, during, and after the collection of research. Additionally, I did not make hasty conclusions with my findings and discussion. I spent considerable time writing, reflecting, and rewriting my understandings. I sought to identify my biases and assumptions and challenge myself to remain connected to the data present in the case study. As far as peer debriefing, I met with members of my committee throughout my entire process, sent outlines

and updates, and allowed their feedback to adjust my research. In questions concerning coding and idea development, I consulted credible faculty mentors not on the committee on several occasions. I also used a research journal throughout the entire process of this dissertation to document my thoughts, feelings, questions, and challenges. Every day I worked on this dissertation I included what progress I made, questions and concerns I had, and next steps for the following day of work.

Findings and Discussion

Chapter Four follows a similar structure to my section on analysis in this chapter and is split into five separate sections. Each of the five sections begins with one of the research sub-questions followed by data I used to answer the question. The majority of each section is the presentation of my findings. Chapter Five collects all of the findings together. I then explain themes that emerged as I considered all of the data together from a literacy practices approach. Following these themes is an exploration of possible solutions to how we might conceptualize student writing within a PBL setting from a literacy practices approach.

Chapter Four: Findings

In order to communicate my findings effectively, Chapter Four has five separate sections, offering five different understandings of student writing in the *Using Waste* project. I begin each section with my sub-question then provide a summary of the data I used. I then report my findings as an answer to the sub-question and conclude with a summary of the findings and my understanding of student writing as a result of those findings. My first section presents an understanding of writing based on how it was used within the project. Section One: Student Writing in the *Using Waste* project includes an understanding of the trimester as a whole as well as the project space in which students worked. This section shows how writing during this trimester was embedded within the design work students completed to develop housing solutions for homeless individuals.

In Section Two and Section Three, I explore student writing from the project teachers' perspective. Section Two: Project Teachers Perspectives of Writing within the PBL School Context presents an understanding of student writing from the perspective of the project teachers. I wanted to understand how teachers thought about and understood their role in the PBL setting when it came to their students and the incorporation of writing within the project. Section Three: Project Teachers Planning and Instruction of Student Writing presents a chronological account of project teachers' collaborative planning with each other, a chronological account of project teachers instructing the entire group of students on the writing assignments, and a summary of the project teachers' individual conversations with students concerning their writing.

In Section Four and Section Five, I explore student writing by analyzing the student written artifacts I collected during the trimester. I asked two research sub-questions in efforts

to present two different perspectives of student writing. Section Four: Student Writing Functions summarizes my results from coding the student notebooks for functions and sub categories (Applebee and Langer). This section provides a summary of how students chose to write during the project. Section Five: Individual Student Writing is the final section and includes my analysis of selected student writing. I wanted this case study to include representations of student writing resulting from analysis of the actual writing students completed during the project.

Section One: Student Writing in the *Using Waste* Project

I found this initial question an important one to answer because of my theoretical lens and the nature of learning at this particular school. From a literacy practices approach, my sociocultural perspective of writing highlights the importance of the ways in which teachers and students construct meaning based on the context of the project's content, processes, and interactions students had with the project teachers and the community outside of the school (Beach et. al., 2016). I was also interested in the project as a whole because of the importance of context from a literacy practices approach. Contextualizing positions student writing as the result of students' understandings of the purpose of the activity, the possible audiences, and the situations related to the issues of writing. Students understand their choices require relevant uses of genre, registers, discourses, and various media forms as well as the construction of individual expression of beliefs and perspectives (Andrews & Smith, 2011). Additionally, through my experiences in the project space and my time spent with teachers and staff, I came to understand student writing as activities closely tied to and created to directly support the project's development. The following description is in response to my first question and includes an explanation of the project space, details concerning the

project's purpose and timeline, and a summary of how student writing was used within the project from start to finish.

Using Waste project space. Owen and Clay set up a learning space in the back southeast corner of the school's large, open learning space. The two teachers used several brown partitions to section off the project area. Owen consistently used this particular area for his morning meetings and advisory (an established time when project teachers meet with students about their progress and engage them in a reading program) but shared the space with Clay during the *Using Waste* project. Owen had a large wooden cabinet on wheels and a filing cabinet to keep his supplies and files. The learning space also contained a Promethean Board and two white boards on wheels, allowing them to move around the room as needed. Students were free to choose where they wanted to sit. The project space was filled with long gray tables surrounded by armless black, plastic chairs for students. The tables and chairs were moved regularly by the project teacher and students to facilitate each day's project work.

Using Waste project details and timeline. The *Using Waste* project was a morning project. The two teachers took turns leading the project and offering supportive commentary and feedback. They worked well together throughout the project. A student teacher joined them mid-project and took primarily a supportive, observant role. In addition to the two project teachers and the student teachers, Dr. Vanessa Svihla also joined the collaborative team. Throughout the project time, Dr. Svihla was a participant observer, engaged in the planning process. She provided occasional instruction in areas of design, worked individually with students as necessary, and collected data through field notes, audio recordings, and photographs.

The *Using Waste* project offered credits for students from ninth through twelfth grade in content areas of World History / U.S. History, Economics and Government, Language Arts: Reading, and Language Arts: Listening and Speaking. Table 6 is a summary of the benchmarks from each of these content areas as recorded by project teachers in the performance assessment packet. The table includes the subject or content area, the desired learning outcomes, and the quality described or how the students will show mastery of the learning outcomes.

Table 4.1

Summary of Using Waste Project's Benchmarks

Subject	Learning Outcome	Quality Described
World History/U.S. History	Use critical thinking skills to understand and communicate perspectives of individuals, groups and societies from multiple contexts.	Create a product that outlines multiple perspectives of a complex problem that shows many views with support for each view.
Economics & Government	Analyze and evaluate how economic, political, cultural and social processes interact to shape patterns of human populations/natural systems and their interdependence, cooperation and conflict.	Students will be able to explain the different economic and governmental systems and how they affect both the causes and solutions of housing problems, especially the problems of homelessness and slum housing.
Language Arts: Reading	Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings.	Determine the meaning of key terms, and other domain-specific words and phrases as they are used in a specific technical context relevant to different grade level texts and topics.
Language Arts: Listening and Speaking	Prepare for and participate, effectively in a range of conversations and collaborations with diverse partners, building on other's ideas and expressing their own clearly and persuasively.	Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. Come to discussions prepared after having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research.

Additionally, project teachers summarized the project as a consideration of

The ways in which waste products, including construction waste, can be upcycled into non-conventional structures (i.e. shipping container homes and (b) provide housing solutions for underserved populations (i.e. homeless shelters and slum housing.) In the process students will consider both the history and economics of waste and the causes of homelessness, poverty, and sub-standard housing.

(performance assessment packet, p. 3).

Due to issues stemming from moving into a new building, the trimester was consolidated into nine weeks instead of twelve. The project's timeline, shown with Figure 4.1, spanned January 20th, 2015 to March 25th, 2015. The Exhibition (student's public display of the project work) was held on March 25, 2015.

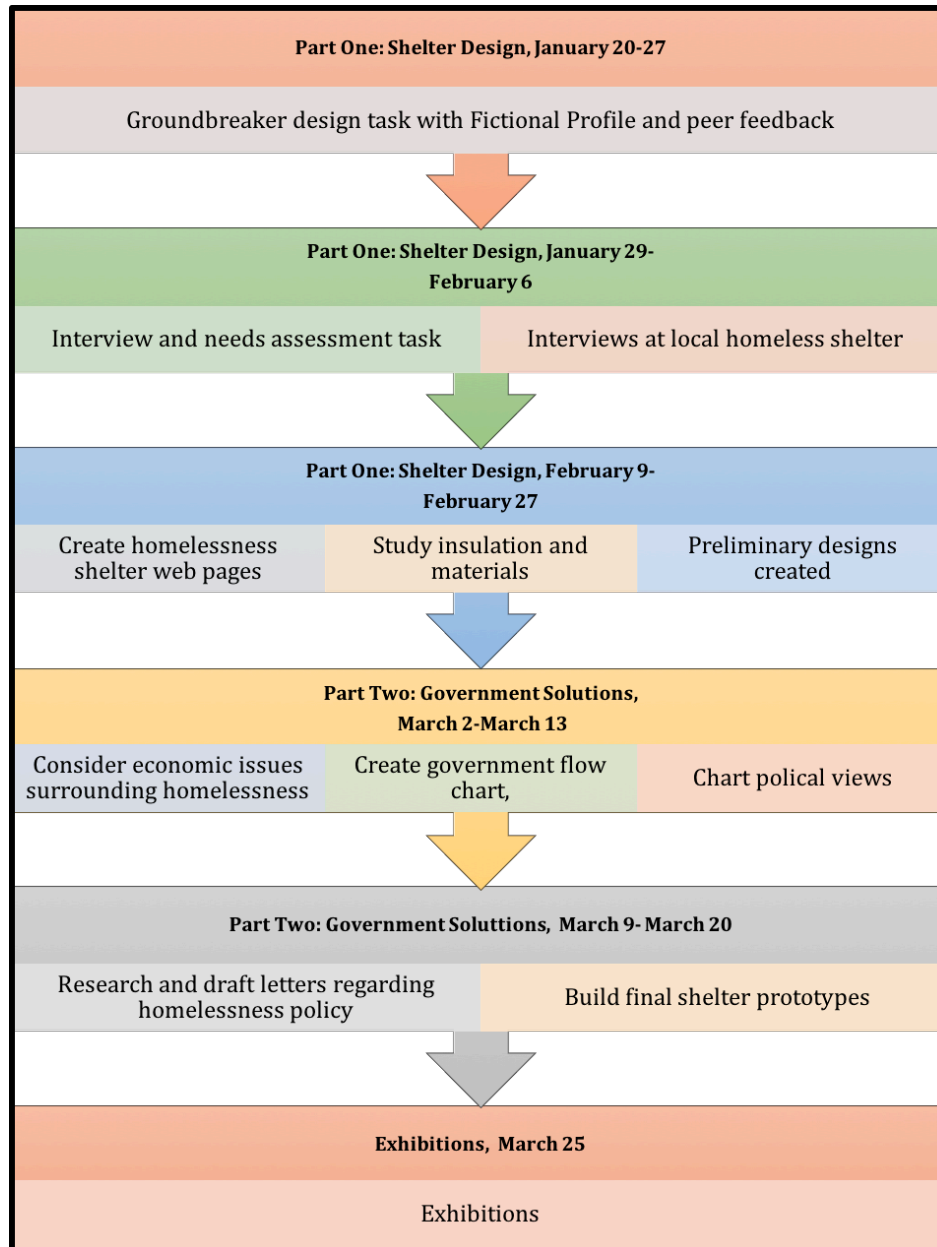


Figure 4.1. Using Waste Project Timeline. The summary of the projects activities according to dates, as explained in the performance assessment packet p. 3-4.

Student writing throughout the *Using Waste* project. Eighteen students were on the roster at the beginning of the project. One additional student joined the project during the nine weeks for a total of nineteen students. The project's purpose was for students to use discarded resources to create a shelter for individuals who were homeless. Teachers sought to provide a project experience to help students understand various issues around homelessness, from providing structural solutions for effective shelter options to providing systematic solutions for issues around the economic challenges involved in the issues of homelessness.

When launching the project, both Owen and Clay took turns talking to students as a whole (see Figure 4.2). During this explanation, and others like it throughout the project, Clay stood at the front of the project area next to the white board explaining the tasks for the day while Owen walked around the project area. On this opening day of the project, Clay explained there would be two parts to the project. "The first will be designing structures" and the second will be, "designing solutions" (Transcript Launching Project 1/20, line 157-158). Clay went on to say, "In both cases, we're thinking about designing a solution and in both cases one of the designs is in a system design and the other is house design, okay?" (line 171-173).

The teachers provided students with wide rule spiral notebooks to use throughout the projects. These notebooks were designed to be a central location for students to keep track of their work. Notebooks were kept in the project area and passed out at the beginning and end of the project time (see Figure 4.3). These notebooks provided a central place for students to keep all of their project work including handouts, printed articles, and various artifacts.

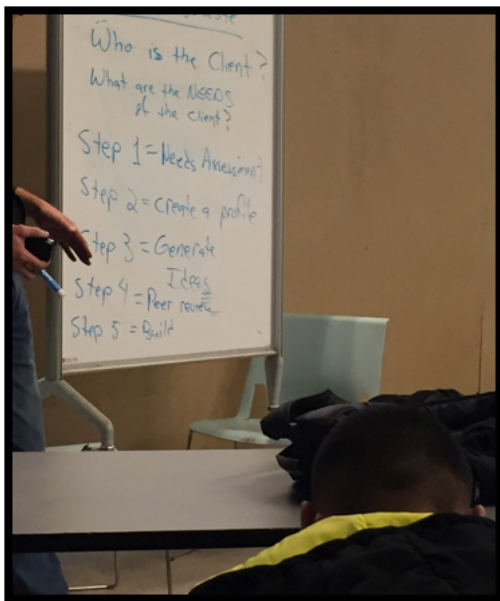


Figure 4.2. The project space. Clay standing next to white board

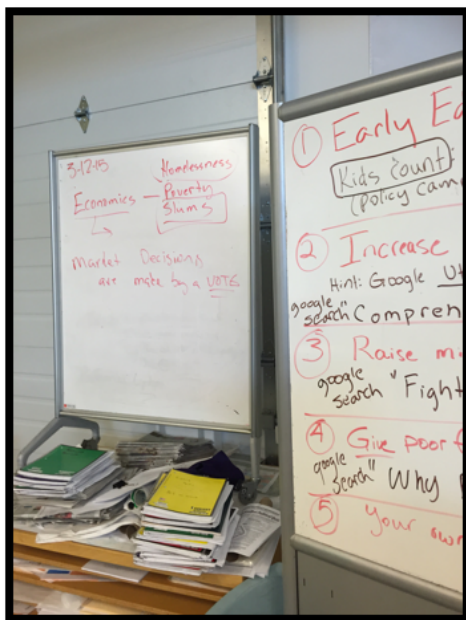


Figure 4.3. Student notebooks. Notebooks stacked in project area.

Students used their notebooks to complete the groundbreaker or the initial writing activity. This groundbreaker involved writing a profile for a fictional person or persons who

were homeless. Students were then told to switch the profiles to conduct a needs assessment on their peers' fictional profiles. Students used the Fictional Profile and the needs assessments to create an initial design addressing various personal, physical, emotional, mental, and even spiritual needs of a person who was homeless (See Figure 4.4). This written profile provided an opportunity for students to develop ideas around the subject of homelessness and use those ideas as they transitioned to other activities such as building an initial model and then conducting interviews of individuals at a local shelter to assess their assumptions of the needs of a person who was homeless.

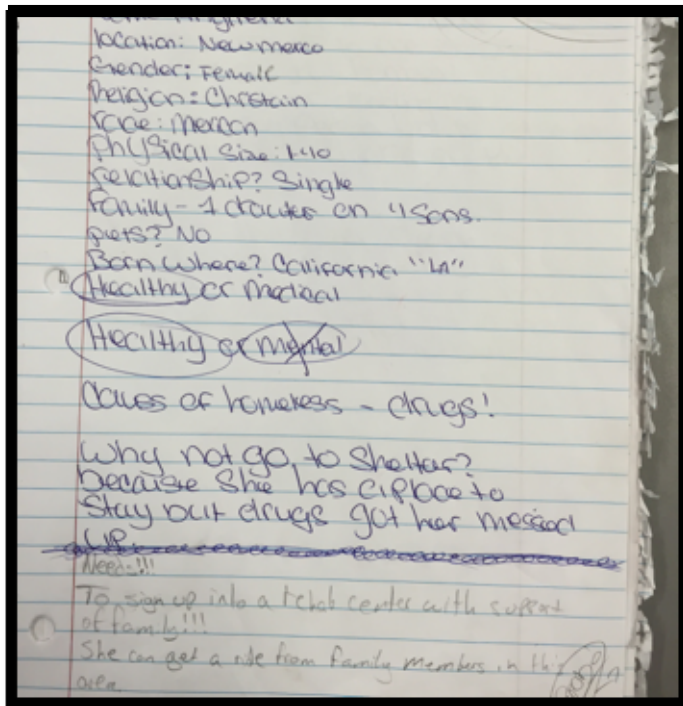


Figure 4.4. Fictional Profile. Student writing example.

Students interviewed individuals outside of the school at a local shelter as their client. The students, in various ways, assessed the client's needs. Students created initial designs by building a small model and then describing it with written text. Students then engaged with

one another and their working prototypes by using sticky notes to offer feedback concerning what students liked, had concerns about, and thought needed improvement (See Figure 4.5).



Figure 4.5. Student feedback. Two student models with peer feedback and collected feedback in notebooks.

As the project progressed, project teachers asked students to use their notebooks to write responses to questions as journal prompts posed to the entire class as well as questions following videos or printed articles. These questions asked students to report what they learned, draw connections, or offer personal perspectives and experiences. Teachers asked students to use their notebooks to explain personal experiences or opinions, explain what they noticed in an article or video, describe the work done, or explain the completed product of a design activity.

After this initial designing activity, students used butcher paper and photographs from the Internet to develop web pages communicating various features and functions of different types of shelters.

Students used various layouts to provide descriptions, ratings scales, and organizational understandings of the various characteristics of the shelters. These web pages were posted on the partition walls around the project space (See Figure 4.6).



Figure 4.6. Student websites. Posted student work.

Following the website development, students completed a lab studying how various materials caused insulation. Project teachers followed this lab activity by asking students to explain connections between lab findings and the ways in which their developing designs could utilize materials for insulation (see Figure 4.7).

Part Two of the project engaged students with the social and economic issues around homelessness. To explore these issues, teachers provided students with printed articles and online videos showing how other states and communities dealt with the various issues around homelessness (see Figure 4.8). Following the articles or videos, students answered response questions or completed crossword puzzles (see Figure 4.9).



Figure 4.7. Insulation Lab. Students work with lab materials.

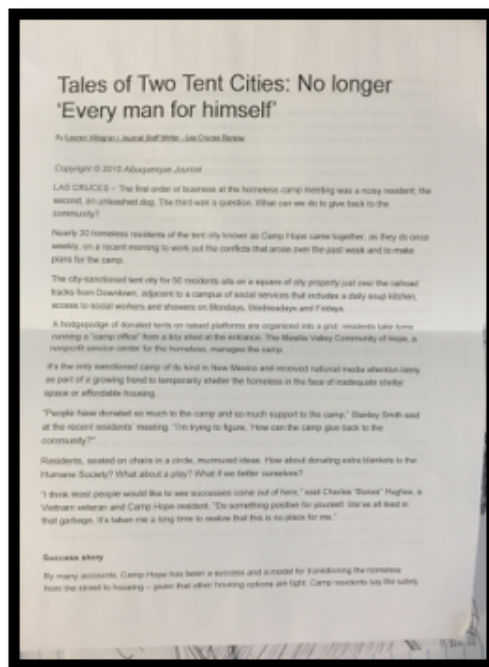


Figure 4.8. Printed article. Example of teacher generated information article passed out for students to read.

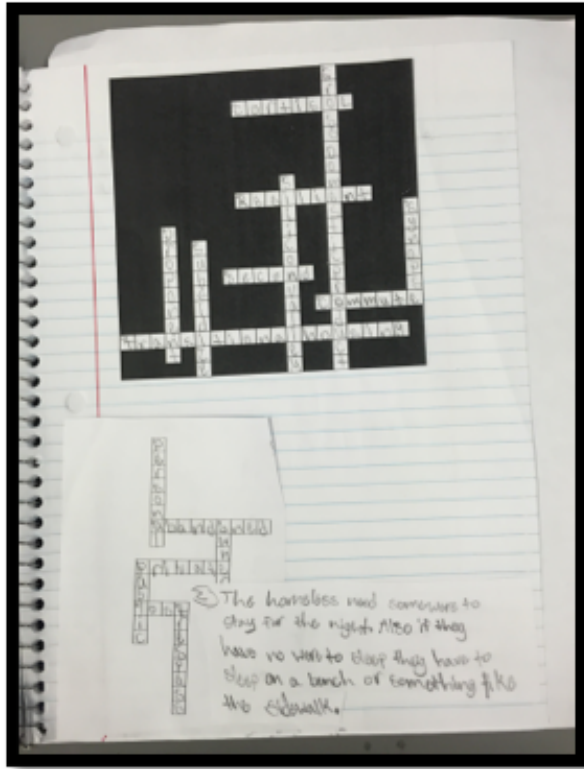


Figure 4.9. Crossword puzzle. Student writing sample.

Students explored how the various branches of government function in relationship to laws and city ordinances that affect individuals who are homeless. The project work then focused on the ways other states enacted systematic change. In this phase, students were asked to not just understand the social and economic problems existing around homelessness but what type of governmental support might bring solutions. Additionally, they reviewed branches of government and the ways those branches of government currently do or could possibly participate in supporting people who are homeless.

Students then explored how political parties offered different types of solutions. After establishing which political party each student most aligned with by taking a short quiz, teachers used district maps and online resources to help students discover with whom they could communicate at the government level to cause a positive change in their respective

communities. Students wrote individual letters to their local representatives to offer solutions they felt could help solve some of the issues around homelessness in their city. The letters included their suggestions as well an invitation for the representative to come to their project's exhibition. While writing these letters, students also used various materials to create a miniature rendition of a "slum." Dr. Svihla set up a camera and took a series of time-lapsed pictures as the students built the structure. As students completed rough drafts of the letter, projects teachers met with them and wrote correcting marks on the letters. For the last week of the project, students independently and collaboratively built their final exhibition structures (see Figure 4.10).

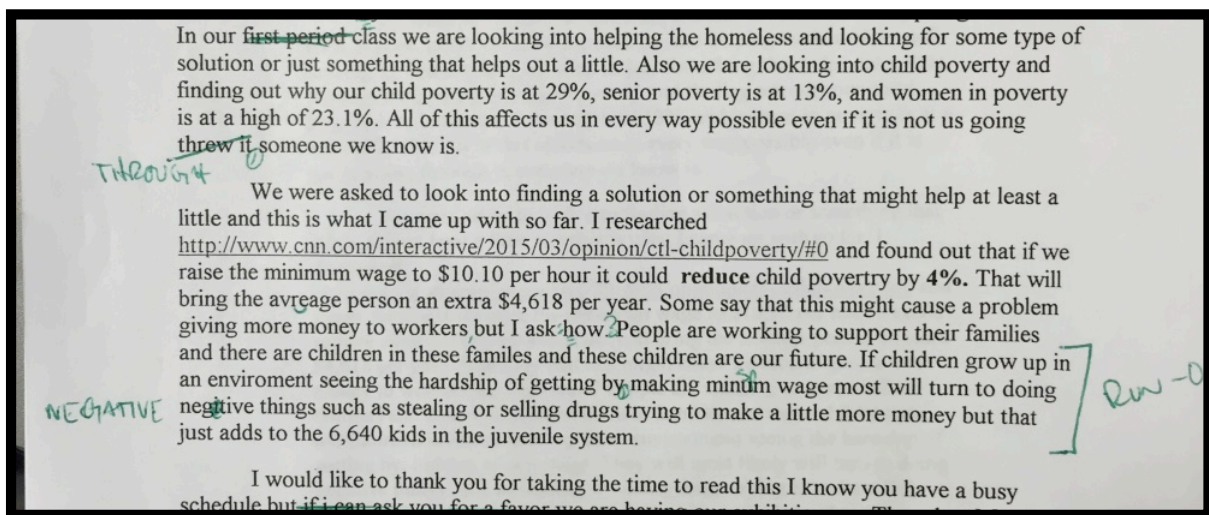


Figure 4.10. One section of a students' Letters to a Representative.

For the Exhibition, project teachers asked students to put all of their written work, models, and various artifacts created during the project on display. The gray tables used for project time were re-organized into a U-shaped presentation area with the brown partitions creating a backdrop behind the tables. Students stood between the gray tables and the partitions. They pinned up their written work, various photographs, and other artifacts on the

brown partitions and placed additional artifacts and shelter models on the gray tables in front of them. Some students built life-size structures, as well. Students then used the various products from the project to explain what they learned to visitors (see Figure 4.11).



Figure 4.11. Exhibition. Structures presented at the exhibition at the end of the project.

Various industry partners connected to the school came and evaluated the students' effectiveness in using architectural, engineering, and construction aspects in their designs. Also, individuals from the community attended the exhibition and talked with students; however, no representatives attended the exhibition or responded to the students' letters.

Participants used a feedback sheet created by the project teachers that included suggested questions and scales to assess where the students' work fell on the Mastery Scale

(see Figure 4.12). Students received scores reflecting Not Yet, Approaching, and Quality. Teachers then used these feedback sheets to assess student work and attribute grades.

Communication: Response to Questions from audience

NOT YET QUALITY		QUALITY
<ul style="list-style-type: none"> Student does not have a response or the response is not precise or to the point of the question (e.g., too brief or long, or off topic) Student does not respond appropriately to questions that are unclear or problematic (e.g., is impatient in his/her response, gives an answer that shows the question was misunderstood, or tries to give an answer even though he or she does not know enough) 	as NY.....Approaching.....XQ= as NY.....Approaching.....XQ= NY = Not Yet Quality Q = Quality	<ul style="list-style-type: none"> Student's response is precise and to the point of the question (e.g., not too brief or long, or off topic) Student responds appropriately to questions that are unclear or problematic (e.g., politely asks clarifying questions, repeats or rephrases questions to be sure of understanding, explains that the question is beyond the scope of the project and would require more research)
Notes: <i>Impressive knowledge and demonstrated empathy</i>		

2. Uses Client Perspective to Offer Innovative Solutions

NOT QUALITY		QUALITY
<ul style="list-style-type: none"> Student/team conduct "business as usual" according to industry standard procedures, with little regard for new approaches that could add value for the client Student/team conduct "business as usual" according to industry standard procedures, offering no innovations in service to client Problems in implementing innovations undermine definitions of value that were appropriate and sustainable to the client 	as NY.....Approaching.....Q= as NY.....Approaching.....Q= as NY.....Approaching.....Q= NY = Not Yet Quality Q = Quality	<ul style="list-style-type: none"> Student/team uses industry and client specific research to identify strengths and needs that deliver innovative solutions in the face of challenges Student/team define, implement, and capitalize on innovative solutions in the face of challenges Innovative solutions are grounded in shared definitions of value that are appropriate and sustainable to the client
Notes: <i>if client is homeless person(s) - this team did great job thinking of housing solution.</i>		

Figure 4.12. Rubric and questions. Feedback sheet completed by exhibition attendees.

As part of the trimester summary included in the performance assessment packet, project teachers were asked to explain what changes they made while conducting the project. They responded by writing

Along the way, the teachers introduced more instruction on the design process. The focus was changed to include more needs assessments of our clients, including arranging interviews with homeless people. Originally we intended to focus on “physical” design solutions for people forced to sleep on the street. Based on feedback and evidence of interest from the students, the project shifted its focus more

toward the root causes of homelessness and policy or systemic changes that could solve the problem. (performance assessment packet, p. 63)

The teachers explained they chose to shift the project as it progressed and respond to what they perceived as student interest in the causes behind homelessness. The teachers then explained how they used a writing activity not originally planned in the project, to support these growing interests. The task of writing to a legislator was then added. They also wrote in reflection, “The original plan was to consider both homelessness and slums. Although we did consider the economics of slums, the topic was not included as a major portion of the project” (performance assessment packet, p. 64).

Conclusion. The school’s large open space adjusted to the project work lead by teachers. The environment was relaxed and students moved freely about the school’s space in-between projects. Owen, Clay, the student teacher, and Dr. Svihla worked with the students throughout the project by giving direct instruction and providing one-on-one follow-ups during working and writing time. Owen and Clay did the majority of the instruction and lead students in the *Using Waste* project to accomplish benchmarks in World History/ U.S. History, Economics and Government, Language Arts: Reading, and Language Arts: Listening and Speaking.

The project involved two parts. Part one focused on students designing shelters, and part two focused on students understanding various issue in homeless in order to develop solutions. Part one and part two were communicated to students as open-ended opportunities in which students would explore ideas and processes. These two parts of the project were designed from a PBL approach to support students in communicating their learning in material demonstrations to help them make meaningful connections between skills and

content throughout the learning process (Ravitz, 2010). The project teachers designed a project that would result in the culmination of a realistic product (shelters for individuals who were homeless) to be presented at an exhibition (Jones et. al., 1997; Thomas et. al., 1999). The specific technicalities were not emphasized and project teachers did not define predetermined outcomes showing project teachers using the multiple perspectives approach I explored earlier in my literature review (Aukerman, 2013).

As far as student writing, students wrote in their notebooks in response to teacher directed writing activities. Types of writing activities included explanations of structures, writing feedback to one another, completing crossword puzzles, responding to writing prompts, and comprehension questions following reading. Writing was positioned as activities supporting the design work as well as communicating information from teacher to students concerning project content. Student writing was a supportive tool, helping students complete the project tasks designed and implemented by the project teachers. Project teachers did provide students the opportunity to respond in personal ways to the writing prompts and share their experiences and opinions. This was one way they allowed students to use writing to contextualize their own individual relationships to the project's content and work (Andrew & Smith, 2011). However, student writing in the notebook throughout the project was not, to my knowledge, consistently read aloud, used to help students collaborate with one another, or brought into the project work as a viable resource to explore students' development of structural or government solutions to the issues around homelessness.

During this project, Clay and Owen seemed to focus on thematic ideas and used writing to ensure students understood the content or had an opportunity to share personal opinions concerning the project's content or work. According to my observations, students

were actively designing and working in response to the project teachers' directions, using writing to complete the established design tasks. The focus appeared to be on the materials of the project work or the creation of a structure or a specifically formatted letter. Student writing was primarily considered supportive material to the structural designs and the content development of the project. Writing was a way for project teachers to materialize student understanding on paper instead of positioning students in the middle of a raw experience, asking them to use writing to make sense of that experience (Moffett, 1966). Student writing was a task completed in the student notebook, but it was not then assessed or marked on by the teachers or consistently taken up and explored to add to the developing ideas or design of the project. Project teachers did mark on the letters students wrote as they conducted one-on-one conversations with students about their writing, but project teachers seemed to be standing primarily in the material world of the project instead of the immaterial world of student ideas expressed through writing (Moffett). Student writing was more of a documentation of information completed to show comprehension of information communicated by activities primarily guided by the project teachers.

Section Two: Project Teachers Perspectives of Writing within the PBL School Context

Clay: Student writing within projects. Clay often directed the interview towards questions he had regarding the purpose of reading and writing within the larger school context. He remarked, "We can't really predict what is going to be important for them to know, you know? We think we have a few skills that we have identified that are timeless that we think everyone will need to have" (Transcript Clay Interview, line 3-11). I found this interesting because Clay was questioning the conventions of what should and should not be taught. He seemed to be considering the usefulness of teaching specific skills within the

project and how that usefulness affected students outside of the school setting. This part of the interview took place at the beginning of our conversation. As already mentioned, Clay often took a discussion approach to our conversations. We spent the first part of the interview discussing the culture his students were surrounded by, the recent questions he was dealing with, and what parts of literacy learning mattered for his students and the future lives they would lead. We discussed the ways in which the culture was rapidly changing due to the Internet and how these changes caused Clay to question what is most necessary for the students to learn when it comes to reading and writing.

Clay explained that when planning the unit, he usually developed the reading and writing components as the project unfolded. “Most of what I give them to read and write in projects is something I discover in the course of the project.” He went on to explain his own connection to this process, “That’s the one thing I love about developing projects, you know? You’re learning. We’re learning with the students, as we go.” Clay further explained that he was always looking for resources, articles, and activities that worked with what the students were studying in the projects. “I think that sort of works sort of naturally,” he said. This “natural” progression, according to Clay, was about developing reading and writing activities that related to the project as it unfolded according to student interests (line 70-76).

When explaining the purposes of writing during the project, Clay stated, “They are writing to explain their own work rather than to restate someone else’s opinion or whatever” (line 102-103). Clay perceived writing as a resource intended to serve students. Writing was an opportunity for students to express their own individual perspectives concerning the project’s work and content. Additionally, writing allowed students to develop a personal connection. Clay explained that, in his perspective, these types of writing opportunities were

conducive to the project work and increased the likelihood that students would choose to take pen or pencil to paper and write. When explaining how he handled writing instruction in the unit, Clay talked about working one-on-one with students, supporting them as they constructed their written response “sentence by sentence” (line 105-108).

Clay talked about relevance throughout his interview. He explained that the external audience caused students to create more of a “polished product” and having outside audiences at the exhibitions caused students to be more concerned about their writing. For Clay, writing was made more relevant by having students write to audiences outside of the school (line 123-126). He explained that adding the element of exhibitions and having the public attend the exhibitions and observe the student work was incentive for the students to work hard to avoid embarrassment. Clay questioned the relevancy of the five-paragraph essay and its practical use for students when considering the culture they lived in (line 22-24) and added that writing activities such as those involved in social media communication and text messaging on handheld devices was more relevant to the lives students live on a daily basis outside of school (line 17).

For Clay, relevancy was subjective to students’ experiences and based on their individual interests. His challenge was helping them find that curiosity: “I think that’s a big, big part of engaging students, you know? To either find what they’re excited about or figure out how to get them excited about what you’re doing” (line 8-11). The challenge was trying to get the students curious enough to engage in the project and develop excitement around the project. This curiosity and excitement was a way to get the students to engage with writing.

Clay: The students at Southwest High School. Clay also shared how he worked with what I termed “student resistance.” This “student resistance” came up several times throughout my interviews with Clay and Owen. Clay explained, “We still have a lot of students who they’re not gonna write anything until we are like here’s your paper here’s your pencil. So. Let’s go. I’m going to sit here” (line 110-112). I then asked, “Really? You can’t just say go write?” and to that Clay responded, “You can with some. You have to sit there or they’re just going to waste time,” he then added that he often had to “move them away, get a couple of them away, “ meaning he often moved students to different areas of the project or to tables outside of the project areas to help them focus and write (113-116). Clay felt it was an issue of accountability, and he perceived his role as being a resource and active manager in adjusting the environment in order to support students with their writing.

At the end of the interview, Clay talked about the importance of context. For him, a necessary aspect of his role as project teacher was not to focus on specific skills that were important today but might not be important tomorrow. He wanted to use the various aspects of the project-based learning approach to help students learn how to utilize resources at the right time and in the right way to achieve their various goals after they are out of high school. He stressed with his final comments that students need to learn how to use the tools provided within their handheld devices, computers, and the Internet. “So what they need to learn is when it matters. And when it does matter get help. Know when it matters and get some help. Try to present yourself in the best way possible” (line 204-206).

Owen: The interview. I conducted Owen’s interview during his lunch break on March 3, 2015. We sat at one of his tables in the project space. He sat on a stool pulled up to one of the gray tables, and I sat across and down about three feet from him. I had my laptop

on the table and took notes occasionally. I explained to him how the interview would progress, the types of questions I would ask, and that I simply wanted his perspective. I audio recorded the interview, which lasted 35 minutes. He was calm throughout the interview, taking a few pauses to address situations among students who were eating lunch in the same project space we were in. Owen answered my questions and expounded on his perspective. He was open and honest about his challenges and provided examples from his teaching to further develop his answers and explanations. Owen used his hands when he talked and moved back and forth on the stool to add emphasis to his words. Owen was very willing to offer his perspective on how writing worked for the students and for the project, but he wanted me to understand that his background was not in writing. He often provided an answer to my question, added further details with examples or further explanations, and then asked if his answer was what I was looking for in the interview. I assured him throughout the interview that I simply wanted his perspective. He was very expressive and offered honest explanations for each of his responses.

Owen: Student writing within projects. Owen explained during the interview that, for him, writing had two different purposes. The first was reflection. Project work has a kind of “natural progression into reflection,” he explained (Transcript Owen Interview, line 78-80). Owen talked about how writing offers students an opportunity to reflect back on the work they did in the project as well as their opinion concerning the work and the content. Another purpose for writing is to form opinions. “So you know the journals and the pre-writes and the comprehension stuff comes into play. You’re guiding them into forming their own opinion. Rather than just believing whatever” (line 51-54). For Owen, writing was a way for project teachers to guide students to express and develop their opinions.

Owen explained whether it was a journal writing prompt at the beginning of the project time or comprehension questions following a reading assignment, he perceived writing as a way to prepare students for the upcoming project work, to conduct a pre and post assessment of student understanding and knowledge, and to understand what students comprehended. He explained how he often developed specific journal writing prompts while the project was progressing and that the purpose of the journal writing was for him to “ask them what do you think about this?” (line 49). He went on to explain, “Getting their opinions and ideas out of them is not easy. You generally have to work with them. You know, ask them leading questions” (line 49-51). Owen liked to gather the student’s opinions through their writing and use those written responses to allow students the opportunity to develop their opinions and formulate their thoughts so they might more readily engage in class discussions.

I asked Owen how he chose certain writing activities to use in the project. He answered, “I don’t believe in busywork, and I don’t want them to get things and just think it’s going to occupy them for 30 minutes or whatever. I don’t have an answer for how I came up with all of it...I find things and think how it’s cool, and I should have them do that” (line 55-60). I then asked him how he plans the writing within the project. He explained he did backwards planning for most of the projects. He along with the other project teachers would choose an end goal and then select “specific tasks or details or just things we want to accomplish,” and then they “find something that relates to that to read and to write about” (line 63-70).

Owen talked about the act of writing as an involved and complicated process requiring multiple steps. He felt that when it came to larger written products composed by

student as part of their project work, students needed support generating and organizing ideas, modeling, and revising. According to Owen, students struggled with this multiple step approach to writing.

What we really really have to work with and plan and build on step-by-step is the writing process, especially. That's everyone whether they have disability or not. As you see we do a lot of graphic organizers. If we can, we do a lot of topic sentence, supporting detail, supporting detail, closing sentence. (line 89-94)

Owen's perspective of writing was that it involved a process and his role was to explain the steps, show examples, and provide resources.

Owen: The students at Southwest High School. Owen also talked about "student resistance" to writing and the use of relevancy in writing. Owen felt student resistance because students perceive the school as a "hands-on" environment "I hear people complain, 'I just want to build stuff. I just want to do things with my hands...'" He went on to say in the interview that he tells the students he understands their frustration but reading and writing go along with the building. "And it's hard to sell them along that," he explained. The rest of his explanation concerning student resistance involved students' past experiences in school. Owen outlined how he felt the public system had failed many of their students in substantial ways. This failure caused students to come to Southwest behind in many areas and having a subsequent "distaste for reading and writing" (line 5-16). This supports concepts I explored earlier by Moffett (1979) asserting that when students "say they have nothing to write it means they have simply spent their school days copying, paraphrasing, and fitting given content into forms and they have never had the chance to see themselves as authors composing their inner speech toward a creation of their own" (p. 278). To combat this

resistance, Owen said he worked one-on-one with students, had to redirect them back on task throughout the project time, and tried to manage their use of technology (line 106-112). I asked Owen if the use of an external audience helped combat the resistance, Owen plopped both hands on the table and said, “It’s like, man, I just want you to write. I don’t care who you are writing to” (154-156). Owen’s primary concern was getting the students to engage writing tasks and see how it connected to their project work.

When it came to discussing relevance, Owen explained that, for him, relevancy was about student interest and emotional investment. To make writing relevant, Owen felt it was his responsibility to develop student interest in the project (line 24-26). In addition to getting students interested, Owen also saw his role as facilitating a personal or emotional connection to the project. He saw that as getting the student “to really care enough to see writing through from planning to completion” (line 84-87). Owen used writing to bring relevancy to the project, which meant using writing activities to facilitate student interest in the project work and help them build an emotional or personal connection to the project work.

Conclusion. These individual perspectives were important to me because, as I reviewed in Chapter Two, PBL is vast in its scope and implementation, with no two teachers implementing it in the same way (Ravitz, 2010). Additionally, PBL is not a supplemental activity, but it is student-driven and teacher facilitated curricular approach (Bell, 2010). It was therefore important for me to present Clay and Owen’s individual perspectives in order to better understand how they were approaching student writing within the project. In order to display the individual perspectives of the two project teachers, I presented a summary of the individual interviews I conducted with Clay and Owen. In this conclusion, I review what

these two project teachers expressed to me and how those perspectives are both similar and different.

Clay's explained in his interview that reading and writing needed to be relevant. Clay explained relevancy as that which was connected to the lives students lived outside of school, their individual interests, and their own individual excitement or curiosity around the project. Clay expressed he was not sure the five paragraph essay as well as traditional reading and writing skills would serve students in the current rapidly changing world. This showed Clay was approaching writing instruction from more of a sociocultural perspective, using a conceptual and contextual understandings of student writing (Bazerman, 2016). Clay expressed his own personal wonderings concerning how to prepare adolescent writers echoing a concept I presented in my literature review, exploring how to help students not simply "write specific texts and genres, but more significantly how to continually write across the ever-changing constellation of technologies, modalities, and contexts" (Leu et. al., 2016, p. 42).

As far as instruction was concerned, Clay saw it as an individual student interaction in which he supported students building their written responses one sentence at a time. As for the PBL context, Clay planned and implemented reading and writing as he learned along with the students. He enjoyed the flexibility of the project as it developed. He saw reading and writing's purpose as connecting students personally to the project work, getting students interested and invested in the project, and an opportunity for students to explain their project work. As far as the students of Southwest High School, Clay felt his role was to manage and redirect the students so they would complete their writing tasks. For him, the project was about teaching students to be resourceful.

Owen, like Clay, explained that reading and writing needed to be relevant. According to Owen, relevancy was connected to the student interests as well as their emotional investment. As far as PBL, Owen felt there was a natural progression into reflection. He therefore saw writing as an opportunity for students to reflect and form personal opinions. Additionally, for Owen, writing was useful in preparing students for the project work and assessing students' understandings before and after project content was covered. He accomplished this through journal prompts, an activity beneficial in supporting students in forming their opinions. Within the PBL context, Owen explained that they often backwards planned, having a goal in mind and then as the project progressed he brought in reading and writing activities he found personally interesting. For instruction, Clay saw his role as working one on one with students to help them understand the writing process through step-by-step support and modeling strategies. Student resistance was an important factor to Clay, a product of students' negative past experiences in school.

From this presentation of findings, student writing in the *Using Waste* project can be understood as the product of the perspectives of two project teachers. Often when we consider student writing, we think of the completed written product. This perspective of student writing shows how project teachers have certain ideas of the students, project, and purpose of writing. These perspectives affect the ways in which the project teachers plan and then implement writing activities. Clay and Owen talked about writing as a task and explained their roles were finding relevant writing opportunities that would help the project move forward, resourcing students from a process-centered approach (Applebee & Langer, 2006), and managing the environment to promote completion of assignments. Writing was

connected to students personally and seen as an expression of what the student had brought to the project but only to the degree of creating personal connections.

Writing was not positioned as an integral part of project work, a resource to support student thought development, a potentially important resource of information or insights that would help add to the projects developing ideas, or as a means to engage students' ideas and conceptions in order to adjust or renegotiate the direction of the project. According to these interviews, project teachers often assumed the role of project manager and resource provider, helping students to move through the project tasks. They did not position student writing as a means for students to process experiences, create a basis for continuing project work, or guide discussions that support students moving between varying levels of abstraction (Moffett, 1966).

This collection of findings shows that educators each have their own personal ideas and opinions concerning their students, content, and curriculum. These perspectives drive what and how one teaches. Student writing, in this setting, is the result of individual teachers' decisions regarding how they see the school, students, their role, and the act of in-school writing. Both project teachers seemed concerned with engaging students with a project that touched their immediate lives, as emphasized by Dewey's (1897, 1938, 1974) proposal that learning by doing is an effective way to engage children in understanding learning as an innate process of life not a preparation for a distant future experience (Bell, 2010; Barron et. al., 1998; Blumenfeld et. al., 1991).

Section Three: Project Teachers Planning and Instruction of Student Writing

Research sub-question and data used. My third sub question focused on how the two project teachers planned and instructed students concerning writing activities during the

project time. This question was important for me to ask because the ways in which curriculum content is represented by teachers as well as the mode in which students are invited to respond is integral to how students make meaning of the in-school activities and learn information (Jewitt, 2008). My answer to this research question is organized by the writing activities: student notebooks, Fictional Profile, and Letter to a Representative. For each writing activity, I include a description of the activity, a chronological account of the project teachers collaboratively planning the activity, and a chronological account of project teacher instruction. In the case of the Letter to a Representative, I added a summary of themes, according to my axial coding process, of what project teachers discussed with student individually concerning their letters.

Student notebooks. Project teachers purchased multi-colored, wide-rule spiral notebooks before the trimester and passed them out to the students on the first day of the project, January 20, 2015. Project teachers instructed students to use the notebooks to keep their work throughout the project (all handouts and writing activities done during the project and any additional work they did throughout the project were to be written in or glued into the notebook). Owen and Clay gave direct instruction for students to use the notebook for project work only. Nothing personal was to be written in them. The entire collection of notebooks stayed in Owen's project space, stacked beneath a whiteboard on the side of the project area. The notebooks were passed out at the beginning and collected at the end of the project time.

Project teacher collaborative planning. During the first planning session, January 6th, 2015, Clay commented that one of his greatest challenges was keeping track of student work. He suggested the use of a notebook to help students keep their work together and help

teachers keep track of the student work. The group responded favorably to the idea and then the conversation turned toward a different subject. During the planning meeting on January 8th, the group discussed how they wanted to implement the initial design activity. Once they decided they would have students write the Fictional Profile about a fictional person who was homeless, they discussed the procedural process of the activity. The group decided to have students write the profile then pass it to their peers and conduct a needs assessment on the profile. This activity would move them into the initial designs student would create at the onset of the project. Clay said, “Then we go from there to their revised plan to their product and—” then Owen interrupted by saying, “ And ultimately we want them creating notebooks and that’s going to be a teaching point in itself” (Transcript Trimester Planning 1/8-1/16, line 1979-1984.). They discussed how to conduct the writing portion of the initial design activity, which then caused them to take a moment and discuss the student notebook idea and how it worked within the project.

Owen explained the notebook would be an opportunity within the project for students to “organize it with assignments and categories; this, that, and the other” (line 1984-1985). Owen finished his comment by saying notebooks should serve as place for students to make their own documentation and collect work that was also accessible to the teachers. This comment referred back to an earlier discussion the group had concerning how they would provide documentation showing student development in benchmark areas of the project (see Table 4.1). The performance assessment packet required teachers to include student work as evidence of what was accomplished during the trimester, so the project teachers decided the notebooks would be good means to keep track of the work and document it for the performance assessment packet.

Dr. Svihla then added to the Fictional Profile and notebook idea by saying, “One thing you might want to have them do then is like if you printed up a feedback sheet that they could glue into the notebook. Get a little scrap booky, I guess—“ (line 1988-1990). Owen agreed with her, and the conversation continued.

Dr. Svihla: Engineers do this, right? They have design journals and they have to put stuff in.

Owen: It’s like a half sheet that we print off that like a feedback outline or skeleton—
[00:20:01.29]

Clay: Don’t leave it loose—

Owen: Yeah definitely don’t leave it loose. Keep it in files. And keep it stationary.
(line 1994-2002)

Dr. Svihla re-positioned the notebook as being a way for students to act like engineers as they worked through the project, making it less about the writing and gluing and more about the way the students relate to the notebook and the work collected in the notebook. During this planning session, the teachers did not pick up her suggestion. Instead, they highlighted how the notebook would help them keep student work “stationary” and not allow it to be “loose” and possibly lost.

Project teacher collaborative instruction. The following description comes from my field notes and personal experiences in the project space. This detailed description is intended to convey sights, sounds, and experiences around how the project began and how project teachers explained and then positioned the student notebooks within the project.

I settled myself on the edge of the project space with my back up against the brown partition and watched as students walked into the project space created by Owen and Clay.

The screeching and scraping sound of black plastic chairs with metal legs filled the project space as students walked through a large opening in the brown partitions and found or made a place to sit around gray-colored tables. Some sat near friends and selected table locations based on how their group fit at a table. Others simply chose a chair and either sat down in it or carried it around the project space searching for a place at another table. Backpacks plopped down on the tables and the ground. Several students carried cell phones and fiddle with them as they chatted. Eventually, the sound of student chatter filled the space left quiet by the now stationary chairs. Owen and Clay finished up their preparations, looked at their watches, and began conducting the project launch.

Throughout the project launch, Owen and Clay moved around the project space. Clay stayed near the white board to write down necessary information, and Owen walked around the periphery. At times, Owen leaned on one of the tables and sat down, but he did not stay there very long. The teachers took turns asking the students questions, waiting for responses, honoring student responses with verbal feedback, and drawing connections between responses and the plan and purpose of the project. The teachers then introduced the project's two parts, outlining in general how the project would progress. Clay wrote the basic outline of the project's trimester on the white board, while Owen walked around the project space, pointed to students who offered answers to questions, and added information to enrich the class wide discussion of the project as a whole.

Twenty-five minutes into the project time, after both teachers took turns talking back and forth with students about the project, they mentioned that the initial groundbreaker would be a writing activity. Clay said,

OK. So there's going to be several steps to this activity. And I don't want to load it all up on you at once so let's start it simply all right? Everybody needs. We want you guys to keep everything in these notebooks. Right? We want to keep your notebooks for the most part so everything's going in the notebook. (Transcript Project Launch 1/20. Line 246-250)

Then Owen quickly interjected, "You guys are living and dying by these notebooks!" (line 252). The notebooks were various colors. "All right! I got green! I got black! I got orange! I got red, purple, whatever!" Owen said, as both teachers passed out the wide-ruled spiral notebooks to the 18 individual students in attendance. Owen then instructed the students to write their names on the inside of the notebook (line 253-255). Owen continued by explaining, "I don't want like notes your girlfriend in 'em, or something. Because I don't really care to read those" (line 260-262). The project teachers then transitioned to the first writing activity, the Fictional Profile. Owen then told one of the students that she could glue her writing assignment into her notebook, "I mean, you already did all the writing. You might as well just cut and glue it in your book. There's nothing wrong with that. I think it's legit" (line 258-270).

Later in the project time, after the students completed the Fictional Profile, Owen and Clay instructed students to exchange notebooks, read each other's profiles, and provide feedback (line 506-511). For this, Owen asked the students to read the profile and then turn the page in the notebooks and write the assumed needs of the fictional homeless person on the following page.

Write these needs in the other persons' notebooks so just turn the page. Put your name at the top so they know who that was that was reviewing their needs. And then,

just start writing down everything you could think that they would need on a daily basis. (line 554-557.)

Students then completed the activity by writing in one another's notebooks. The project teachers positioned the notebook as a location to collect individual student work. During the project time, the teachers first passed notebooks out and then, at the end of the project time, collected them, keeping them in the project space underneath one of the whiteboards.

Fictional profile. The Fictional Profile was the “groundbreaker” activity within the project (in the PBL approach, the groundbreaker is the very first activity in the project and is intentionally designed as the student's first opportunity of engagement with the project work). This writing activity occurred on the first day of the project and required students to write a profile of a fictional person who is homeless. The project teachers presented the writing activity as one step in a series of steps that would eventually usher students into their first design task.

Project teacher collaborative planning. The teachers planned the entire writing activity around how they could use writing to enable students to engage in the design process. Initially, in lines 14-26 of Transcript Trimester Planning 1/8-1/16, the two project teachers along with Dr. Svihla talked about beginning the project by asking students, “Where are you going to sleep tonight?” and then asking students to brainstorm or complete a free write of basic needs for survival. As the planning session progressed and this part of the trimester was revisited, the collaborative team made conceptual and structural adjustments to what the students would write based on what they wanted students to accomplish during the groundbreaker of the project. The collaborative team shifted from presenting students with

pre-made profiles to use for a needs assessment to having students write fictional profiles and then pass them to one another and use them to conduct a needs assessment.

On the second day of planning, January 8th, the teachers decided to conduct a brainstorming session before the writing the Fictional Profile for the expressed purpose of providing students with more ideas and information to support the needs assessment that followed the profile writing. Clay suggested they ask the students, “What would you think should be included? You want to know this person’s story, you know, what do you need to know before you can start to create a solution for them?” (Transcript Trimester Planning 1/8-1/16. Line 1126-1128). Then Clay explained that after the question, a brainstorming session would help the whole group gather several ideas. Then, the project teachers could direct the students to write and then exchange their profile for a needs assessment. Clay concluded his comments by saying “then they do a specific needs assessment based on what came out of that bio, and then they design something” (Transcript Trimester Planning 1/8-1/16. Line 1140-1142).

A few lines later in the transcript, Clay explained to Dr. Svihla (Owen was not present) that they could have students do designs on paper and then create a small model, causing the Fictional Profile to set the groundwork for the design activity. They decided the next step in the project would be scheduling interviews with individuals who are actually homeless to enable the students to turn their profiles “from a functional profile to an actual profile and from a, uh, an exercise in needs assessment into an actual needs assessment” (Transcript Trimester Planning 1/8-1/16. Line 1147-1149.). After a conversing about the process, Clay typed out the step-by-step process on his laptop, confirming that the plan would be used on the first day of the trimester.

Project teacher collaborative instruction. At Southwest High School, projects begin with a project launch. This project launch serves multiple purposes. The project launch engages students in the project work and/or the project's content, establishes the nature of the work and the progression of the project, and creates curiosity, or what PBL calls a "need to know" (an experience highlighting a gap between what students already know and what they will need to know to complete the project). Owen and Clay began the project by discussing waste. To connect the concepts to students' current setting they discussed the waste caused by the construction of Southwest High School's new school. Owen and Clay then moved the discussion to available materials one might find in the garbage and use to build a structure for no cost. The discussion then moved toward the various challenges facing someone who is homeless (Transcript Project Launch 1/20, line 1-21.). While leading this discussion, 18 students were present, a couple talked, three of them had ear buds in their ears (Transcript Project Launch 1/20, line 44).

Throughout this project launch, Owen and Clay moved around the project space. Clay stood by the white board and wrote down necessary information, and Owen walked around the periphery. At times, Owen leaned on one of the tables and sat down, but he did not stay there very long. The teachers took turns asking the students questions, waiting for responses, honoring student responses with verbal feedback, and drawing connections between responses and the project. The teachers then introduced the project's two parts, outlining in a very general way how the project would progress. Clay wrote the basic outline of the project's trimester on the white board, while Owen walked around the project space, pointed to students who offered answers to questions, and added information to enrich the class wide discussion of the project as a whole. Owen and Clay mentioned the initial writing activity

and then introduced, passed out, and explained the use of the notebooks, and then immediately lead the students in the first writing activity, the Fictional Profile.

Following the dissemination of the notebooks, Clay and Owen told the students they would be completing a profile on a fictional homeless person. Clay asked the class, “What’s a profile?” and a short explanation followed of how the profile was like a Facebook profile (Transcript Project Launch 1/20, line 236). “So we’re ready to move on to what we like to call here at Southwest our groundbreaker activity. Right? You guys excited?” Clay asked. Clay and Clay then positioned the profile as part of design activity involving multiple steps. Clay said,

You’re going to create this profile. Then we’re going to exchange profiles. You’re going to exchange your profile with a classmate and you’re going to review each other’s profiles. And comment on other information you’d like to have, right? That’s missing from that profile. (Transcript Project Launch 1/20, line 284-288.)

To further clarify, Clay played out the process by acting like a student, “(Student Name) writes a profile, gives it to (Student Name), and (Student Name) goes (pretends to be a student) ‘You know what I’d like to know as a designer I need to know this and this and this.’ Right? And then we’ll revise the profile” (289-292.). Clay then added, “This is sort of the first step in creating the needs assessment for when we do interviews with actual clients. Right? What kind of questions do you want to ask? What kind of information that we are looking for” (line 294-297).

While Clay stood at the front of the project space writing down aspects of a profile on the white board, Owen walked around the project space, called on students, responded to their suggestions and comments, added his own perspective, and drew connections between

the students suggestions and the project work students would be doing and the profiles they would soon write. Clay and Owen collected and wrote down several options for students to include in their profiles. As the discussion progressed, the project teachers made several comments concerning the flexibility of what the final product needed to include, “Let me make a point here,” Clay said to the students, “we are not telling you, you have to include something about all of these, right?” (line 393-395). Then, a student asked a question about what they needed to include. Owen listened then emphasized, again, the flexibility of the profile by saying to the entire class,

She had a good question. She said is that all of them? Is that all we need to cover?

Good question. No. Because, guys, in the course of your profile you can be like (talking as if he was a student), “Oh this is important too.” Add it in there. If there’s something on this list that you don’t think matters, by all means leave it off. Use your creativity to come up with the profile of this person and or people... (line 403-408).

Owen and Clay made it very clear that students could select from the options and add additional aspects each student deemed important.

Owen and Clay did not just give students the opportunity to choose what content to include, they also communicated to the students that they had freedom with the format. Clay said,

You guys can write this in first person. Do you all know what first person is? First person is (writes on board) “I am. “”My name is.” “I have been homeless since,” right? That’s the first person. Or you can write it in third person. Which is so-and-so is a homeless man 48 years old (line 428-432).

Owen then expounded, “But, please, in hopes that you’re going to make it easier for the person who’s going to review this profile put as much information on there as you can” (line 421-422).

At the end of the direct instruction time, Owen added that the profile could be in a paragraph or list form, “where it’s more of a narrative and sentences, right? Or you could have like (Student Name) has right here. He has ‘Name,’ ‘Age.’ It’s more of like a fill out questionnaire system. Right? Either way it’s going to work just fine” (line 433-436). Owen ended the instruction time by saying, “Does anyone need something to write with? One. All right. So at 11:05am, we are going to check back in with you. Anyone need help? If you have questions, please ask me” (line 440-442). Forty-two minutes into the project time, students were told to write for ten minutes.

Owen and Clay met up at the front of the project space, near the white board. Clay and Owen discussed how the project was going, reviewed what was missed, and decided what still needed to be covered (line 444-447). Owen and Clay walked around the project space and sat down at the tables answering questions and re-explaining the content and the format of the writing activity to individual and small groups of students. Clay sat down with one student who joined the project late and reiterated, “Whatever you want to write it doesn’t have to be huge. You can write it out or make a list, okay?” (line 12-13). Students wrote and talked during the designated writing time. Owen and Clay asked questions and redirected some students who began talking without completing the activity. At one point, one student played music that was audible within the project space. A few students walked in and out of the project space. Owen asked students who were not a part of the project to leave and

students who were a part of the project to stop roaming around (Field Notes, Jamie Collins, 1/20).

Sixteen minutes into the writing time, Clay erased the list of possible profile topics and wrote, “Switch.” Owen asked, “How’s everybody doing right now?” and then following a student’s comment said, “Pretty darn amazing? Okay. Who would benefit from five more minutes? Is five more minutes realistic? Yeah. Do you guys need five more minutes? Is that enough? ...How about 7 ½? Alright” (line 477-481). Thirty-three minutes after the writing time began (Field Notes, Dr. Svihla, 1/20), Owen said, “So, if you feel like you did a good job fantastic. If you feel like you could’ve done better, well that’s how it goes maybe hold on to it for next time. Because now what you guys are going to do is switch” (line 503-505). With the rest of the project time Owen and Clay gave direct instruction concerning the needs assessment.

Letter to a Representative. The Letter to a Representative was the last formal writing activity of the project. Upon seeing students interested in doing more than create temporary structures for people who were homeless, they developed a writing assignment asking students to research a solution and propose it to their local representative in a letter. This was an important component to the end of the project because it was designed to be an authentic writing. Authentic activities like this are part of the PBL approach and the performance assessment packet trimester summary. Project Teachers first asked students to use a worksheet they created to survey the solutions presented during the project and select one they thought would be a good way to solve one of the many issues around homelessness in the students’ community. Project teachers then provided a formula for students to follow and fill in with their information. Project teacher provided direct instruction and then allowed

student three project days to write and edit their letters. This was the most extensive writing activity of the entire project.

Project teacher collaborative planning. The second part of the project involved reviewing several different ways other states and their governing entities tried to solve the issues around homelessness. Students reviewed several different solutions around the country. The collaborative team of project teachers decided during the project to have students write a letter to their local representative to propose a solution, support it with research, and invite the representative to come to the exhibition and discuss the issues in person. Owen and Clay explained to me that they chose to have student write letters because the students seemed concerned about the various issue around homelessness.

Owen and Dr. Svihla sat together at a table in the teachers' coffee bar on March 10th. Owen sat in front of his laptop and typed as he and Dr. Svihla discussed how he might format a handout he would pass out during project time. This handout's purpose was to support students in deciding their opinions, explaining their ideas, and selecting research covered during the project time to support their own solutions on ways to end homelessness. The handout's purpose was to prepare students to easily transfer information from the handout to the letter. This letter would include the student's suggestion for a solution, a citation for research supporting their suggestion, and an invitation for the representative to attend the exhibition in order to converse with the student about solutions for their city's issues around homelessness. The student teacher, who had joined the project as it was underway, asked if he could sit in and listen. Dr. Svihla and Owen invited him into the conversation, but he primarily listened, interjecting personal comments once the conversation around the handout had ended.

Primarily Owen wanted students to have the opportunity to write about homelessness or child poverty in their letters. He and Dr. Svihla talked about how they perceived the students as very interested in the issue of child poverty. Owen explained to Dr. Svihla that he wanted it to be personally meaningful and therefore he was working with the handout's language to be intentionally flexible. Various solutions were explored during Part Two of the project by having students watch online videos, read printed articles, and review online presentations around government supported solutions to homelessness and child poverty. Throughout the project, the collaborating teachers perceived that the students' interests increased when they discussed the issue of child poverty. In response to this interest, Owen wanted to use intentional flexibility of language to allow student choice when it came to selecting solutions, explaining them, and finally supporting them with research (Transcript Letter Handout 3/10, line 11-20).

Owen and Dr. Svihla then had a conversation about one specific student who was personally affected by some of the content of the project. They conversed about how they attributed these struggles to the student's personal experiences in the past. "But, (student's name) is engaging with the project. I was talking with someone and in the other projects, like, (students name) will not be engaging much. Like, in the afternoon projects" (line 57-59). Dr. Svihla and Owen discussed how they wanted to make room in the assignment for students to express their perspectives.

The conversation then focused on what order the questions should be written to make the most sense to students. Owen and Sr. Svihla changed one question from asking students to compare solutions to asking students to explain the best solutions. Dr. Svihla then expressed her concern that students might not write much if asked to compare multiple

solutions. Owen responded, “I am expecting that anyway,” to which Dr. Svihla responded that changing the question sets them up to possibly write more (line 70-78). Owen then typed out directions to students to commit to a solution they think is best in order to develop the strongest possible research-supported explanation. Owen then explained he wanted students to use the articles they reviewed during the project or find another one and name it as their research support. He then included a link to the article the students had recently read from the CNN website (line 80-94).

Owen and Dr. Svihla then talked about how much the students should be encouraged to explore their own ideas on the handout. Owen suggested less exploration, “I don’t know if it will fit in the letter so much.” But Dr. Svihla responded, “Some of them are going to want to include that, but that doesn’t mean they have to send it in the letter. But this gives them, like this gives (student name) a place to voice things like that” (line 95-97). Dr. Svihla was referencing the student they discussed earlier and how this handout could be a place for that student and others to communicate their perspectives and explore their ideas, and not every part of the handout needed to be directly connected to the letter.

As they collaborated, Dr. Svihla and Owen discussed the importance of keeping the language open-ended and this open-ended approach could be an instance of a *value add*, a term reflecting the schools’ mastery-based grading scale. “Because,” Owen explained “they’re taking this and putting their own spin on it. Applying their own knowledge” (line 108-109). During the last part of the conversation, Owen added supplemental questions directing students to think through various aspects and implications of their selected solutions. Dr. Svihla read the handout on the computer screen and made suggestions for different parts of the document focusing on wording. At the end of the conversation, Owen

remarked, “The way I think this is structured it will really naturally turn into a letter quite nicely, and I think that it gives them a good amount of stuff for them to focus on” (117-119). They ended the meeting briefly discussing that Owen was going to provide additional instruction around the how the handout fits within the project and supports the students in writing their letters.

Project teacher instruction. On the first day of the letter writing activity, Owen introduced the writing activity and the writing process by passing out a handout and then giving the students specific instructions. These specific instructions involved reading the format out loud and then expounding on the various parts of the formatted letter. Owen did this alone because Clay was working with students who were completing their standardized testing for the school year. About twenty-five minutes into the project time, Owen explained that the day’s work would be about the letter and that composing the letter involved putting the different sections or parts together. “I want to go over with you the parts of a letter all right. That’s what you guys are going to do today,” Owen said to the group of students (Transcript, Letter Day #1 3-13, line 133-135.). Owen connected the letter to the handout students filled out two days prior and explained how the letter was connected to the handout.

Owen told the students he wrote up the format in just a few minutes, assuring them it would be easy for the students to write the letter.

Now what I did is I just wrote this sample letter for you guys and it basically has an explanation for what each portion of your letter needs to include. And I knocked this out in about five minutes this morning. So you guys should have no problems taking this and turning it into something that is solid. (line 138-142)

Owen then explained the letter from the address at the top to the salutation at the bottom. The letter followed a formal letter format with an address at the top, a salutation, three body paragraphs, and a salutation with a signature to close.

Owen said to the students, “Dear so-and-so this is your first paragraph. Your introductory statement introducing your self as a (Southwest) student” (line 157-167). He then explained the next paragraph was where they provided their belief about whether there’s a problem with child poverty or homelessness in their state (line 154-157). Owen then explained how each student would use their research in the second paragraph,

And the data that you gathered that supports your stance. You don’t need to include like a whole sheet of numbers, right? I believe that my state has a problem with child poverty or homelessness. Here’s what I’ve learned. Child poverty in their lifetime this that and the other thing. (line 157-160).

He then read the explanation of the second paragraph from the handout. For the closing paragraph, Owen instructed the students to, “thank the representative for their time and invite them to come to our exhibitions at Southwest High School on Thursday, March 26 at 10:30 AM.”

The last step was to sign the letter and put it in the mail. Owen ask if everyone understood the letter then said,

Sweet. So that’s what we’re doing. Right here you guys have your research (referring to the handout done earlier). It shouldn’t be hard to plug in. You have the guiding document it should naturally plug right into this sorta this layout. I hope so. If not then tell me what I did wrong, and we will fix it. Okay, that’s what we’re doing today finishing letter. (line 197-201)

Towards the end of the explanation of the letter's format, Owen asked the students to take note of the bold font in the last paragraph of the letter format explanation handout. "What do you think we're really trying to get the state representative to do by sending them this letter?" He asked, and then followed this statement with an extensive explanation. Owen explained that the purpose of the letter is to "communicate with these people on a verbal level. Right? Discuss with them your stance. Your beliefs. Whether you think it's a problem or not. You want to talk with them" (line 160-172). He then said that this letter is just a "knock on the door" to share ideas and invite the representative to attend the exhibition and have an involved conversation at the exhibition. He then explained that the purpose of the letter is not to overwhelm them with research by sending them a "packet of data." Standing in front on the project area he said,

So we want them to come here and talk to us. So that's why in the bottom we have in bold there please come to our exhibitions at (Southwest) high school the address is up here they'll be able to find it. (line 172-192)

Then Owen communicated to the students that the letter is positioned within the project work to start a conversation, engage the local representative, and ultimately get the representative to come to the school.

Individual instruction between project teachers and students. Following Owen's direct instruction of how to write the letter, students had three days of project time to write their letters. During these three days, Owen and Clay walked around the room with recorders and recorded their conversations with students. These conversations were primarily one-on-one and conducted as the project teachers sat next to students and wrote remarks on the rough drafts of their letters. I took turns following them around, taking notes while they talked

about the letters. For these three days, I transcribed the audio files into word documents, printed them out and then conducted axial coding to report here the themes I came to understand across the three days of Owen and Clay's individual conversations with students. These themes dealt with format, helping students developing research-based opinions, and constructing the letter sentence-by-sentence.

Project teachers used the letter format handout to guide student writing. During individual instruction, Owen and Clay referred to the handout by summarizing it or rereading it to the students and instructing students concerning what to include and how to include it in the letter. When asked questions, project teachers answered by sending the students back to the format (Transcript Letter Day #2 3-16, line 122-123). Owen and Clay also used the letter handout to guide students in formatting issues dealing with length, spacing, and address specifics.

Project teachers support students in developing their own opinions. The project teachers encouraged students to think about the various issues involved in their proposed solutions. Not only did the letter require them to select a solution, but it also required them to explain that solution. The students and projects teachers talked about many different proposed situations such as, but not limited to, minimum wage, childhood poverty, and early education. For example, Owen talked with one student about her solution to create a debit card system. This system would offer individuals a debit card with funds to purchase necessary items. Owen talked with the girl for several minutes, asked questions about feasibility and transactions, and then kept talking to her as he walked away to help another student (Transcript Day #2 3/16, line 150-155). After several minutes, he returned and read her letter aloud, "(reading letter) 'they can check on what this money can be spent on. They

can use this money for housing or for other family causes. I think this is the best solution for families who are in need of money. It gives families more support and it also gives families something to bounce back on. It even gives families a chance to get back on their feet.’ Nice!” (line, 167-172). Teachers asked students questions and offered suggestions to help them develop their own thinking around the solution.

Project teachers helped students connect individual perspectives to research support.

Throughout the three days, both Owen and Clay asked students to consult the handout, reflect on the project work, and then use search engines on computers to find research support for their opinions. After sitting with and talking to one student about poverty in their state, Owen said, “OK let me look at my computer, so I can help. We’ll do some quick little research and find some data about it in our state right now, Okay?” (Transcript Letter Day #2 3-16, line 42-44) Owen often used words like “quick,” “little,” and “easy” when talking with the students about their writing. In another instance, after having a conversation about what childhood education means for the homeless, Clay instructed one male student, “So, why don’t you go get a laptop and finish this up you’re really close” (Transcript Letter Day #3 3-17, line 61-82).

Owen and Clay also talked with students about formatting their research within the format of the letter. This involved discussions around, first, the connections between students’ perspective and research, and, second, how to make the research fit into the letter format given by the teachers. Owen explained to one female student she needed to cite a resource differently, “because they’re not going to be able to like check that out,” he said, “You could just say according to research like in a CNN article... Awesome” (Transcript Letter Day #2 3-16, line 173-178.). Clay said to a male student as he pointed from the

student's letter to the format letter, "So reference can be. I think you can collect your organization spotlight and then just put it where the data is. I think that's good enough, man" (Transcript Letter Day #2 3/19, line 15-25). The teachers consistently took students back to the letter format and used that to guide their comments on how to use the research in the letter.

Project Teachers Supported Students' Sentence Construction. The fourth type of dialogue I observed from teachers was conversation focused on helping students with their sentences in two ways. The first focused on students building their initial draft of their letters one sentence at a time. When working with one student on the second day of letter writing, Owen said, "So introduce yourself as a Southwest High School student (long pause). Boom! You already have your first sentence! (Reads handout to student) 'State your beliefs about whether you believe there is problem about child poverty or homelessness in our state' I believe (points to student's paper and student writes. Owen then waits for the student to write and then verbally say the rest of the sentence) Done, second sentence! Now you do a little research. You say this is evidence" (Transcript Letter Day #2 3/16. Line 87-92). Project teachers first read the formatting handout Owen went over with the entire class and then helped the students build their letters one sentence at a time.

The second way teachers used sentences with the students was with issues of sentence clarity when the students were communicating their ideas, using research, and introducing themselves. These conversations happened after students had their initial drafts either written by hand or printed out from typing it on a school laptop. Teachers read the letters and then commented on how the students used sentence clarity to fulfill the assignment's requirements. They often used correction and encouragement to communicate the error and

then supported the student in reworking the sentence. After reading the portion of one student's letter explaining how his proposal would affect a "decrease in financial spending," Clay commented, "So you're going to have to rewrite this last sentence here. So we need to rewrite that. I know what you're saying, I can rewrite it for you, but I know you are capable of doing it" (Transcript Letter Day #2 3/16, 346-351). Clay read one student's letter and then said

I'd say, 'I believe we would get similar results.' It could be. Yeah. You're going out on a limb and saying, 'I'm certain this exact thing is going to happen.' But 'I believe that we will get similar results' obviously shows where you stand very clearly, and you're not guaranteeing something. You're saying like it works there, why can't it work here. That's killer though. Phenomenal. (Transcript Letter Day #2 3/16, 354-359).

Clay talked with another student and used the issue of sentence clarity to help him understand how to transition the argument from the class setting and into the setting developed by a letter conversing with an audience who has not been a part of the project. Clay read the letter aloud, "My solution I agree with" Let's talk about that. There's a little problem with that. "My solution I agree with" versus one solution." Clay goes on to explain, "In class it's which solution his solution this or that solution. But in the letter it's "a solution I agree with" (Transcript Letter Day #3 3/17, line 20-24). Owen and Clay's comments were often a mixture of feedback, questions, and encouragement as to how the student could resolve the issue.

Conclusion. Because literacy curriculum implemented by teachers is filled with various messages and certain tasks concerning what it means to be literate and this in turn

shapes “students beliefs about what counts as academic learning, as well as their capacities to do rigorous discipline-based work” I found it necessary to ask a research question concerning how project teachers planned and then conducted instruction with students (Schoenbach, et. al., 1999). When it came to planning these three different writing activities, Owen and Clay worked collaboratively, shared ideas, and developed consensus. Each writing activity evolved through the collaboration process, and—as the teachers and Dr. Svihla discussed the activity—they each conceptualized the activity differently and sought to explain their conceptualizations to the others. These conceptualizations affected how the writing activity was ultimately delivered and used during the project.

The notebook began as a practical suggestion for keeping student work together. The teachers returned to discussing the notebook’s role when they considered what would go into the notebook. Dr. Svihla suggested the notebooks be positioned as a resource much like the notebooks she perceived engineers as using. Owen and Clay then explained they saw the notebook as a practical means to keep student work in one location and be a teaching tool of organization and responsibility. The Fictional Profile became an activity intended to bring the students into the project personally by creating a profile for a needs assessment instead of receiving a profile for a needs assessment. This writing was positioned as preparation for future structural design work. The Letter to a Representative was the result of Owen, Clay, and Dr. Svihla perceiving the students’ interests in issues around homelessness. Dr. Svihla and Owen intentionally planned a preparation document for the letter to create a space for students to reflect on the concepts presented to them and develop a research-based solution to present to an outside audience following a specific letter format.

As far as instruction, project teachers gave direct instruction by standing up and walking around the project space. For the notebooks, the teachers instructed students to only write in connection to the project work. They gave details concerning the specifics of the writing assignment to students as a whole and then spoke individually to students as a follow-up. For the Fictional Profile, students were given flexibility in choosing how to format the document and what person to use (first or third). For the Letter to the Representative, students were given a formula, and invited to select the solution they deemed most important or find another solution not covered in the class. Every writing activity was completed during the project time.

By considering the ways in which project teachers planned and implemented student writing, I find each writing activity was the result of multiple conversations from multiple perspectives concerning the writing's purpose, sequence, and relationship to the project. This perspective of student writing within the project reveals writing as an activity designed and explained by project teachers and then completed by students. Following instruction, project teachers walked around the project and had one-on-one writing conversations, giving students an opportunity to discuss their individual writing challenges and successes. Based on my observations, project teachers consistently tried to downplay the challenge of writing and simplify it (letting students choose to do a list or paragraph for the Fictional Profile and handing out and then holding students to a specific format for the letter). When I merge my personal experiences and this data, I see a picture of genuinely concerned project teachers who were trying to engage students in writing and felt concerned about how students would respond to the task. These caring educators appeared to be worried the students would feel overwhelmed or frustrated and not complete the writing activity. In response to this, Owen

and Clay presented writing as a quick and easy activity and something that needed to be done to get through the project. Writing was often positioned as a necessary school thing not an important component to the work of the project. During the most extensive writing activity, project teachers helped students on the sentence level by building the letter one sentence at a time on the text level by using the letter formula to guide student responses to work within an established discourse. This approach aligns with a more traditional approach to in-school writing instruction (Applebee & Langer, 2006).

Section Four: Student Writing Functions

Research sub-question and data used. My fourth question was *How did student writing function according to Applebee and Langer's defined functions (informational, without composition, personal, and imaginative) and each function's more specific subcategories?* I begin with the student notebooks to provide an overview of the entire project from this perspective. Then, I examine the student writing functions of the Fictional Profile and the Letter the Representative more closely.

Student notebooks. For some assignments, all of the students took up the assignment by using the same function while other assignments revealed students using various functions. Almost all of the writing was in response to a specific, organized activity designed and implemented by the two project teachers. I did not find much writing that appeared extemporaneous or spontaneous. Evan wrote "planning bruh" at the top of one page of his notebook. Jennifer occasionally wrote additional messages about relationships and love at the top of her pages, along the margins, and on the lineless inside panels of the front and back covers, and Felix drew pictures. There are just a few instances of students adding sketches to

their writing when the assignment asked for sketches, but not every student sketched when asked to sketch.

For each writing activity, students chose how many words and what type of format they wanted to use. They used both complete sentences and fragments. Students wrote on the lines and occasionally dated their entries. The use of dates was usually student specific. Certain students dated all of their entries, while others did not use dates at all. They rarely included their names because their names were on their notebooks. As far as the handwriting, three students wrote using cursive, two students wrote using a mixture of cursive and print, and all others wrote in print.

As already mentioned, each notebook was primarily used by individual students. The Fictional Profile writing assignment had a few instances of other students' comments. Absent from the notebooks is any grading from the teachers. Additionally, there are no markings or comments from the teachers. The Fictional Profile is the only instance of students exchanging and writing in one another's notebooks. Students' written answers were brief, often just a few words to create short phrases and express thoughts in response to a writing activity. Students primarily used the notebook to complete the writing activity required for the work during the project time. The collection of photographs I used for this case study did not have instances of students using the notebooks for extemporaneous purposes such as planning, sketching, developing ideas, or communicating with others. When the writing activity was completed, teachers either discussed with the entire class the ideas or content contained in the writing or used the writing activity to complete another activity involving more writing, various types of design work, or reflection of work completed (for example

students used a design process description handout to reflect on the project work and explain what activity in the project allowed them to complete a specific stage in the design process).

Writing functions and subcategories within the project. Of the total 411 photographs, I was able to identify 315 individual instances of student writing assignments. I labeled nine photographs “Miscellaneous” because I was unable to connect them to any assignments. Of the 315 coded assignments, I coded 121 as informational, 103 as without composition, 71 as personal, and 8 as imaginative. I included Table 4.2 from Chapter Three to remind readers each function, how it is defined, and the related subcategories within each function.

Table 4.2

Writing Functions and Subcategories from the National Study of Writing Instruction Multi-State Student Work Coding Manual 6-3-2009 (p. 6-7).

Function	Explanation	Subcategories
Informational	Written responses that focus on the sharing of information or opinions with others. This includes the wide variety of forms of expository writing, ranging from simple reports about specific events to highly abstract, theoretical arguments. It also includes writing where the attempt to persuade overrides all other purposes (as in advertisements or propaganda), and regulative writing (e.g. laws or school rules).	Note taking Record Report Summary Analysis Theory Persuade or regulate Other
Writing without composing (Mechanical uses of writing)	Written responses that do not require the writer to organize text segments of more than paragraph length. Such tasks range from multiple-choice and fill-in-the-blank exercises to extensive translations from one language to another (where the original text provides the overall organization, allowing the student to focus on sentence-level problems).	Multiple-choice exercises Fill-in-the-blank exercises Short answer exercises Transcription from written material (copying) or oral material (dictation) Translation Symbolic expression Other

Function	Explanation	Subcategories
Personal writing	Writing that is embedded within a context of shared, familiar concerns. The audience for such writing is usually the self or a very close friend; the function is to explore new ideas and experiences simply to sort them out, rather than to make a specific point. Gossip in spoken language illustrates the general category; in school writing, this use occurs mostly in journals or “learning logs” where new ideas are explored for the writer’s own benefit.	Journal or diary Notes or personal letters Other
Imaginative writing	Writing within any of the various literary genres.	Stories Poems Play scripts Others

From this perspective, the most commonly used writing function in the notebooks was informational, sharing information or opinions (e.g., note taking, record, report, summary, analysis, theory, persuade or regulate, and other). The second most used function was writing without composing, which involves short phrases not requiring original thought, composition of ideas, or organizing a text (e.g., multiple-choice exercises, fill-in-the-blank exercises, short answer exercises, transcription from written material (copying) or oral material (dictation), translation, symbolic expression, other). The third most used function is personal writing (e.g., journal or diary, notes or personal letters, and other). For this type of writing, the project teachers asked students to write personal opinions or experiences in response to a question. Finally, imaginative writing was used 18 times with the greatest concentration coming from the Fictional Profile and some of the written sections in the collaborative website development task. The imaginative function has subcategories likened to literary forms (stories, poems, play scripts, and other).

By taking a closer look at the categories within each main function, or subcategory, I found a more detailed picture of the ways in which students were writing in the project. For instance, personal writing was the third most used function. However, it is the function with the most responses because personal writing has only three subcategories (journal or diary; notes or personal letters, and other) versus writing without composition, which has seven and informational writing, which has eight. Figure 4.13 displays how I coded the 315 assignments into the more specific subcategories. The three subcategories I coded the most were the personal journal or diary at 25%, note taking at 13%, and the third most used subcategories were both fill-in-the-blank and report at 12% each. There are also several subcategories with no representation or 0%: theory, persuasive, translation, poem, play, and other.

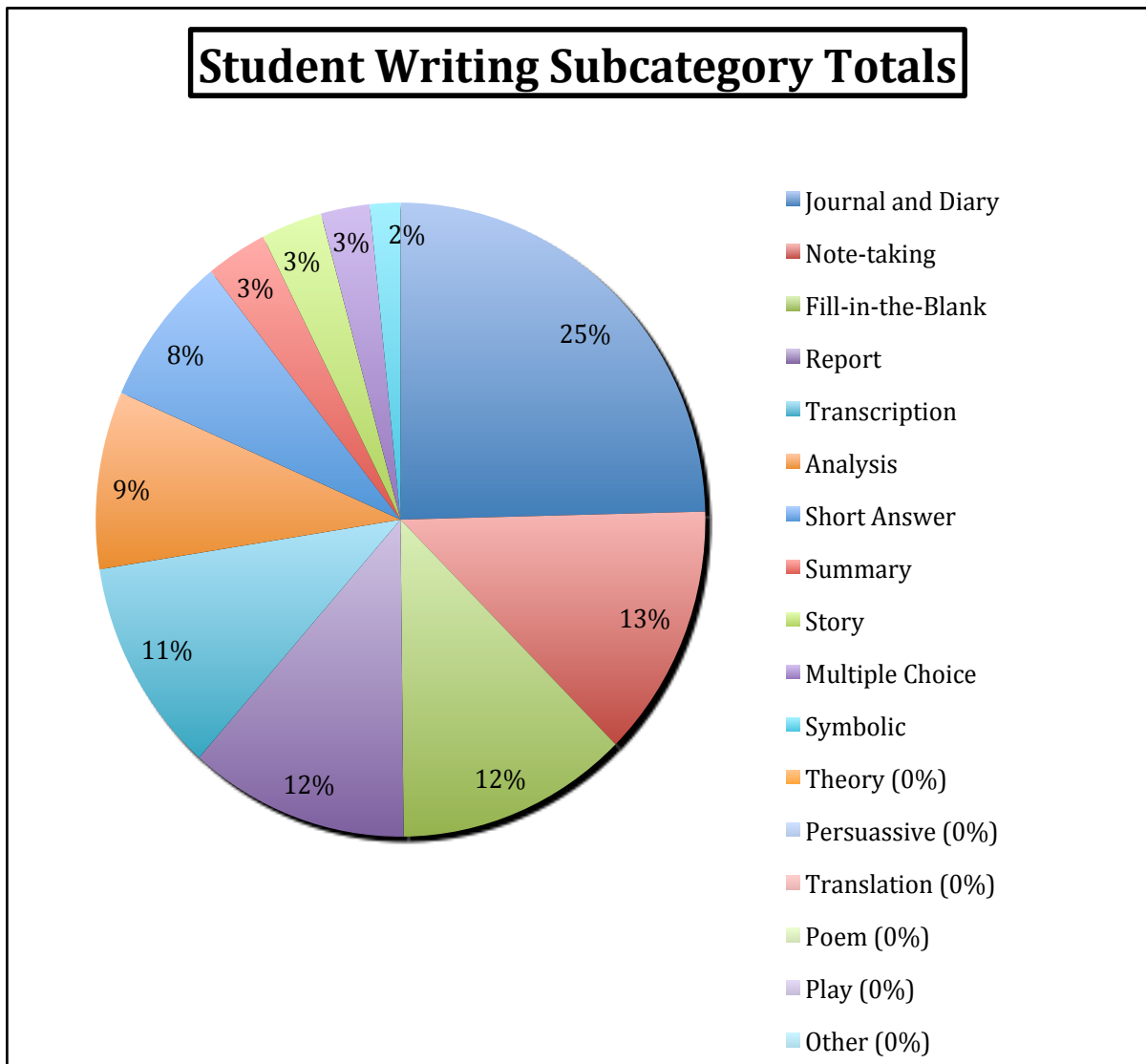


Figure 4.13. Student Writing Subcategories Totals. A summary of all subcategories for all written work coded from student notebooks.

Writing functions and word count by individual students. In Table 4.3, a pseudonym represents each student. The table is organized by individual students and shows the total assignments present from the notebook, the student's totals for each writing function, the total word count for each function, and the total word count present for the student notebook,

including the Letter to the Representative. The students are organized in the table from most to least assignments present from the notebook.

Table 4.3

Individual Student Writing Function and Word Count Totals.

Student Pseudonym	Total assignments present in the notebook	Totals of each writing function	Total word count of each function	Total word count present
Jen	41	Informational-19 Without composition-11 Personal- 9 Imaginative- 1	1638 250 434 138	2458
Armando	38	Informational-15 Without composition- 15 Personal- 5 Imaginative- 2	1586 555 348 116	2660
Joshua	33	Informational- 14 Without composition- 10 Personal- 9 Imaginative- 0	725 440 565 0	1730
Magdalena	32	Informational- 13 Without composition- 15 Personal- 2 Imaginative- 1	603 283 115 61	1062
Romeo	24	Informational- 9 Without composition- 6 Personal- 8 Imaginative- 0	531 108 309 0	948
Aaron	22	Informational- 5 Without composition- 6 Personal- 10 Imaginative- 0	96 41 328 0	465
Harry	21	Informational- 9 Without composition- 5 Personal- 5 Imaginative- 1	288 66 167 86	590
Felix	19	Informational- 7 Without composition- 5 Personal- 5 Imaginative- 1	1135 158 403 106	1802
Evan	17	Informational- 6	148	248

Student Pseudonym	Total assignments present in the notebook	Totals of each writing function	Total word count of each function	Total word count present
		Without composition- 8 Personal- 2 Imaginative- 0	73 27 0	
Ben	16	Informational- 4 Without composition- 7 Personal- 4 Imaginative- 0	164 118 207 0	489
Santiago	13	Informational- 3 Without composition- 5 Personal- 3 Imaginative- 1	356 36 100 40	532
Serena	13	Informational- 6 Without composition- 3 Personal- 3 Imaginative- 0	473 136 261 0	870
Jacob	9	Informational- 2 Without composition- 3 Personal- 2 Imaginative- 1	39 150 125 105	419
Ryan	6	Informational- 2 Without composition- 2 Personal- 2 Imaginative- 0	190 44 110 0	344
Lily	3	Informational-2 Without composition- 1 Personal- 0 Imaginative- 0	67 9 0 0	76
Angela	3	Informational- 3 Without composition- 0 Personal- 0 Imaginative- 0	231 0 0 0	231
Jordan	3	Informational- 1 Without composition- 0 Personal- 2 Imaginative- 0	21 0 186 0	207
Rose	1	Informational- 1 Without composition-0 Personal- 0 Imaginative- 0	67 0 0 0	67
Beth	1	Informational- 0	0	75

Student Pseudonym	Total assignments present in the notebook	Totals of each writing function	Total word count of each function	Total word count present
		Without composition- 1	75	
		Personal- 0	0	
		Imaginative- 0	0	

This table shows that each student used different functions throughout the project. While one general writing task was given to the entire group during the project time, students chose to respond in various ways. Jen had the most total assignments with 41 entries in her notebook and a total of 2,458 words written. Beth and Rose had the least with one entry using 75 and 67 words respectively. For each assignment students chose how many words and in what ways they wanted to respond.

Fictional profile: Students' writing functions. For the Fictional Profile, I collected from the student notebooks nine entries from nine different students. I conducted an initial coding of the Fictional Profile, and revisited my codes and total words counts after I spent extensive time with the audio records of the project teachers giving instruction to the students during the project time. The context of the writing assignment enabled me to see the connection between students first writing a list of the categories and then more extensive responses with additional lists or a paragraph. I consolidated 13 total photographs of student writing into 10 separately coded written responses. Table 9 presents a summary of the functions of student writing for this writing activity including the student's pseudonym, total word count for the assignment, the main function and subcategory used, and a brief description of the response.

Table 4.4

Summary of Student Writing Functions, Assignment Word Count, and Description of the Response Coded for the Fictional Profile Writing Activity. All students wrote imaginative stories.

Student pseudonym	Word count	Description of response
Armando	45	Listed categories with responses
Felix	106	Listed categories and listed categories with responses
Harry	86	Listed categories with responses
Joshua	153	Listed categories and Paragraph
Jen	136	Listed categories and listed categories with responses
Jacob	105	Paragraph
Magdalena	61	Categories with responses
Serena	102	Listed categories and listed categories with responses
Santiago	40	Listed categories with responses

Joshua wrote the most words, 153, and Santiago wrote the least words, 40. Serena, Jen, Felix, and Joshua all chose to list various categories and from those categories either write another list with their responses (Serena, Jen, and Felix) or a paragraph (Joshua). I coded all of the writing on this assignment as imaginative stories. Originally, I did not use the imaginative code for all of the stories because some students only listed information about an individual. But after several conversations with colleagues, I decided to code all of these imaginative story because while students were not writing complete sentences, they were still using the list to create a fictional person. I for me as result of the coding process and conversations with colleagues. I decided upon story as the subcategory because students were asked to make an imaginative construction of some experience. Here the imaginative construction was that of knowing or being a person who was homeless. The problem with this category is that it defines writing as that which was done for its own end (Applebee and

Langer), but in this situation, within the design context, it was positioned as the first step in students completing a needs assessment for the design activity. Four students had needs assessment responses written by other students at the bottom of their Fictional Profile. I did not include responses in the final word count even though Jacob chose to write his own needs assessment of his profile. I did not include the words written in the needs assessment because I understood the needs assessment within the context of the project as a separate writing activity completed by another student.

Letter to a Representative: Students' writing functions. For the Letter to a Representative, I had eight total student responses, some of which were rough drafts. I included this information as I coded. Table 4.4 presents a summary of the functions of student writing for this writing activity including the student's pseudonym, total word count for the assignment, the subcategory, and whether the version was a draft or final copy.

Table 4.5

Summary of Student Writing Subcategories, Including Total Word Count, and Draft Type.

All writing on this assignment was coded as informational writing.

Student Pseudonym	Total Word count	Subcategory	Draft Type
Armando	337	Analysis	Final draft
Felix	347	Analysis	Final draft
Harry	302	Analysis	Final draft
Jen	202	Analysis	Final draft
Magdalena	20	Record	Rough draft
Romeo	306	Analysis	Rough draft
Santiago	309	Analysis	Final draft
Serena	91	Analysis	Rough draft

Felix wrote the most words, 347, in his final draft. Magdalena had 20 words hand written on a sheet of paper appearing to be her first draft. I coded all of the letters with the Information main function. I coded all but one with analysis as the subcategory because students were explaining reasons for their ideas (Applebee & Langer). Magdalena used 20 words to, what appeared to me, express her initial thoughts, introducing herself and briefly talking about her thoughts on the issue of homelessness. Based on this, I coded her work with the record subcategory, I understood here writing about the world at that very moment, it seemed to be a play by play of her thoughts and she used present tense (Applebee & Langer). The two project teachers wrote on students' letters and asked them to make the corrections and then print the letter again. This was the only instance I found of the teachers writing on the student work.

Conclusion. Students chose to respond with various functions throughout the project. The most used function was informational and the least was imaginary. The second most used function was without composition, supporting researchers' earlier discoveries that schools within the United States, extensively used prescribed writing activities inviting students to fill in words or phrases in teacher generated handouts (Durst & Newell, 1989). Looking at subcategories allows for a more detailed look as did considering the functions of the two writing assignments. According to the subcategories, students wrote more Journal or Diary responses than anything else. When it came to the Fictional Profile, I categorized students' writing as imaginative stories. I categorized students' writing in the Letter to a Representative assignment as informational, and all but one (Magdalena) as analysis.

I asked this research sub-question because I wanted to present an understanding of how writing occurred across the project. Conducting the extensive coding analysis of

function was challenging and very insightful, providing me with more of a holistic perspective (Britton, et. al., 1975) of how students wrote throughout the project. I wanted to use my research to “trace lines of writing development from what writers actually do with language” (Durst & Newell, 1989, p.377). After conducting my analysis, I found my results helpful and interesting, but they also begged me to ask one more question. I wondered after all of this analysis and word counting what I might find if I read the student’s writing and tried to understand how they were individually using words to explore their project experiences and ideas. I had to ask this final question because I believe, like Britton (1972), “language is an *internal* operation,” and “the child must grapple with his own thoughts and feelings in situations where he must express something relatively complex (for him) to someone he truly wishes to convince or make understand” (p.33). I therefore asked my final research sub-question and immersed myself in the students’ words.

Section Five: Individual Student Writing

Research sub-question and data used. Upon completion of coding functions, I realized my understanding was broad and rather vague. I wanted to include a perspective of writing that honored the individual student’s thoughts and perspectives. The codes answered my question of student functions by offering me a summary of the way in which students chose to respond to the project teacher driven writing tasks. However, I wanted to develop my understandings further. I therefore asked the fifth and final sub-question of my data, How did students use writing to develop their thinking and make meaning of the ideas and activities in the project? I present the result of my analysis, first, of one student’s, Magdalena, notebook from start to finish, and second, of selected writing across several students on specific assignments.

Magdalena's notebook. The following description is my analysis of how one female student, Magdalena, used her notebook throughout the project. I chose Magdalena's notebook because it is one of the largest collections of student writing. I also remember a moment at the end of the project in which she brought her notebook to Owen and showed him that she had used every page. He celebrated with her and she said it was the first time in her life she had completely filled a notebook. I intentionally included more description around the Fictional Profile and the Letter to a Representative because these are the writing activities around which I conducted more extensive analysis throughout this report.

Magdalena completed 32 assignments. For these assignments, I coded her most used function as without composition and the least used as imaginative. As far as what subcategories I coded, she used transcription the most. There were 34 total photographs of Magdalena's work. She used large printed letters and circled her numbers to list questions or answers. She used dates more often than the other students and collected all handouts, crossword puzzles, and various other activities done throughout the project. She glued these handouts to the pages of her notebook, sometimes cutting them down to different sizes before gluing them and other times just gluing the entire document onto one page of the notebook. There are no additional drawings, personal notes, or instances of writing in her notebook outside of the activities she completed as part of the project. Every time she writes, it is in response to a teacher-generated handout, question, or project-focused activity. There is no presence of teacher writing on any of her written documents in the collection.

The first documented written response in her notebook is the six-word phrase "We are making the solution better." This was her response to the journal question posed by the project teachers "Are we making the situation better or worse?" According to my coding for

main and sub functions, this first entry was a personal function and journal or diary subcategory writing activity because she shared her personal feelings, “We are making this situation better.” This is one of Magdalena’s two documents with the lowest total word count.

On February 2, 2015, Magdalena wrote the document titled “Interview.” This document has the most words of any document with 140 total words. I coded this document as an informational report because she reports the details “about past experiences or observations” (Applebee & Langer, p. 22) She included information she observed from the interview without making generalizations (Applebee & Langer). Magdalena reported the information she learned from the individual she interviewed at the local homeless shelter. She used dashes at the beginning of each phrase, writing a total of 19 phrases. She reported about the individual’s personal life, experiences, and needs for a shelter.

As far as how she used the notebook throughout the entire project, Magdalena often transcribed questions posed by the teacher or a handout without providing her own answers. I thus coded most of her writing as transcription writing without composing. When the other students chose to write the question, they usually also provided an answer; however, Magdalena chose to write the teacher’s questions or the questions posed following an article and rarely provided a response. There were a few occasions when she began the writing activity but did not complete it.

Magdalena wrote the most words during Part One of the project. From January 20, 2015, to February 3, 2015, Magdalena wrote a total of 691 words. From February 28, 2015 to March 25, 2015 Magdalena wrote 163 words. She used her notebook to write more words

during the first part of the project. This first part was the part during which students designed their shelters. The second part was systemic solutions.

There are only two documents of Magdalena's that were not filed into a specific date. One of those documents was a photograph of the sticky notes written by her classmates about her initial model of a shelter for a homeless client. She collected these sticky notes and placed them on one page in her notebook. The other document is a sketch with three words "Cardboard Wood Wheels" listed in the upper left-hand corner. I was unable to connect this to any other document already coded and categorized with other writing activities.

From the perspective of the coding function, I coded her writing with the without composition function the most and more specifically its transcription subcategory. She had several written responses but many of them were merely writing word-for-word what was listed on a handout or the board. She rarely chose to include her responses to questions about her opinion or understanding of the information given to her. By taking time to read the documents Magdalena composed, I was able to add more details and explanations to the coded functions.

Fictional Profile: Analysis of student writing. I transcribed the student writing examples as shown in Tables 4.6, 4.7, and 4.8. I followed the transcription with an example photograph shown in Figure 4.14.

Table 4.6

Fictional Profiles Written by Jacob, Armando & Joshua in the First Week of the Project.

Jacob	Armando	Joshua
<p>My client in a Ex navy vet who got hurt when he got diployed and now that hes back in the U.S he is</p> <p>□truggling to make a living and as he is trying to find a job he cant because he is having health problems there for no money and no money means you cant pay bills when you cant pay your bills people take your stuff from and when they do that you have no where to live and when you I have a place to live you have to live an the streets and your cold, sad, and having health problems.</p> <p>What is his needs?</p> <p>A warm place to sleep where they could be safe without worrying about someone taking everything when your sleeping. You would also need food water and just everything you would need in a normal life style but your on the streets. You would need a cover And a cover to stay warm a jacket for the winter maybe a knife or something to protect you and your stuff maybe get a safe or something like that</p>	<p>Using Waste: Profile homeless Name? Bill Age? 32 Location? Yuma, Az Gender? Male Religion? Christian Race? Hispanic Physical Size? 5,8 Quantity? 3 Pets? N/A born? (city, state) health issues? Altheritis mental issues? Trauma occupation? Drug cause of homeless? Trauma belongings? Backpack shelters? Overpopulated</p>	<p>Fictional Profile</p> <p>My name is Jose Cota. I am a 97 year old male that lives in the street of (city name). I left My wife and kid in Mexico so I could come make money out here in the United Stats It I work out as well I I go to homless shelters cuz I have a pocket knife But when I Do Ill hid it somewere and come pick it up the next morning I have a little dog That has been following me so I Just Kept Her I cerry a backpack That I have a sleeping bag some pictures and some extra close.</p> <ol style="list-style-type: none"> 1 My clients needs something to hold all of his Family pictures 2 A Bed for his dog and one for him 3 A spot for his can's that he sail After every 3 month's 4 Somwhere he could use the restroom 5 A place outside were he could store his shoping cart

Table 4.7

Writing Prompts from the First Week of the Project Written by Jacob, Armando, and Joshua.

Date of writing prompt	Jacob	Armando	Joshua
1/26/15	<p>1 Is there a problem? Yes I believe there is a problem and its sad to see these people go through this but, some people I care.</p> <p>2What is the problem? The problem is some people struggle with just living and some people I care but it's a real problem and something needs to be done.</p> <p>3.What is the solution? Some solutions are a homeless shelter helping them try to find jobs so they can have another chance at having a normal life style</p>	<p>1/26/15</p> <p>1 Is there a problem? I do believe that there is a problem.</p> <p>2 What is the problem? The problem is that most of the homeless have a mental illness putting pedestrians in danger</p> <p>3 What is the solution? The solution is to help them with there problems so they wont turn to drugs as a solution.</p>	<p>1/26</p> <p>1. Is there a problem I Believe There is a Problem because people bont like getting Asked For money or Asking For Money</p> <p>2 What is the problem The problem is the drog's and the ecominy The people These day's</p> <p>3 What is the solution The solution is More people should come together and help the people in the street.</p>

Table 4.8

Writing Prompts from the Second Week of the Project Written by Jacob, Armando, and Joshua.

Date of writing prompts	Jacob	Armando	Joshua
2/3/15	<p>Short term would be giving someone some money or maybe help them with om food</p> <p>Long term Helping them learn home to make a house start a easy fire Help him clean up and find a job</p>	<p>2/3/15</p> <p>Would we making the situation worse or better? Why?</p> <p>I say we are making it better because we giving them shelter with great design for any weather.</p> <p>I assume what we are doing for the homeless is a short term solution. Because the material the home is made if is going to wear out.</p> <ul style="list-style-type: none"> • Most of the homeless here are drived by religion. They believe that God will show them they're calling. He buys cigarettes and sells them individually 	<p>Writing Prompt Responses from 2/03/15 1/03/15</p> <p>1 Would we making the situation worse or better why?</p> <p>We would be making it better cuz it would give Them a better chanse to get a Job plus It could help them get treated better around the streets.</p> <p>2 Would we be focusing on a <u>short</u> term solution instead of a long term solution</p> <p>It would probably be a short Term because They would go in and get out because they would find a Job and end up Moving. Out.</p>

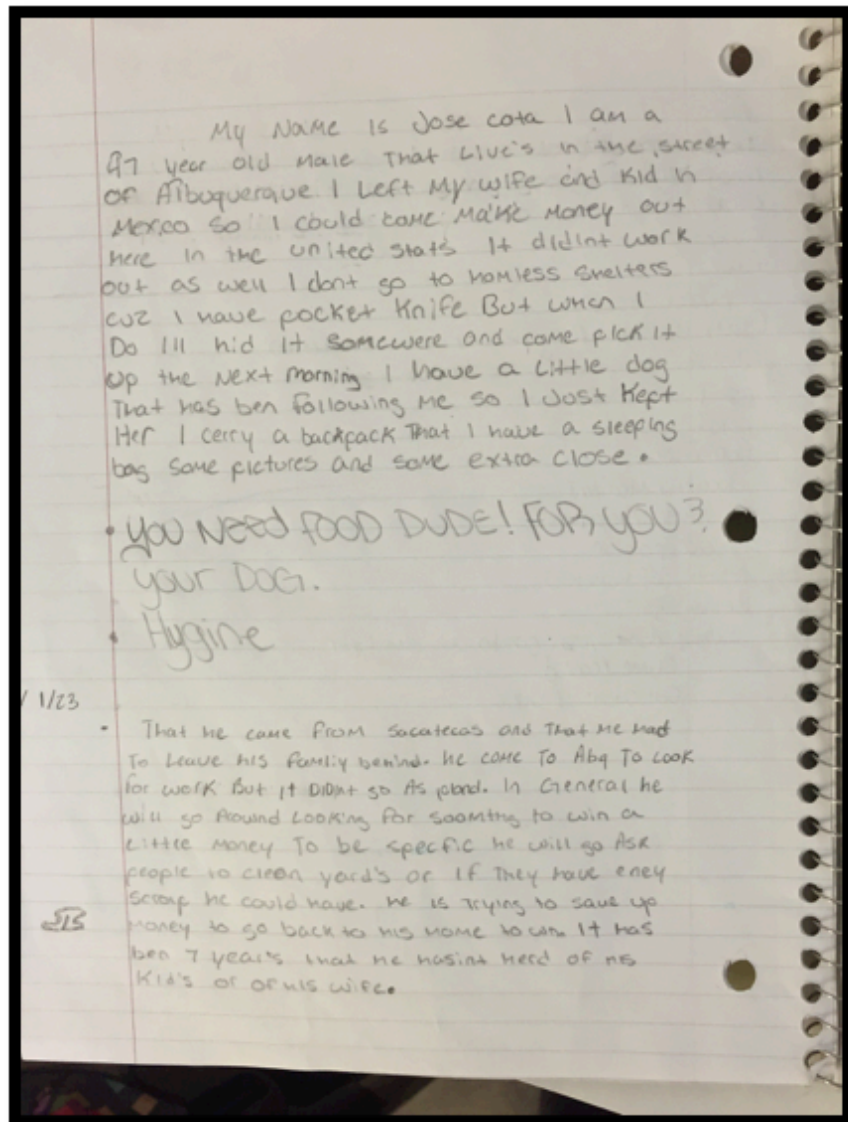


Figure 4.14. Photograph of Fictional Profile. Example photographs of student written responses from the Fictional Profile and written responses from January 26th and February 3rd.

Jacob, Armando, and Joshua each wrote a Fictional Profile. Project teachers positioned the Fictional Profile as a groundbreaker to get the students engaged in the project by thinking about client needs and designing for those needs. While the activity was positioned as way to get the students into the project, it offered students an interesting means

to consider life from the perspective of someone who was in need of shelter that could be made from discarded materials. While the focus of the writing activity was to support students in designing a structure by using discarded materials, when I looked closely at the writing, it appeared students were taking up their own thoughts and feelings around homelessness and exploring not just the needs but also the reason behind the needs of their fictional person.

For this section, I provide a summary of the profile, my analysis, and finally students' subsequent answers to questions project teachers posed on two other days during the first two weeks of the project. These prompts proved to be very interesting because students explore some of the ideas that appear in the Fictional Profile. Owen and Clay use two separate days of journal writing prompts. During the two days, students wrote interesting responses in their student notebooks. I addressed only the written responses from the three students whose Fictional Profiles I chose to analyze. Every student did not answer every question. The first day had two questions as follows: "Would we be making the situation better or worse and why?" and "Would we be focusing on a short-term solution or of a long term solution?" The second day had three questions as follows: "Is there a problem?", "What is the problem?", and "What is the solution?"

Fictional profile: Jacob. Jacob wrote 105 words in paragraph form for his Fictional Profile. He used print, flushed all of his text to the left margin and filled $\frac{3}{4}$ of the page with his paragraph. Below this fictitious profile is another paragraph he wrote addressing the needs of the person in the profile. For his profile, Jacob told the story of an "ex navy vet who got hurt when got deployed." He used both third and second person in his paragraph. His fictional person struggled to make a living and was unable to find a job. His life was a

succession of challenging circumstances. He was unable to find a job, which was affected by his health problems. He had no money meaning he could not “pay bills,” and, Jacob wrote, “When you can’t pay your bills people take your stuff from you.” When all of the ex navy vet’s possessions were taken he had “no where to live.” Jacob explained at the end of his paragraph that having “no where to live means “you live on the streets and your cold, sad, and having health problems.”

Jacob began the paragraph in third person by explaining the ex navy vet’s challenging circumstances. About half way through, he shifted to second person, changing the paragraph to an explanation directed at the reader. Jacob wrote, “he is having health problems there for no money and no money means you can’t pay bills...” From here on, Jacob directed his sentences towards “you,” bringing the reader into the story. In essence this ex navy vet is you and you are facing these overwhelming problems out of your control. All of this causes you-as-the ex navy vet to become cold and sad. No other student added an emotional dimension to their profile. Jacob seemed to be exploring his assumptions of how it feels to experience homelessness. He then decided to direct that exploration at the reader.

Jacob placed the navy vet as the victim of overwhelming problems. This profile is the only instance of a student writing about homelessness involving a succession of issues out of one’s control. For Jacob, homelessness was the final stage in a succession of challenges. Each challenge lead the ex navy vet to an increased state of vulnerability. His homelessness was the final stop in a succession of circumstances leaving him “cold, sad, and having health problems.”

The other students had a needs assessment, conducted by a peer, below their profile. This needs assessment asked students to list the needs of the person that a future shelter

design should address. Jacob did not trade his profile, as did some of the other students. Therefore, below his profile, there was another paragraph in which Jacob conducted his own needs assessment. Jacob offered an initial assessment comment to support the design of a structure for his ex navy vet by writing, “a warm place to sleep where they could be safe...” Here Jacob continued to explore how homelessness was connected to feeling out of control and vulnerable.

Following this idea, Jacob worked with issues of safety and protection. He explained that his client needed somewhere to sleep without worrying about being robbed while asleep, food and water, and “just everything you would need in a normal life.” Jacob seemed to be trying to re-establish the client into a certain lifestyle affording protection and safety. For him, designing a shelter was about solving the problems keeping the individual from experiencing a certain way of life and being safe. Jacob went back to the individual needs and wrote that a cover is needed to stay warm. He wrote and then crossed out “a jacket for the winter.” He concluded his needs assessment with writing maybe the person needed “a knife or something to protect you and your stuff maybe get a safe or something like that.”

Jacob gave his person a history by making him an ex navy vet, and then a story of struggle by explaining how he progressed through terrible circumstances. His profile and assessment provided an explanation of who the person was and explained his challenges and how he came to be homeless. Jacob seemed to be imagining how it might feel to be homeless and struggling with what he perceived as feelings of powerlessness.

In response to subsequent journal prompts asked by the project teachers, Jacob continued to explore the emotional issues around homelessness. When asked by the project teachers about the short and long term solution, Jacob expressed the short-term answer was

to give them money and help them with food, but the long term solution was helping them learn how to make their own home, start a fire, clean up, and get a job. Again for Jacob, the solution is about reinstating people who are homeless into a certain way of life.

To the question, “Is there a problem?” Jacob stated he thought there was a problem and “its sad to see these people go through this but, some people don’t care.” Jacob seemed to be struggling with empathy, both his own and the lack of it around him. Jacob expounded further on his ideas by answering the “What is the problem?” question posed by project teachers. He wrote, “The problem is some people struggle with just living and some people don’t care but it’s a real problem and something needs to be done.” For Jacob, the problem is in people’s response. He seemed to have kept the concept from his profile of homelessness being a situation involving sad feelings and the need for someone to do something. The problem is not that people are homeless but that people don’t care about homelessness and something must be done about that. Jacob seemed to be connecting with the project by exploring issues of emotional responses around homelessness and the lack of concern by others.

The concept of a way of life surfaced again in Jacob’s response to another question posed by project teachers, “What is the solution?” Jacob explained the solution was a homeless shelter or helping people who were homeless find jobs “so they can have another chance at having a normal life style.” Jacob wrote that providing shelter and work were ways to get people back to having something he sees as a normal lifestyle. Jacob’s writing suggested a particular way of life is sought by everyone and was the solution to the problem of homelessness.

At this stage in the project, it appeared Jacob used writing to explore the emotions, experiences, and lifestyle needs around homelessness. The act of writing the profile was intended by the project teachers to engage Jacob in thinking through the design based on the needs of a person who is homeless. For Jacob, part of that journey was dealing with the feelings and circumstances around being homeless. Jacob used the narrative of an ex navy vet who succumbed to loss resulting in homelessness to express the sadness and lack of concern around the often uncontrollable issues resulting in homelessness. The questions posed by the project teachers invited Jacob to express further frustrations concerning the lack of concern around the issue. For Jacob, this sadness can be addressed by providing opportunities for people to learn how to build a fire, self-care, and get a job.

Fictional profile: Armando. Armando wrote 50 words in a list format to describe his fictional person. He wrote in print, listing the various categories on the left side of the left margin line. He supplied answers on the right side of the same left margin line. His writing covered about $\frac{3}{4}$ of the page. He wrote in third person and did not supply answers for every category listed. Below this list are four statements from a peer commenting on Bill's needs. His Fictional Profile was about a 32-year-old man living in Yuma, Arizona, named Bill. Bill was a Hispanic, Christian Male with arthritis and was homeless because of "trauma." Armando listed "trauma" as his mental issues and "Drug" as his occupation. He included that his only belongings were a backpack. The final entry is "shelters? Overpopulated" possibly meaning that Bill faced an issue of overpopulated shelters.

For Armando, mental illness and drugs are a salient issue. In response to the journal-writing prompt, "Is there a problem?" Armando wrote he believed there was a problem. He responded to, "What is the problem?" by writing, "The problem is that most of the homeless

have a mental illness putting pedestrians in danger.” For Armando, the problem was the mental illness of people who are homeless. “The solution,” he wrote, “is to help them with their problems so they won’t turn to drugs as a solution.” Armando included mental illness and drugs in his profile and then further explored those issues with his responses to writing prompts. Armando engaged the project as a solution to help those who are mentally ill and dependent on drugs. Armando goes on to explain Bill, his client, will need a shelter close to the river, gym shorts to keep cool, and a rope to “tie on the top of his cart to keep his belongings secure.” Armando is thinking through Bill’s needs and trying to offer solutions to his basic human needs of water, comfort, and safety. This is the only instance when Armando used narrative language, thus humanizing Bill as someone who will be thirsty and need water from the river and shorts to keep cool.

Armando explained that the project work was making the situation better because the students “are giving them shelter with great design for any weather.” Here, Armando connects his response to the idea of design work. He explains the shelter is able to withstand weather elements, a design problem, and its ability to do so makes it a viable solution. He then wrote, “What we are doing for the homeless is a short term solution. Because the material the home is made of is going to wear out.” Unlike Jacob, writing about needs of people who are homeless to transition to a better lifestyle through shelter, self-care, and work, Armando wrote about needs pertaining solely to the shelter. For Armando, writing was an opportunity to present a basic profile, explore a little of what it feels like to be homeless, and build connections back to the design work of the project. Armando explained throughout his writing that issues around homelessness were drug abuse and a long-term solution must address that issue. He also explained the shelter was a short-term solution but a helpful one.

Unlike Jacob's focus of getting the individual out of homelessness and into a certain lifestyle, Armando focused his ideas around the design of a shelter that provided a temporary solution. In Armando's writing, homelessness was not positioned as a terrible state of living requiring empathy and action from the community. Armando seemed to accept homelessness as a viable means of existence, but an existence riddled with problems around mental health, drug abuse, and potential danger to others.

Fictional profile: Joshua. Joshua wrote out the list of possible profile components and then wrote a first person paragraph using 103 words. He wrote using print and used about half of the page. Below his paragraph are statements from the peer who read his paragraph and conducted a needs assessment. Joshua wrote about Jose Cota, a 97-year-old man originally from Mexico where he left his wife and child. Jose came to American to make money in the United States, but it did not work out. "I don't go to homeless shelters cuz I have a pocket knife. But when I Do Ill hid it somewhere and come pick it up the next morning." With this explanation, Joshua is putting himself into Jose Cota's world. He is explaining his failures and creating a story to explore solutions that will help Jose survive. Joshua then adds, "I have a little dog that has been following me so I just kept her" This is the only instance in the profiles I reviewed where another character enters the story. The dog remains unnamed, but she is kept as a need to be addressed by the designer in Joshua's later writings. Jose ends his narrative with, "I carry a backpack That I have a sleeping bag some pictures and some extra close." Joshua explores the personhood of Jose by including a collection of his belongings. He provides backstory, presents concerns, and includes specific information conveyed by Jose's belongings. This specific information implies Joshua is

exploring how the personal needs of the individual will possibly factor in to the design needs of the shelter.

Joshua uses his journal responses to explore additional issues around homelessness. In response to the question, “Is there a problem?” He explains people don’t like being asked for money and people don’t like asking for money. Here Joshua associates people who are homeless with people who ask for money and implies problems are caused by people asking for money. When asked, “What is the problem?” He explains the problem “is the drug’s and the economy the people these day’s.” Here, Joshua widens his scope, asserting there are bigger issues such as drug abuse and the economy. When asked by the project teachers, “What is the solution?” Joshua wrote, “The solution is more people should come together and help the people in the street.” Joshua’s solution is centered on actions taken by the community. Like Jacob, Joshua is processing the homelessness in relationship to the community around it. Like Armando, Joshua is also trying to makes sense of the issues of homelessness within larger contexts like drug abuse and the economy.

To explain his answer to the question concerning if the students were making the situation better or worse Joshua wrote, “We would be making it better cuz it would give them a better chanse to get a job plus it could help them get treated better around the streets.” For Joshua, their design work could help people get out of homelessness by helping them both get a job and be better treated by others. He seemed to focus on how solutions affected the perceptions of others. Joshua then explained it was a short-term solution because “they would go and get out because they would find a job and end up moving out.” For Joshua, the solution of building a shelter was a short term one. It provided a place to stay, but the place was only necessary until the person moved out. Joshua seemed to be using writing at this

stage in the project to both understand the personhood of those who are homeless and locate that understanding within the larger issues of money, drugs, the economy, and the response of the public.

All three of these students understood their design work as a temporary solution to homelessness. However, they did not all position the temporary nature of the solution in the same way. While Armando explained the solution was temporary because they were using discarded materials, Jacob and Joshua positioned the shelter design work as a short-term solution in light of the ultimate goal of getting a person to a perceived better state. According to these students, the *Using Waste* project would help an individual with temporary housing, but it would not address the larger need assumed by both Jacob and Josh that individuals needed to be moved out of homeless and into a job and the social status a job provides.

Fictional profile: Summary of analysis. Through the imaginative function and story categories along with personal functions and journal or diary subcategories writing functions, we find three students exploring very different facets of homelessness. Initially the Fictional Profile was positioned as a writing activity to prepare students to understand the needs of their clients. However, upon closer consideration, this writing activity proved to be an interesting exercise allowing students an opportunity to explore their own understandings, biases, assumptions, and connections to the ideas around homelessness and how those ideas connected to the design work. Writing imaginative stories allowed students to take on the identity of another person and think through needs from the perspective of the client. The journal questions then allowed them to step out of that perspective and consider the client and the larger issues involved in the situations around homelessness. In this instance, a writing task created to support design work also provided opportunities for students to make

personal connections, explore ideas, and begin their initial understanding concerning how their design work connected to the issues around homelessness.

Letter to a Representative: Analysis of student writing. I transcribed the student writing examples as shown in *Table 4.9, 4.10, and 4.11.*

Table 4.9

Transcript of Santiago's Letter to a Representative

March 13, 2015

Santiago
Southwest High School
XXXX Address
City, State zip code

Rep. Name
XXXX Address
City, State zip code

Dear Rep. Name

I am a student at Southwest High School in (city), and my family and I live in your district. Currently my class is studying homelessness and its causes and solutions. I am writing to invite you to my class exhibitions, where will have a chance to talk about our project and some of the ideas the students have for helping the homeless in our state.

The potential solution I would like to suggest is the creation of government authorized "tent cities" where homeless people can set up a camp and safe environment where there is no drug use or other criminal activity. Here in (city), according to the (city) Journal, officials have repeatedly removed homeless people from their illegal camps because they were trespassing. ("Name of Article" (city) Journal, (date).) Meanwhile, the City of (another city in the same state) has created an authorized homeless camp. According to new reports, ("Name of Article," (city) Journal, (date)() the program has been a success. The (another city in the same state) "tent city" has been free of crime and drug use and has not cause disturbances for the neighbors. They city also provides portable toilets and garbage collection. The city also provides social workers to help them transition from homelessness.

I want to invite you to our exhibitions, where we can have an opportunity to share our opinions and ideas about homelessness in (state name). Those exhibitions will take place at Southwest High School in (date and time). A formal invitation and flyer is enclosed.

Sincerely,

Student, Southwest High School

Table 4.10

Transcript of Harry's Letter to a Representative

3/16/15

Harry
Southwest high School
(XXXX Address)
(City, State zip code)

Rep. (Name)
(XXXX Address)
(City, State zip code)

Dear Representative (Name),

Hello, my name is Harry. I am a second year student at Southwest High School. I am taking a class here called Using Waste and we are learning about Homelessness and the causes for it. Recently we have been researching child poverty and possible solutions for it. There are a number of different things we can do to help, but the one solution I think would help the most would be raising the minimum wage.

I think raising the minimum wage would help the most because some of the kids facing child poverty live in a home where the provider's check goes completely to the house payment so some night they go without eating. The minimum wage has actually gone down since 1963 when it was equivalent to \$9.27; Now it's at \$8.50. I believe that we should raise the minimum wage to \$10.10 and \$7.07 for tipped workers because it would help lower class parents helps get their kids the things they need to learn and be raised more comfortably. It could also help reduce child poverty by 4%, which would lift 400,000 kids out of poverty. It would help everyone out a lot because the kids will have resources to live comfortably and the parents will be able to provide more for their kids. Thank you for taking time out of your busy schedule to read my letter.

I also wanted to invite you to our exhibitions at Southwest High School on (date and time). I hope you can make is and I look forward to speaking with you, You can contact

me at (email address) or call me at (phone number)

Sincerely,

Harry

Table 4.11

Transcript of Felix's Letter to a Representative

March 17, 2015

Felix

Southwest high School

(XXXX Address)(City, State zip code)

Representative

(Name)

(XXXX Address)

(City, State zip code)

Representative (Name),

My name is Felix. I am a senior at Southwest High School. In our class we are looking into helping the homeless and looking for some type of solution or just something that helps out a little. Also we are looking into child poverty and finding out why our child poverty is at 29%. Senior poverty is at 13% and women in poverty is at a high of 23.1%. All of this affects us in every way possible even if it is not us going through it, someone we know is.

We were asked to look into finding a solution or something that might help at least a little and this what I came up with so far. I researched (website address) and found out that if we raise minimum wage to \$10.10 per hour it could **reduce** child poverty by **4 %**. That will bring the average person an extra \$4,618 per year. Some say that this might cause a problem giving more money to workers but I ask how? People are working to support their families and there children in these families and these children are our future. If children grow up in an environment seeing the hardship of getting by, making minim wage. They will most likely will turn to doing negative things such as stealing or selling drugs trying to make a little more money. That only adds to the 6,640 kids in the juvenile system today.

I would like to thank you for taking the time to read this I know you have a busy schedule and I would like to invite you to attend our exhibitions on (date and time). I would really appreciate it if you would come by and take a look at what we are working on and

what impact small changes can make. I thank you again for your time.

Sincerely,

During the project, students expressed interest and concern when the project teachers discussed child poverty in connection to homelessness. In response to student interest, the project teachers included a writing activity requiring students to find the government representative of their district, research a solution used in other places (several examples were provided and students were also given the option to develop their own solution not covered in the project), and explain the solution to the representative. Students were given a letter format to copy and were allowed to select any solution, even one not covered in the project. Project teachers worked with the students over the course of three days to draft and edit the letter. The following analysis is of the three letters I selected from the collection of letters I had in my case record. All of the letters followed the basic format handed out by Owen, although some students made minor additions and omissions. At the top left corner was the student name and school address. Below that was the name and address of the representative to whom the letter was addressed. Below that was the salutation followed by three paragraphs. The first paragraph was an introduction, the second an explanation of the student's proposed solution, and the third was an invitation for the recipient to attend the end of project exhibition. The letters closed with a final salutation and the student's signature.

Letter to a Representative: Santiago. Santiago began his letter by explaining he was a student at Southwest and his family lived in the representative's district. He invited the representative to the school to "talk about our project and some of the ideas the students have for helping the homeless in our state." Santiago then wrote his largest paragraph explaining his idea that a tent city would be a good solution for the city to consider. He cited two

different articles from the local newspaper by following his statements with parenthetical citations listing the article, newspaper's name, and date. The first article was about the repeated removal of tent cities by city officials who deemed the tent cities illegal due to trespassing. Santiago then cited a second article from another newspaper explaining a successful tent city set up just a few hundred miles away in a different city. He explained this tent city "has been free of crime and drug use and has not cause disturbances for the neighbors." He went on to explain the city provided portable toilets, garbage collection, and social workers to "help them transition from homelessness." He then concluded the letter with another invitation to the school's exhibitions.

Santiago's suggestion is interesting because he began his explanation by quoting a newspaper, validating his information by using the newspaper's summary of the city's removal of the tent city. He positioned the problem and solution as an issue of community, with one community pushing back against another community. He transitioned to his proposed solution by writing "meanwhile." Interestingly, he set up his explanation as if these issues are co-occurring, with two cities responding in two different ways. Santiago used the two articles the class reviewed during their project time to support both his current understanding and his proposed solution.

For the solution, he explained what the city does for the people of the tent city. I find it interesting that he chose to explain the exemplar city's provision of toilets, garbage, and social workers. With his writing, Santiago tried to understand the problem from the reader's perspective and explain the practical steps required to make a successful tent city. His final sentence in the explanation paragraph hints at some persuasion, "The city also provides social workers to help them transition from homelessness." This final comment seems gently

persuasive. Without overtly stating it, Santiago is arguing this solution can help individuals in the tent city to transition out of homelessness. For Santiago this letter is about communicating a community-based approach to developing a solution.

Letter to a Representative: Felix. Felix introduced himself then explained, “In our class we are looking into helping the homeless and looking for some type of solution or just something helps a little.” Then throughout the letter, Felix used tentative language. At the beginning, Felix wrote that, as a class, they were looking for “some type of a solution or just something” that will help “a little.” He seemed hesitant to make grand statements. In his first paragraph, after introducing himself, Felix immediately goes into the poverty statistics of children, seniors, and women. His second paragraph, the one devoted to explaining his solution, reiterated his earlier statements, “We were asked to look into finding solutions or something that might help at least a little and this is what I came up with so far” showing us that throughout the letter, he chose language that could be read as indefinite or in-process. He then cited the web address of the CNN article in the body of the paragraph and explained his solution of raising minimum wage.

Felix took a conversational approach to his letter, crafting sentences that seemed to anticipate possible reader responses. He asserts that an increase in minimum wage would change child poverty, and then he includes, “Some say that this might cause a problem giving more money to workers but I ask how? People are working to support their families and there are children in these families and those children are our future.” Felix seems to be connecting increased minimum wage to an increased quality of life for children. He continued by adding an explanation focused on children. “If children grow up in an environment seeing the hardship of getting by, making minimum wage. They will most likely will turn to doing

negative things such as stealing or selling drugs trying to make a little more money.” Felix then added to his explanation that financial strain on families resulted in children feeling pressure to engage in negative behavior. His final sentence for this second paragraph was, “That only adds to the 6,640 kids in the juvenile system today.” To me, this final thought by Felix shows he is trying to numerically represent how his solution would keep the number from kids in juvenile detention from increasing.

Felix’s closing paragraph has a few components the others do not have. Like others, he invited the representative to the school, but unlike others he thanked the reader for taking time out of a busy schedule to read his letter and added another comment. He wrote, “I would really appreciate it if you would come by and take a look at what we are working on and what impact small changes can make. I thank you again for your time.” Felix’s final comment seems to show he is trying to understand that while the situation is filled with tensions, making small changes can make a difference. This is a shift from the first part of his letter. At the beginning of the letter Felix explained the class is looking for something “that helps out a little.” However, at the end, he rationalized even small adjustments can make a big difference. Felix seemed to see his solution as a small change serving as the beginning of a chain reaction that, if enacted, might affect issues reaching all of the way to the juvenile detention system. According to this letter, Felix anchored much of the problems around homelessness to finances and how the parents’ finances affected the family.

Letter to a Representative: Harry. Harry introduced himself at the beginning of the letter as a student at Southwest High School doing a project titled Using Waste. He wrote there are “a number of things we can do to help” but the solution he thinks “would help the

most would be raising minimum wage.” He then used his second paragraph to expound on what he means by raising minimum wage.

Harry explained how minimum wage has decreased since 1963 and should now increase to \$10.10 for hourly employees and \$7.07 for tipped employees. He used specific numbers, but he did not include citations. He explained the raise in minimum wage would “help lower class parents get their kids the things they need to learn and be raised more comfortably. It could also reduce child poverty by 4%, which will raise 400,000 kids out of poverty.” Harry’s explanation, like Felix’s, focused on the issue of finances around homelessness. He viewed the money issue as the primary problem that keeps parents in a state of lower class, thus connecting the money issue to a class issue. He argued an increase in minimum wage would help parents provide for their children’s learning and comfort, asserting finances can positively affect education and a sense of safety for children. The concept of raising children out of poverty also suggests Harry sees homelessness and poverty as a state of being less than and in need of being lifted up and out of a difficult state.

Harry ended his letter with an invitation to the school’s exhibitions, and then he added his email and phone number. “I hope you can make it” he wrote, “and I look forward to speaking with you, you can contact me at....” Harry invited the reader to respond in two ways. The reader can attend the school’s exhibition or contact Harry directly to discuss the information in the letter. This is a bold and interesting way to end the letter, suggesting this student felt confident in his proposed solution and interested in a conversation with the representative.

Letter to a Representative: Summary of analysis. While I categorized all of their letters as informational analysis, they each revealed different types of understandings and

ideas students were using to communicate with their representative. During the writing time, students explored their solutions and worked to make sense of their ideas, the format of the letter, and the appropriate use of words and sentence structures. Two of the three letter writers used citations to support their argument. This was a requirement for the writing activity outlined by teachers before students wrote. All of the letters followed the three-paragraph format given to students.

Based on my conversation with teachers and my time spent with the project, this letter was added by the project teachers in response to students engaging with the issue of child poverty, an issue presented by project teachers and then explored by activities in the project. Both Felix and Harry chose the solution of minimum wage and connected it to child poverty by explaining how raising minimum wage would help parents and therefore help children. For Felix and Harry, a financial solution seemed the best way to cause a chain reaction that would eventually reach children and help families get out of an impoverished state. For Santiago, a community-centered decision was the best way to address the issues of homelessness and eventually transition people out of being homeless.

All three letters proposed solutions to help individuals out of the state of homelessness, conceptualizing homelessness as an economic position in relationship to others. All assumed people who are homeless or from a lower class want to move out of their current state. None of the letters mentioned the design of shelters or the processes involved in understanding the needs of those who are homeless. They all anchored their explanation to the articles and information they reviewed during the second half of the project. The letter was positioned as an opportunity for students to engage an audience outside of school with their solutions. With the letter at the end of the project, there was no time left for the project

teachers to process responses students might have received from their representatives. As far as I know, no representatives attended the exhibition. This lack of response challenged the positioning of the letter writing activity as an activity with an authentic audience because students were not able to identify how successful they were at communicating their solutions and engaging an authentic audience.

Conclusion. When analyzing the Fictional Profile as well as the subsequent journal or writing prompts dealing with the concepts first introduced in the Fictional Profile, I was able to see students as individuals who were trying to make sense of their own perspectives and assumptions around individuals who are homeless. They used their writing to build relationships between their thoughts, feelings, and language (Britton, 1972). What was also very interesting to me was that the design of the shelter gave students an avenue to explore their ideas. As they connected their design decisions to their assumptions around the client, they explored their own thoughts and assumptions. This collection of writing revealed students trying to make sense of the emotional, medical, social, and economic issues involved with the situation.

The Letters to a Representative showed students reviewing information provided to them during the project and adjusting it to follow the formula given to them by the teachers. In the letters, students explored a community solution (making a tent city legal) and changes to minimum wage (the first step in a chain reaction that would affect child poverty, the juvenile system, and the class of an individual). In these examples, students used writing to take ownership of their learning and engage both their project teachers and district representatives, this student ownership is an important aspect of PBL (Hernandez-Ramos & De La Paz, 2009). By asking students to engage with a local district representative, the

project teachers involved a political dimension characteristic of multiliteracies pedagogy (Jewitt, 2008). As far as PBL principles, the letter utilized the principle of authenticity by connecting students with an authentic audience outside of the school and the principle of reflection by asking the students to reflect on the project work and choose a solution or find another one (Larmer & Mergendoller, 2015). The letter invited students to assume the role of “I” and “you” in relationship to the project work, putting students in the center of the learning (Moffett, 1966). I designed this sub-question to offer another perspective of student writing by presenting students’ words and their attempts to make meaning by exploring their ideas in connection to the projects’ content and processes.

Conclusion

In this chapter, I presented all five of my research sub-questions and my findings developed in response to those questions. Each collection of findings presents a different perspective of student writing during the *Using Waste* project. I provided an understanding of the project space and the scope of work to understand the physical setting as well as how student writing operated within the project. I included the perspectives of each project teacher from my independent interviews with them and their individual conversations with students, as well as their collaborative implementations during planning sessions and instruction. Finally, I considered student writing by analyzing student writing from two different perspectives. First I reported on how student writing functioned across the project and second how students wrote to make their own meaning within two specific assignments.

In the fifth and final chapter of this report, I build connections among the various findings, describe themes I noticed in the data by considering my findings from a literacy

practices approach, propose a way we might conceptualize literacy practices within PBL, define some of this study's limitations, and make suggestions for future studies.

Chapter Five

As a researcher and educator, this study challenged me to develop understandings of student writing from multiple perspectives. I found myself continually reaching for more data, desperate to answer the questions I had concerning what happened with students' writing within the *Using Waste* project. As I conducted research, each dataset brought more issues to the surface. I found questions materializing out of the function codes, in project teachers' words, and in my own field notes. I kept unearthing incredible amounts of important material that I struggled to translate into findings because of my own limitations and the limitations of my instruments. My intent with this case study was to consider student writing within one project during one trimester at a PBL school. To answer this overarching research question, I then asked five sub-questions of the various collections of data bound within my case study. These questions covered several different aspects of student writing such as the project's setting and scope, the perspective of the project teachers, the planning and instruction of the project teachers, the various functions (Applebee & Langer) of student writing, and the ways students used writing to explore their ideas and make sense of the project work. As I sought to answer my sub-question, I found student writing to be a very complex act with several dimensions spanning from the project to the project teachers to the student.

As I completed my findings, a shift took place. Initially, I began this study intent on displaying different perspectives of students writing and then showing connections between my literacy practices approach and the literacy practices of students at Southwest High School. However, as I listened to the project teachers and spent time reflecting on students'

words, I saw in the data reflections of individual people using writing activities to make sense of their work, the project, the learning, and the school's space and purpose.

After spending so much time at Southwest High School, I was challenged to make sense of the data by connecting it to itself, my literature review, and my developing understandings instead of merely to my own ideas and assumptions. As my relationships with the project teachers developed over the many hours I spent at the school, I sought to understand their personal perspectives and individual struggles with the student population and their school's systems and goals. These two project teachers were not working in a vacuum. They had to collaboratively develop curriculum that addressed the school's PBL focus, included Common Core State Standards, work with a student population who they felt were resistant to traditional school structures, develop opportunities for students to display mastery of a given benchmark, engage audiences outside of the school, and move students toward an exhibition at the end of the trimester. These two project teachers were thoughtful, caring educators. They sought to help students, support them in their learning, and engage them in personal ways. On many occasions, I observed students spending time with the teachers outside of the designated project time and discussing various issues around project work and their personal lives. These project teachers offered extensive encouragement and feedback and responded to challenges with flexibility and ingenuity on a consistent basis. I was very fortunate to work project teachers who cared so much for their students.

While at Southwest High School, I observed various types of reading and writing activities. In addition to student reading and writing within the projects, there was a reading program teachers administered with their assigned advisees during scheduled advisement time throughout the week. Each teacher had a collection of student advisees. With these

advisees, teachers would do various reading and writing activities as well as help students with their homework and course registration. For the sake of this case study, I chose to focus only on the writing activities in the *Using Waste* project. I include this to show the school's dedication to supporting each student in his or her educational journey through secondary schooling and also to be transparent that my study examined the student writing of one project during one trimester and that the writing within this project was not the sum total of students' interaction with reading and writing during the trimester.

My initial intention with this case study was to develop a research project that might provide a myriad of understandings around student writing in the PBL setting. I envisioned my case study as a window through which I could peer at student writing in a project and develop a bird's eye view by assimilating a collection of various understandings of the writing students did during the trimester. However, as I continued to ask questions, consider assumptions, and analyze the data, I found that there existed within my perspectives additional windows through which I observed multiple forces at play. Student writing became yet another window through which I looked and then was challenged to ask additional questions. I found myself using student writing as a window through which I consider the project, the project teacher, and the students. I looked through this window and observed a contested space, crowded with conflicting agendas and purposes. This window of student writing invited me to peer into the various layers beneath the surface of words spoken and written and consider how I might make sense of these multiple perspectives in light of my experiences and literature review.

In order to communicate the emerging themes I came to understand, as well as suggestions I have concerning ways to enrich student writing within the PBL setting, I

present this final chapter in two separate sections. For the first section, I summarize my findings in connection with my questions and explain the emerging themes I observed when I considered all of my findings from a literacy practices approach. The second section is an exploration of the ways in which our theoretical and pedagogical understandings of the literacy practices approach might support a conceptualization of student writing within PBL as important design work itself. I propose ways to affect positive change in order to enrich the students' experiences of the project by intentionally positioning students as *project authors*. By positioning students as project authors, we invite them to take the center stage of the project, occupy various identities, try out the subsequent discourses of those identities, and honor the students as important individual and collaborative members of a community forming around project work designed to honor each student as someone with something to say to someone else (Moffett, 1966). When students operate as project authors, they engage in authentic ways with the project, the project teachers, and fellow students. I then explore how we might use the immaterial work inherent in student writing to support the material work of the project by envisioning project teachers as adults who occupy an in-between space, keeping one foot in the immaterial work of the project and the other in the material work of the project. I then conclude with this study's limitations and suggestions for future research.

Research Questions

My overarching question was What happened with student writing during one trimester's project at a project-based learning school? In order to answer that question, I asked five more specific sub-questions:

1. In what ways did students write throughout the *Using Waste* project?

2. What were the two project teachers' expressed perspectives of the students and their writing within the school's PBL context?
3. How did the two project teachers plan and instruct students concerning writing activities during the project time?
4. How did student writing function according to Applebee and Langer's defined functions (informational, without composition, personal, and imaginative) and each function's more specific categories?
5. How did students use writing to build connections between ideas, activities, and their own perspectives within the *Using Waste* project?

Each of these sub-questions provided me with a different perspective of student writing. In order to bring together these different perspectives, I layered my findings, and asked myself to consider what salient themes I noticed. In other words, how might putting all of the data together allow me to develop emerging themes that connected the various sets of data?

Emerging Themes From A Literacy Practices Approach

Literacy practices approach. As I explained earlier, I subscribe to a rich sociocultural notion of literacy as primarily a communication intermingled with local and situated meanings (Christenbury et. al., 2009). As a social constructivist, I understand literacy as social artifacts constructed by humans (Schwandt, 1994) from a process of social exchange, historically situated as a collective generation of meaning among people (Au, 1998). Our current historically situated notion of literacy is that its purpose is to “develop multiple perspectives, translations of culture, negotiation of differences, and flexibility among speech agents” making students assume the role of translator or interpreter (Meyers, 1996, p.57). This study honors writing as an important form of literacy or adolescent

meaning making within the school setting and assumes adolescent students are capable of being translators and interpreters and that they each have something of value to share with others. From this perspective, student writing within the project is an act of communication intermingled with local and situated meanings and should be understood as it relates to a particular society or culture (Kintgen, Kroll, & Rose, 1988).

My personal understanding of literacy as a socially situated act of meaning making among people challenges me to conceptualize how my ideological understanding of literacy might be applied to understand student writing in a PBL setting. If reading and writing are always situated in participants' social practices, purposes, and contexts (Scribner and Cole, 1981; Lave and Wenger, 1991), then I am required to explore how the act of writing and its ideological nature allows adolescents a means to formulate the ways which they stand in relationship to the world (Christenbury et. al., 2009). Student writing therefore becomes a dynamic process in which students use various discourses to engage with the project work and create meaningful relationships to the project, the project teacher, fellow students, and the world beyond the project or outside the walls of the school. In this study, I defined discourse activity as the thinking, doing, and being of individuals within a particular social, cultural, or occupational group (Gee, 1990).

Also from my literacy practices perspective, I find theoretical support to use student writing to also consider the project teachers as they implement curriculum at this particular PBL school. These two project teachers have their own set of personal discourses as well as the discourses of the school and the PBL approach, all of which are vying for control of student writing and attempting to justifying its use according to various spoken and unspoken purposes. If reading and writing are always situated in participants' social practices,

purposes, and contexts (Lave & Wenger, 1991; Scribner & Cole, 1981), then I feel compelled to also consider the project teachers and their social practices, purposes, and contexts. As I reviewed my findings, I asked myself what I might understand about the project teachers by considering the ways in which they planned and implemented student writing within the project. I searched my findings to understand how I might use the act of student writing to better understand how the project teachers were standing in relationship to the world, or in this case to the students, the project, and the PBL approach.

Finally, from the literacy practices approach, I am asked to consider how student writing becomes a means for both project teachers and students to construct and re-construct relationships as an act of meaning making (Au, 1998). As I reviewed earlier, the literacy practices approach involves a semiotic approach to the creation of text. This semiotic approach asserts that as we create texts, in this case alphabetic texts, we are communicating meaning and at the same time building relationships among ideas and participants (Siegel, 2006). Student writing therefore can be understood as acts that are building relationships among participants and creating meaning tied to the content and—in this case—the process of completing project work. From this literacy practices perspective, I came to realize that student writing had a complex nature, and I found several emerging themes as follows: student writing can be understood as a contested space; student writing was designed and implemented by project teachers to support project activities; project teachers used student writing to bring relevance, student choice, and an authentic audience to combat student resistance; and student writing can be a way to understand the relationships being built within the project.

Understanding student writing as a contested space. When I considered student writing and then added to that consideration the ways project teachers instructed and planned writing, the perspectives of writing shared by the project teachers, and the context of the project and the school, several interesting issues emerged. Instead of seeing student writing as a project task or an activity embedded within the design process, I began to understand student writing as a contested site in which various expectations were vying for control to define writing's purpose and use (Moffett, 1979). From my literacy practices approach, I was challenged to widen my scope and consider the social exchanges and the various situational meanings (Lave & Wenger, 1991) and collective generation of meaning among people (Au, 1998). After listening to the project teachers and reflecting on my field notes, I took a close look at how Owen and Clay were operating within the project and the larger school setting. I perceived them as caught in several challenging situations requiring them to collaborate and build consensus with their colleagues, write new curriculum every trimester, work within the expectation of the state and PBL setting, and develop an engaging project. All of these issues were layered on top of one another and competed for control of the project. This struggle for control was further aggravated by the complexity of each agenda overlapping on one another. For me, this finding was muddled by complex cause and effect relationships, and I was greatly challenged as I attempted to parcel the issue out so I could better understand it.

In order to show some of the complexities and contentions, I chose to identify some of the factors at play and attribute them to a certain source or layer. By no means do I assert that these factors exist only in the specific layer in which I represented them. There are many ways to understand and explain these issues, further showing how challenging it is to make sense of these contentions within student writing. Due to the limitations of this report, I was

unable to sufficiently tease out all of these ideas and analyze the complexities inherent in the situations around student writing. However, I wanted to present the basic ideas of this emerging theme to highlight one way to view the various complications I observed around student writing. I did not want to shy away when faced with these challenging complexities but do what I could to make sense of them as far I understood them at this time.

The state. From the layer of the state, I found—based on my time spent at the school observing and talking with project teachers, administration, and staff—the benchmarks of the Common Core State Standards and the acquisition of reading and writing as a set of skills was emphasized and expected by the state as a means to validate the curriculum project teachers were planning. These benchmarks were not just about providing guiderails for courses in schools. The state also used them to assess the acquisition of specific skills. Assessment of these specific skills was being tracked by the state to chart student progress while attending the school. Additionally, the state emphasized that these skills were important because they would help students be more successful on their standardized tests. In this case, writing was used to chart development in benchmark areas and support students in test preparation to increase their scores on the standardized assessments. The state expected a certain increase in student scores as proof of the school’s success. Additionally, during the trimester in which I collected this data, the school was facing challenges from the state department because the state was concerned about how the students were performing in areas of reading and writing. I spent time reading and re-reading the Common Core State Standards, and I asked myself if the Common Core State Standards were developed based on the assumption that students would be learning in a traditional setting with courses separated

according to their disciplines. This caused me to wonder about how standards are used and what merit they have in tracking student progress.

The school. From the school setting, I observed project teacher collaboration, PBL curriculum, and a mastery approach to assessing student work all struggling to create purpose for student writing. This was evident when project teachers collaborated and planned their trimester. They each offered suggestions concerning student writing and explained their perspective of the writing's purpose in the project. During collaboration, project teachers had to constantly maneuver between expressing their ideas, asking questions, making sense of the curriculum design, completing the requirements of the school's performance assessment packet, and how the instruction would take place. As far as PBL curriculum, student writing in the *Using Waste* project took on a role to serve and support the project work. Student writing's purpose was to support the PBL focused goals of the project and help students use materials to create a final product. The mastery approach added yet another purpose to student writing. This approach positioned assessment of student writing on a continuum of mastery. However, the project teachers did not define the mastery goals. The benchmarks from the Common Core State Standards defined the mastery goals, further complicating the school's goals and the challenges of using the PBL approach within the states' expectations.

The project teachers. Project teachers faced enormous pressure to create new curriculum each trimester, co-teach with different teachers every trimester, manage students working within a large open learning space, consider state and school expectations, develop a clearly communicated performance assessment packet, plan and help students be successful at a public exhibition, and work with students who were disinterested and distrusting of the school environment. All of these issues, and many others, were constantly pushing and

pulling the project teachers in many different directions. As I spent time observing and listening to the project teachers, I heard them communicate very different understandings as they explained reading and writing within the project. In my observations, the reading and writing activities within the project revealed that teachers were struggling to make sense of their role and their expectations of the students in light of the project. With all of these agendas vying for control, project teachers were caught in a difficult space.

Upon reviewing my interview with Owen, I noticed yet another way in which the contested space of student writing affected the project teachers. Not only were there multiple agendas vying for control of student writing, but there were also individuals trying to make sense of their role in the learning through student writing. Owen explained he felt student resistance because students perceive the school as a “hands-on” environment, “I hear people complain, ‘I just want to build stuff I just want to do things with my hands...’” He then went on in his interview to explain how he tells the students he understands their frustration, but reading and writing go along with the building. “And it’s hard to sell them along that,” he explained. The rest of his explanation concerned students’ past experiences at other schools. Owen outlined how he felt the public system had failed many of their students in substantial ways. This failure caused students to come to Southwest behind in many areas and having a subsequent “distaste for reading and writing” (Transcript Owen Interview, line 5-16).

My initial readings of this passage in light of my research question resulted in my own interpretation that Owen was talking about his students coming from bad past experiences in school, and they chose Southwest High School because of the PBL approach. I assumed, because of these experiences, Southwest students struggled with, as Owen described, a “strong distaste for reading and writing.” But when I returned to this passage

later in my research and asked what I could learn about these project teachers through student writing, I saw project teachers trying to make sense of their role within the various possible purposes of student writing.

In response to the reading and writing activities Owen planned within the project, students expressed frustration and showed with their behavior they did not like writing and they did not understand how writing fit within the project. Owen was trapped in a difficult place with several contradicting ramifications and various challenges to the teacher as co-learner role expected of those working in the PBL setting (Bell, 2010). While there are many possible ways of explaining what Owen said with identity theory, I am not interested in taking to task the individual words and the structures they represent with this report. I am, however, interested in highlighting that my understandings of Owen's comment invited me to view student writing as a contested space for the project teachers as well.

In traditional schools, teachers are anchored to their disciplines. The English Language Arts teacher teaches students how to read and write because the teacher is often assumed as the expert, and is in charge of the course the students must pass in order to graduate. The math teacher teaches students how to solve problems in algebra and geometry because he or she is the trained expert, and is in charge of the course the students must pass in order to graduate. Teachers in traditional settings have institutional structures in place that support their identity with students and support their role in the students' learning. Students follow a schedule revolving around courses focused on subject areas. There is a bell signifying a time to start and end class. The teacher is often the only adult in the walled-in classroom, and he or she has various resources and modes to communicate the ideas of the course as well as his or her role as the course's expert. One of the most well known resources

for teachers in the school setting is the textbook, and teachers usually instruct students on when and how to use the textbook. Students often sit in desks and the desks usually all face the teacher for the practical purposes of teacher instruction and classroom management.

At Southwest High School there are no walls. Project spaces—with their partitions, tables, and chairs—are constructed and deconstructed throughout the day. Textbooks are absent and there are no bells to signify a schedule the whole school is to abide by. Traditional course credit is delineated based on which project teachers are in the project. Project teachers must constantly maneuver among the students, the project work and fellow collaborating project teachers. Project teachers are then charged to develop a highly engaging project according to PBL principles and break up their content to serve the project goals of the school and help students reach their mastery benchmarks along the way to an exhibition, in which interaction with those outside of the school and their subsequent feedback is highly valued.

When considering all of these factors, I saw student writing as a way project teachers were trying to establish their role and relationship to students, the content, and the project work. With the planning and implementation of various writing activities, these project teachers had to choose where and how to position themselves within the teacher and student relationship. According to the PBL approach they are supposed to be cognitive apprentices (Bell, 2010), but does that apprentice role mean they should emphasize the content, learning process, or the relationship they develop with the students? When project teachers are co-learners with the students, they might find it difficult to occupy the identity of content expert and the power that identity often brings along with it. The focus in PBL learning is not the

acquisition of content, so it could be challenging for project teachers to know how to incorporate the content they know and make it flexible as the project progresses over time.

Finally, as the project work developed, it seemed to be a real challenge for Owen and Clay to get students to engage in the work. The project tasks were supposed to come from a necessity created by the student needing to know or learn something to accomplish the project goals, but with each student that necessity is different according to what we know about the individual needs of each adolescent (Lesko, 2001). I began to wonder, how does the project teacher move from the role of supporter and resource provider to manager and project motivator?

For project teachers, student writing seemed to be a contested space in which they were challenged to negotiate their relationship with the students, content, and project work. Although there are multiple agendas and issues working around student writing, based on research, when students struggle with writing the struggle is viewed as the result of incompetency on the part of instruction or the students' inability to acquire certain skills (Beach, et. al., 2016). So, while we see several agendas vying for control, the classroom teachers are most often the ones held accountable and scrutinized for students' grades and performance in the course and on standardized tests. Based on my observation, Owen and Clay were put in a challenging position in relation to the project, students, school, and the state.

Student writing was designed and implemented by project teachers to support project activities. All of the projects at Southwest High School are planned and taught collaboratively. The student notebooks and Fictional Profiles were planned before the project started, and the Letter to the Representative was developed as the project progressed but still

involved collaborative planning. During planning, project teachers expressed different understandings of how these writing activities worked into the project and what purpose they served. Project teacher discussions were often focused on how the writing activity would be implemented, and these conversations revealed the various perspectives project teachers had concerning the role and purpose of the writing activity. All three of the writing activities for which I reviewed planning and instruction were developed, organized, and then carried out using direct instruction to the students. During planning, the project teachers worked together to develop the project and then decided how they would instruct the students in completing the tasks of the project. In implementation, project teachers conducted direct instruction and then held one-on-one meetings with students to explore their ideas and help them fulfill the requirements laid out.

The Fictional Profile and the Letter to the Representative were formatted in different ways. The Fictional Profile was written to get students involved and prepared for design work. Project teachers gave students the choice of how to format their Fictional Profiles and what content to include in those profiles. Students then passed these written profiles on to one another. Some students followed this instruction and others did not. Students wrote short phrases on one another's writing. For the Letter to the Representative, students were asked to first review the ideas of the project and then fill out a specific formula to construct a letter written to the student's district representative. Project teachers developed this writing activity to support students in engaging an authentic audience, thus using writing to connect with someone outside of the project. The focus of the letter seemed to be on fulfilling the requirements because project teachers consistently referred to the handout. They simplified

the task by making a format, describing the format, and then referring to it during one-on-one discussions with students.

As I worked with the photographs of student writing, I came to notice student writing in the notebooks was consistently completed to fulfill tasks designed and implemented by the project teachers. While there were instances of different writing activities used to communicate various issues around homelessness, students were not instructed to use writing in their notebooks to explore ideas, build connections among ideas, communicate with each other, or plan designs. There were no instances in the student notebooks of writing being used to develop students' individual or collaborative ideas. Also, there were no extemporaneous uses of writing to plan, construct different meanings, transfer information across modes and contexts, or maneuver concepts into different forms of information. This may have been due to the direct instruction by the project teachers that students only use the notebooks for project work. In this case, students appear to have understood project work as only specific writing tasks given by the teachers. Almost all of the writing in the student notebook was in response to Owen and Clay's direct instruction. Student writing was completed upon project teacher request and was not referred to in the data I reviewed as a viable means to develop ideas, make connections, or work through the challenges of the project. As I already stated, from my experiences in the field, project teachers seemed hesitant to use writing outside of small tasks because of their concern that students would disengage with the project if an extensive writing task was expected.

Project teachers used student writing to bring relevance, student choice, and an authentic audience to combat student resistance. Based on my observations, project teachers seemed to be very concerned about students' resistance. Both Clay and Owen

explained to me that they planned writing within the project work as the project developed, but they each communicated their own understanding and individual way of implementing writing within the PBL setting. They did not emphasize specific technicalities or define predetermined outcomes, showing they operated from the multiple perspectives approach (Aukerman, 2013), and Clay expressed questions and wonderings about the usefulness of certain discreet writing skills, showing he was approaching student literacy development from a conceptual and contextual perspective (Bazerman, 2016).

From my literacy practices perspective, acts of writing involve the process of interpretation and composition of various texts involving traditional notions of literacy as well as varied notions that honor the social, cultural, historical, and political factors of communication within education contexts. So, I tried to construct an understanding of how project teachers were positioning student writing within the context of the project. I understood that they both emphasized the need to make reading and writing relevant and work within the project from a process-centered approach (Applebee & Langer, 2006), but I wondered how that played out in the *Using Waste* project. Based on the data I reviewed, student writing was positioned as an activity that would bring relevancy, offer students choices, and provide a means to combat student resistance.

Relevant, for Owen and Clay, meant connecting the project work to students' personal interests and experiences. Owen and Clay facilitated this successfully because we find in the student writing functions totals that students did in fact respond in this way to the writing opportunities because Journal or Diary is the most used subcategory of writing throughout the project. Project teachers did provide students an opportunity to express their personal opinions in instances like the writing asking questions like requiring students to

consider short and long-term solutions. However, the project teachers did not then use the responses to add to the project's direction or developing ideas. There were occasional requests for students to share their responses, but project teachers did not plan or instruct students as to what role the writing played in the development of the whole project.

In addition to relevancy, during planning and instruction, project teachers intentionally designed activities for students to choose what they would write and how they would write it. Based on my observations, this approach came from the project teachers' sensitivity to students' past negative experiences in school and concern that the students would not engage because they did not like to write. When it came to writing, the project teachers simplified the tasks for the students and then gave direct instruction assuring the students that completing the task would be easy, quick to complete, and the students could complete the writing because they had freedom to make their own decisions on form and content. When given the specific format for the letter, Owen included in his instruction that the letter would be easy to complete because the students could simply and quickly insert their information in the given formula.

Owen and Clay created an assignment positioning the authentic audience as the reason students should complete the task and do it well. The authentic audience was used as incentive for students "to save face" as Clay put it in his interview, and do their best to avoid being embarrassed. The authentic audience was therefore brought in to engage students in the task instead of empowering students to assume a role of competency, engagement with an issue, and to interact with an outside member of the community on the grounds of the student feeling confident in his or her knowledge of the subject. An important component to an authentic audience is that they engage the student in an exchange of ideas connecting

students' words, ideas, and communication choices. The audience then provides feedback to challenge and encourage the students, helping them understand how others perceive their communication, learning experiences, and created products. Unfortunately, no student heard back from a representative and no known representative attended the exhibition and interacted with the students. This challenges the assertion that this was an effective authentic audience. Students did not receive any feedback outside of their project teachers' feedback, so they were not able to gauge how successful or unsuccessful they were in communicating their ideas. The lack of response challenges the truly authentic nature of the writing activity and begs us to consider how to use external audiences to effectively supports student learning.

Throughout the project, students had a limited audience for their writing. Project teachers did not respond to student writing other than the letter, students did not read their writing aloud to the either large or small groups, and students did not receive feedback from their district representatives. Students did present their work at their end of trimester exhibitions but this communication was primarily verbal and not written. Student writing was primarily planned and then implemented as an activity to be completed within the confines of the project and for primarily the student to read. From my literacy practices perspective, student writing is a social act and allows an opportunity for students to try out various identities and their discourses. Based on the writing activities I observed, students were primarily positioned as students with the project teacher as the primary audience to their writing.

While project teachers expressed a conceptual perspective to student writing and conceptual pedagogy to teaching student how to write, they primarily planned and then

implemented writing as the fulfillment of pre-determined tasks bound within the project. During the most extensive writing activity, project teachers helped students on the sentence level by building the letter one sentence at a time on the text level by using the letter formula to guide student responses to work within an established discourse. This approach aligns with a more traditional approach to in-school writing instruction (Applebee & Langer, 2006).

While Southwest High School is a non-traditional school, project teachers used more traditional approaches to instruction and one-on-one management of student writing. This caused me to question what kinds of resources project teachers need in order to bring the student-centered and conceptual approaches of PBL to the planning and instruction of student writing. Additionally, PBL values failure and reflection of failure in the process of project work. I found it interesting that this value of failure and reflection did not extend to student writing. Project teachers seemed to be using writing in various ways to combat resistance by simplifying writing activities and avoiding activities with writing that, in the project teachers' perspective, would negatively affect the students and further encourage their resistance.

Understanding student writing as relationship building. From the literacy practices approach, we use writing, as humans, to construct meaning (Schwandt, 1994) and meaning is constructed as we build relationships between various signs (Siegel, 2006). This relationship building happens as we engage in social processes involving various practices we use to make sense of our experiences and then communicate those experiences to others. This relationship building, in turn, situates us within social practices, purposes, and contexts (Scribner & Cole, 1981; Lave & Wenger, 1991). As we situate ourselves with these practices, we connect within a community of discourse (Gee, 1990). Moffett (1966) argues that, as educators, we must place students in the middle of the drama, and teachers must support the

theatrics as they unfold on the stage of our classrooms. To me, PBL seems to be a great opportunity with its student-centered approach to allow students to take center stage and use the curriculum to help students build various relationships and connections to the content and their peers as they journey through a project. As I state earlier, I wanted to use my research to “trace lines of writing development from what writers actually do with language” (Durst & Newell, 1989, p.377). Therefore, from my social constructivist approach, I sought to understand the kinds of relationships students were building with the project and thus add to my understanding of how discourses were developing within in project by consider students thinking, being, and doing (Gee, 1990) as expressed through writing.

For the *Using Waste* project, types of writing activities designed by the teachers included explanations of structures, writing peer feedback, completing crossword puzzles, responding to writing prompts, and comprehension questions following readings. Writing activities were often simple tasks pre-designed by project teachers and did not include a structured way for student writing to be reviewed and/or receive a written response from a peer or project teacher. By simple, I mean writing activities asked students to offer their opinions, supply short phrases or a few sentences to show understanding, or fill in the blanks on crossword puzzles or multiple-choice activities.

As students added to their notebooks, project teachers did not provide markings or feedback on the writing to show they reviewed it. They did not grade the writing, and peers did not read and provide commentary on the writing. Writing involved students following directions and placing words on the page in response to project teacher requests. However, this was the plan for the student notebooks, to be a place to collect all of students’ work from the project. In all fairness, the project teachers did not design the student notebooks to take a

prominent place in the project. Upon my own reflection, I see this as a missed opportunity. The act of writing was not used within the project as a viable resource for students. The student notebook offered an opportunity for student to document their ideas, develop connections, understandings, conceptions, and re-conceptions of knowledge and relationships throughout the project.

The project teachers did use student notebooks to help students make personal connections (personal writing prompts) and check for understandings of content (crossword puzzles, questions following articles, and notes). Project teachers asked students what they thought about or what experiences they had in connection to the project work and content. These types of writing activities offered a rather low risk opportunity for students to engage in the project by writing and then occasionally sharing their experiences and opinions. Asking for personal opinions or perspectives allowed students to engage the subject based on what they already knew or had experienced in their lives, thus meeting students where they were in their own experiences supporting them in contextualizing their own individual relationships to the project's content and work (Andrew & Smith, 2011). This contextualizing was intentionally positioned in the project to help students personally connect with the project. The project teachers first asked students to share their personal responses, then commented on how those experiences connected to the project work and content. This process was a way for the project teachers to bring their version of relevancy, connecting the project work to students' personal interests and experiences, to the project.

I considered the coded student writing functions and asked myself what I might understand about students building of relationships through these functions. I coded student responses according to various functions. For the notebook, I coded 19 student notebooks

with a total of 315 writing assignments. Based on my coding, students responded with the informational function 121 times, without composition function 103 times, personal function 71 times, and imaginary function eight times. According to these functions, students primarily built informational relationships to the project through writing. The second more used function was without composition, which means student were building relationships with short answers that checked for their understanding. I then turned to the students' sub-categories to see what else I might understand about their writing.

The most used subcategories were the personal journal or diary function at 25%, the note taking function at 13%, and the fill-in-the-blank and report function were both third at 12% each. These four most used categories offer the perspective that student writing was about explaining an experience or opinion, working with questions or information given by the teacher, or supplying specific answers to questions. Based on these student writing functions and sub-categories, students were primarily building personal and informational connections to the project. Based on my experience in the project, these relationships were being built within the student notebook as students completed activities for the project for themselves as the audience and occasionally for the project teacher.

After my analysis of student writing functions, I turned to my analysis of students' individual writing. I found students using the writing tasks to work through their ideas around homelessness in various ways. The act of creating a story brought about ideas students continued to grapple with in journal questions following the original Fictional Profile. With the personal and imaginative function, students chose to explore their ideas and assumptions around homelessness as well as the community's responsibility to others. Students used the process of designing structures in the first part of the project to explore

issues the fictional people faced concerning problems like safety and storage of personal belongings. Armando, for example, used both the Fictional Profile as well as the design of the shelter to explore his own ideas around the effectiveness of their proposed structural solutions. This revealed that the process of allowing students to design physical structures and then use writing to explore their ideas expressed in the structures offered an interesting example of the material and immaterial work of the project affecting one another. Student writing became a space in which students could connect the material activity of the project to the immaterial and internal activity of their developing thoughts. Within this project setting, some of the students were able to use the materials of the project to explore their ideas, create connection between their ideas and the design, and build relationships between ideas that were an intermingling of both thought and material.

With their writing, students explored their own thoughts and then tried to make meaning of their thoughts in response to questions project teachers posed. This format allowed students to explore these ideas and then connect those ideas to their design work. Although students were given a specifically formatted letter assignment, the letters varied in how the students expressed their solutions, idea connections, and researched-based explanations. By allowing the students to take on the first person or “I” position in the letter, the students were positioned as the originator of thought inhabiting a specific time and space, thus creating more of a direct and personal relationship with the project by removing the abstraction that often comes along with the third person pronoun (Moffett, 1966). Even within a given formula, students worked to make sense of their learning and develop their ideas in individual ways. These writing examples highlight how writing can affect distances,

bringing students closer to concepts and ideas as they use words to make connections and decrease abstractions.

The literacy practices approach assumes all students have something of worth to say because writing is an important wrestling with our internal language, and we use this wrestling to build relationships between our thoughts, feelings, and language (Britton, 1972). Even in short writing tasks that I perceived as simple or low risk, students chose to wrestle with their ideas and worked to build connections. This challenged my assumption that a simplified task planned by project teachers might keep students from developing rich relationships with the course content. After I took time to read the students' words, I was able to add rich details and understandings concerning the nature of the relationships students were building with the project. As I considered how students were making sense of their ideas and the project work, I was challenged to not make assumptions of the quality of thought based on the coded function. When I analyzed the individual student writing, I came to see the student writing functions as limited, and I found students building connections, exploring their ideas, and trying to make sense of their experiences through writing.

Exploring our notions of the literacy practices approach. On several occasions, I had to return to my research on literacy practices and seek additional understandings and definitions. I found it challenging to use the literacy practices approach as a lens to analyze an educational setting unlike the traditional setting I taught in many years ago. I wondered throughout this process, what kinds of assumptions are folded within a theory based on the context of the learning environment in which research is conducted and then used to build theoretical understandings.

Based on this study, we need clearer definitions of how to achieve effective reading and writing development in educational settings not structured around an English Language Arts course. The literacy practices approach in this study provided me with a means to make sense of student writing as it connected to the individual students, the project teachers, and the entire school, but it did not help me make sense of how these issues relate to the structures of English Language Arts. Most of my resources exploring the literacy practices approach were positioned as explanation and explorations to individuals familiar with the structures and skills of English Language Arts as a specific course with its own collection of specific concepts and skills. The challenge for me was figuring out where reading and writing truly fit within the literacy practices approach when various types of meaning making were taking place in the project setting. We need additional studies on literacy practices in PBL settings to see how we might renegotiate student's relationships to reading and writing as students create with materials and write in response to the act of creating physical products, negotiating the in-between space of communicating ideas across various contexts. We also need to better understand how the literacy practices approach supports effective reading and writing development when we have a learning environment that does not privilege reading and writing as the primary literacy or means of learning.

I believe, in order to support adolescents in becoming effective writing, we must move beyond a focus on the text's features (the handwriting, copying, and paraphrasing often assumed as the basic and necessary skills of English Language Arts (Moffett, 1979)) as well as the students' use of specific lock-step cognitive strategies and concentrate on how to position students as active authors manipulating various discourses within the context of the project (Bloome & Clark, 2006). Understanding writing as exploratory acts of

communication, meaning making, and even identity development creates a space for students to author their learning through the project and engage in experiences supporting rich literacy development incorporating the development of basic skills alongside the development of complex issues of how thoughts develop, are communicated, and even change over time (Moffett, 1979).

Students as project authors. I understand the PBL approach emphasizes the important process of students' construction of external products to translate learning into material representations. PBL brings material aspects into learning and engages students by allowing them to create products as they learn from creating physical manifestations of their internal processes. I do not want to devalue or minimize this important component of PBL. However, I do think PBL could benefit from positioning student writing as yet another material representation of student learning. Instead of relying on traditional notions of writing as copying or paraphrasing or creating a formal prescribed five-paragraph essay, PBL has an interesting opportunity to adopt current notions of literacy and position student writing as opportunities for students to be interpreters and translators. I think students would greatly benefit from being project authors because, in my conception of a project author, students maneuver back and forth between the material and the immaterial and see how both influence, support, and challenge the other. The student as project author is empowered to manipulate both the external nature of the project's materials and internal nature of project's ideas. The act of writing therefore becomes yet another way to materials the ideas and make meaning of the project experience.

After analyzing the data and developing understandings around the school, the project, and the student writing, I realized that the PBL approach offered, potentially, an

effective pedagogical orientation in which some of our current notions of adolescent literacy development might be enacted from a literacy practices approach. For me, the literacy practices approach provides a means to make sense of the data and consider applications around student writing within the PBL approach. Additionally, through my analysis, I found project teachers were challenged with implementing student writing activities from a conceptual approach.

I did not just want to find themes in my data, I wanted also to provide suggestions for how we might use a literacies practices approach to support student authoring within the PBL approach. I therefore suggest that project teachers intentionally use student writing to position students as project authors. As the project spans a considerable amount of time and offers students experiences during which they can take up, challenge, adjust, and apply their developing knowledge within various means and modes, I suggest we position students as the project authors and privilege their writing as the driving force behind a developing discourse that is being created and re-created as the project progresses. I use the title project author because I argue that the project needs to be the backdrop or stage supporting and empowering students with opportunities to create a lively evolving narrative of their work and experiences pertinent to the project goals and meaningful to the students as they actively question, discover, communicate, challenge, and adjust their learning as a result of raw experiences (Moffett, 1979) throughout the course of the project. I think students should be provided the role of project author and use their thinking and understandings to move the project forward and develop understandings of knowledge, discourses, and peers, and I believe student writing can have a powerful role in that authorship.

Project teachers and the student as project author. We know when it comes to literacy curriculum implemented by teachers that there are various messages communicated through words and certain tasks concerning what it means to be literate. In school, teachers (as the adult in the space) have a powerful role to initiate learners into what it means to be literate as they model learning and scaffold practices within the curriculum (Majors, Kim, and Ansori, 2009). These meanings are translated into messages that in turn shape “students’ beliefs about what counts as academic learning, as well as their capacities to do rigorous discipline-based work” (Schoenbach, Greenleaf, Cziko, & Hurwitz, 1999). Student learning is tied to their developing sense of self and their capacity to engage in work that connects learning to the various disciplines present in project work. Teachers are therefore shaping students’ knowledge and understanding, not just the content of a given discipline, but the ways of knowing, thinking, and being in the disciplines (Gee, 1996).

In PBL, teachers are positioned as the co-learner and resource provider in an active cognitive apprenticeship (Bell, 2010). Teachers strategically position various learning resources and experiences within the timeline of the project to increase student curiosity and generate momentum towards the goal of product creation. Students are encouraged to engage teachers as co-learners throughout the project’s various phases, and teachers are encouraged to focus on how students interact with their own learning processes, as well as the learning process of their peers. PBL removes the teacher from the center of the classroom and places students as active learners and co-creators of knowledge. Typically the project culminates in a student-created product that is revised and improved upon throughout the unit of study.

In PBL, we have the opportunity to allow student-centered communities to develop as teachers take on the role of facilitating and apprenticing (Bell, 2010). Instead of viewing

adolescents as lacking in their ability to behave, think, and produce work like an adult would, positioning the student as project author honors the provisional behavior of adolescents (Morgan, 1997) and creates a space for changes to occur as the project progresses. We can approach projects as a site for developing discourses and this allows adolescents to have some degree of agency within a larger collection of social practices (Marsh & Stolle, 2006). They explore this agency by interacting with the project work, developing their own perspectives, learning from and challenging others' perspectives, and changing their understandings. In PBL, students are asked to not just engage the project but also direct it. This allows the experiences of the students to be validated as real learning and important work that is collectively adding to the knowledge building of the entire project. When students are given the identity of project author, classrooms offer more open-ended and dialogical opportunities to explore ideas and processes unrestrained by an overpowering focus on specific technical skills, prescribed strategies, and predetermined outcomes (Aukerman, 2013).

Literacy curriculum implemented by teachers is filled with various messages and certain tasks concerning what it means to be literate and this in turn shapes "students beliefs about what counts as academic learning, as well as their capacities to do rigorous discipline-based work" (Schoenbach, Greenleaf, Cziko, & Hurwitz, 1999). We therefore must not oversimplify the writing involved in project work and thus deny students the opportunity to create meaningful work resulting from perseverance and sustained engagement. We must allow students the opportunity to work through challenging composition activities. When we position the project as the backdrop of the students' learning, we can focus on the ways in which they are thinking and making sense of their learning. The project activities become

opportunities to explore thoughts, assumptions, and developing ideas concerning the developing narrative of the project. We must develop resources that help project teachers support students in rich work connected to the disciplines outside of the school, and avoid using a project or principles of PBL to incentivize students to complete writing activities. Instead, when students are allowed to be the project author, school becomes a place where they have opportunities to write and securely interact with their peers and various audiences outside of the school because the project is allowing them the identity of being confident of what they know and curious about what they do not yet understand. Writing therefore becomes a means for students to develop confidence and work through these challenges as they engage with one another in dialogic ways and add to the developing narrative of the project.

While the project is important, we must not lose sight of the project teacher because the project teacher is showing students what it means to be literate by modeling learning, engaging students in the challenges of the project, actively valuing and evaluating students' contributions, and supporting their work in both independent and collaborative settings. Adults in the learning community initiate learners into what it means to be literate as they model learning (Majors, Kim, and Ansari, 2009). Project teachers must therefore support students as project authors by initiating them into what it means to be literate by using the work of the project.

Student writing positioned as challenging design work. I argue that PBL could benefit from positioning student writing as important design work in itself. This design perspective positions writing as a process instead of a product. Understanding writing as important design work “also highlights the multimodal nature of composition” (Leu et. al.,

2016). This approach recognizes that decisions around how the text is presented are just as important as what information is included in the text (George, 2002). When considering writing development within this perspective, student writers need ample time as well as intentional support for “making their own rhetorical decisions related to topic, genre, audience, and purpose,” and students develop the ability to understand multiple perspectives and various modes and contexts of communication (Beach, et. al., 2016, p. 89).

Writing as design work understands composition as a problem needing its own solving. Design connects to the sociocultural understanding of writing because it emphasizes the importance of repurposing and redesigning products with various materials and across multiple contexts. If we consider student writing as a social meaning-making act, we find excellent opportunities to utilize writing to accomplish the goals of PBL. Student writing creates a site for students to struggle with the project’s challenging problem or question and sustain inquiry (Larmer & Mergendoller, 2015). PBL embraces failure and uses reflection to help students process failures in light of their processes and goals. By positioning student writing as important design work, writing becomes another means to explore challenges and experience failures, helping students understand that successful writing involves time, multiple drafts and iterations, and admitting one has more to learn. PBL also offers an opportunity for writing to come to the aid of the student learner who can write his or her way through the project by exploring its meaning to his or her own life, the lives of classmates, and the lives of those outside of the school.

Composition as design focuses on intertextuality knowledge involving “borrowing, appropriating, juxtaposing, blending, remixing, and recontextualizing” various materials into different texts (Lewison & Heffernan, 2008, p. 457). Within the design context, writers

manipulate and maneuver ideas into various contexts using all sorts of materials, paying attention to the decisions made concerning how communication is formed and what materials are used to communicate the information. Just as design work relies heavily on the client's needs and desires, so composition as design understands the relationship between the writer and the reader as a management of how ideas, needs, and appropriate selection of communication affects how these issues interplay with one another.

A design perspective of student writing positions the students' work as an indispensable and important voice expressed by the project author. Students experience the work of the project and engage with information and ideas, and they then use writing to make sense of it in relationship to themselves, the project, and finally the bigger ideas and more nuanced concepts involved in the project. I now refer to Jewett's (2008) explanation of how design connects to writing. Jewett argues for an "immersion in an acquisition-rich environment," highlighting the importance of not merely focusing on writing tasks but considering the entire experience we create for students. In this environment, teachers engage students' starting point from a (1) situated practice focusing on the learner's experiences and the various designs available to them from their "life worlds" (p. 248). Metalanguages of intentional design are taught through (2) overt instruction to support students in understanding the design processes and decisions involved in various systems and structures of meaning. Social and cultural contexts and purposes are then explored as a means to understand the (3) critical framing of the design work. Finally, a pedagogical model of (4) transformed practice is used to help students move through various contexts by creating and recreating, contextualizing and recontextualizing developing meanings and modes of information. These various stages allow the student author to work through the project by

designing and redesigning both materials and ideas to create rich understandings helping them make sense of the project in relationship to their peers and the larger concepts within the project.

I appreciate PBL's focus on challenging students in appropriate ways and levels. When it comes to student writing, we must work with students where they are and PBL allows us to use that place as a beginning point instead of a boundary in which students must remain throughout the project. When we see the project work from as an opportunity for student authors to guide the project work, every student matters and every perspective has a place. Through collaboration and sustained inquiry, students challenge, change, and rework their ideas and assumptions because knowledge is positioned as dynamic instead of static. Finally, PBL offers an interesting structure for students to write through their problems as they are supported by project teachers and their peers, sustaining engagement in a rigorous, extended process of asking questions, finding resources, and applying information (Larmer & Mergendoller, 2015). Writing allows students to identify and document their learning, interact with others and their expressed understandings, change their perspectives, and rework their ideas. Student writing offers an unmatched resource for providing documentation to track student transformation within the project.

Incorporating a multiliteracies perspective into student writing. I think a multiliteracies perspective of writing takes the activities involved in PBL and adds rich dimensions, empowering students to develop understandings that connect them to the world outside of school. Within the literacies practices approach I defined in Chapter Two, I explored how multiliteracies studies bring to our understanding of adolescent literacy development an invitation to critically engage students with issues of “values, identity,

power, and design” from a transformational agenda (Jewett, 2008, p. 245). Multiliteracies pedagogy honors the concepts and ideas inherent in design work, and offers a critical lens that invites students to see how the discourses we use to communicate and relate to one another have within them often unspoken components of social, cultural, and discipline-based values, identities, and power issues. By connecting students to the larger ideas within and around the project, instead of just to the project itself, students are connected with world outside of the classroom and understand their learning in relationship to the larger discourses within various cultures, societies, structures, and disciplines.

Multiliteracies is rooted in a multiple signs system approach, meaning various types of systems and means of communication are treated as valid and important to learning. If the goal of PBL is for students to design, problem solve, and work collaboratively to develop solutions to open-ended problems, using writing from a multiliteracies perspective could support students in bringing their experiences to the process of developing solutions, not just providing personal experiences. Students bring their perspectives and opinions, but it doesn’t have to stop there. The multiliteracies perspective honors that students have more than just opinions or personal experiences to share. They have an entire toolkit of resources useful to help them not just have an opinion but have a credible role in making meaning within the project as they collaborate with others. When students operate as project authors, they become co-learners and creators within the learning process, with special attention paid to the various literacies or toolkits students carry with them into the learning space (Dyson, 2001). Research on signs systems in educational contexts revealed students who did not previously describe themselves as readers and writers worked to reposition themselves as active literate participants when curricula include expanded meanings of literacy to include multiple signs

systems (Siegel, 2006, p. 71). The flexible setting and material focus of PBL allows us to help students understand there are multiple ways to write and various ways to create text. This multiplicity can be empowering and useful as students seek to accomplish the project goals using their various toolkits by communicating with various texts. As students actively author the project they use writing as a way to bring their perspectives, experiences, and backgrounds into the meaning making process to connect with the project's ideas and extend their meanings and applications.

Lemke (1993) argues that when children are engaged in curriculum valuing multiple sign systems, there is a multiplication of meaning as their ample experiences as sign-makers become resources. As it pertains to writing, this positions writing within the project as an activity in meaning making itself. When we position the work of PBL as an important means by which students are developing their own literacy practices, project work transforms into artifact creation that represents students' connections to the various discourses inherent in the societies, cultures, and disciplines outside of the school. Writing can do more than support the project work, it can be treated as project work, a viable part of the learning process, and be positioned as a way to bring meaning to the project and make meaning within the project in written form. As student author the project, they engage in a meaning making culture in the classroom where they co-create what is valid knowledge and act as capable, literate participants in classroom discourses. Writing within the project therefore becomes a means for students to use their developing cognitive abilities to establish their stance in relationship to the world.

Understanding the material and the immaterial aspects of students as project authors. According to the work of Moffett (1979, 1966) and Britton (1972), writing begins

long before a student puts pencil to paper and involves the wrestling of language and building of ideas in order to communicate our understandings first to ourselves and then to others. We might benefit from extending our understanding of the realm of student composition to include the experiences leading up to the writing. I think Langer's (2000) literacy approach termed "literate thinking" is an excellent way to approach literacy learning and student writing in the PBL setting because it focuses on the nature of learning and thinking by asserting that interactions should be dialogic and content focused. Literate thinking asserts that learning is generative and students should be positioned as environment builders in the learning process (Langer, 2000).

Literate thinking uses literacy practices to support students in developing a literate sense of self in relationship to traditional and current understandings of literacy and what it means to be a literate participant in various arenas locally and globally. It expects differing perspectives and gives students a place to try out ideas, to manipulate what they think, and to use language in ways that help them refine and rethink various concepts (p. 51). This approach expects students to be analytical about course content and develop skills in connecting this analysis to other knowledge and their own learning. Socially speaking, each adolescent is part of several complex cultures. What counts as being smart and successful differs from group to group. Literate thinking makes the definition of what it means to be literate more flexible and allows for the perspectives of multiple cultures to be taken into account and actively participate in the learning process.

There were traces of literate thinking in the *Using Waste* project, moments when project teachers offered students opportunities to be more than just a student but an active meaning maker within the project context. Through the Fictional Profile, project teachers

presented the writing activity as part of a generative process that would involve multiple steps and multiple ways to develop understandings and representations of those understandings. They also offered students the option to write a profile in first person and take on the identity of the person in the profile. The Letter to a Representative accomplished literate thinking by asking students to reflect on the project work then select their own research-based solution. This approach allowed the students to be analytical about course content and develop skills in connecting this analysis to other knowledge and their own learning. They were then asked to re-contextualize that information into a letter format and adjust it to suit the district representative reader.

In addition to the literate thinking of Langer (2000), Moffett (1966) asserts that if we focus on student thinking other faculties increase as well. When students see themselves as somebody with something to say to someone (Moffett, 1979), the project becomes a backdrop or stage on which students encounter raw experiences and information needing to be explained, connected, and re-established. Moffett's (1966) term "authoring" is helpful in conceptualizing the author role of the student in the project. Students' thoughts are valued beyond a specific written response to teacher questions and their sharing of raw experiences and genuine perspectives occupies a valid space in the project because it pertains to the developing story and understanding of the content and process of the project.

When we offer these raw experiences to students, our classrooms become open-ended and collaborative as students seek to make sense of their ideas and move toward their goals. As the project author, the students "re-abstracts" firsthand content (feelings, fantasies, sensations, memories, and reflections) and secondhand content (content taken from interviews, stored information, and others' writings) into his or her own synthesis (p. 278).

The work of authoring is therefore a “revision of inner speech” where student thinking is “manifested in a verbal way” (p. 278). When we position students as project authors we focus on their thinking and meaning making and stand in the gap or as Britton (1972) termed in the “deep and dangerous waters” because the development of language is a process of growth, working beneath the surface and unable to present itself as information to be accurately measured by drills and tests (p. 36).

As students author the project, they develop understandings of developing discourses within the context of the project work and space. The external audience then becomes a resource to enrich and challenge students discourse development, empowering students to occupy an identity of active participant. This changes the nature of what school is and does, and uses the activity within the school space to empower and support students’ development of a literate sense of self not just in relationship to the school setting but the world outside of school as well.

Britton (1972) challenges us to understand writing as a wrestling of not just words but ideas, no matter the level on which the student is operating. Writing brings meaning and connection to the material work of product creation. Likewise, as the project develops in the material, students are challenged to make sense of the changing immaterial work happening within them as they negotiate the project work and engage with their peers and project teacher. Writing is a powerful means to make the ideas of the project real, tangible, and then flexible. Writing allows student to voice their developing perspectives and create a sense of identity in relationship to their ideas. As project teachers offer students the role of project author and encourage them to participate in the developing project discourses, project teachers are forced to occupy an in-between space and guide students through the

challenging work of moving among and between the material word of the project and immaterial world of ideas and possibilities.

Limitations

This study was limited in several ways. The data were collected for a larger project by multiple researchers. The answer to my research questions was limited by the data available, so my research design was dependent on the corpus of data collected by our team during the Spring of 2015. While I sought to share my findings and ideas throughout the process with my committee and supportive colleagues in the field, my own biases and assumptions created filters through which I understood and analyzed the data. Considering all of these limitations, I have compiled a few recommendations for future studies.

Recommendations for Future Study and Conclusion

We need many more studies to develop a foundation for how to understand and analyze literacy practices in the PBL setting. The PBL approach offers rich possibilities for the theories of adolescent literacy practices to be applied within the high school setting. Additionally, we need more research concerning how the use of literacy theory within the PBL setting can support students of various cultural, social, political, and economic backgrounds. These studies should be able to span the duration of the project, involve student artifacts, use student interviews, and consider the larger contexts of the school's leadership, structures, and relationships with the state. This study also suggests that our field design more studies that allow researchers to investigate how the incorporation of reading and writing within the PBL setting might provide yet another view into the complex world of how teachers understand their roles and operate in relationship to their content areas and students. As a scholar in secondary literacy education, I look forward to continuing this

interdisciplinary work and consider how adolescent literacy development is affected by the interplay of our theoretical understandings and our pedagogical approaches.

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