

WRITING 2.0: DESIGNING PATHWAYS TO A 21st CENTURY WRITING
PEDAGOGY

by

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(Under the Direction of Peter Smagorinsky)

ABSTRACT

In this study, the author examines how teachers at a public middle school and high school in the Southeastern United States learn to incorporate digital tools and writing process pedagogy through a year-long professional development program. The study is organized into a manuscript style format.

In the first manuscript, the author provides a review of the literature to make an argument for using Design Based Research (DBR) to help support teachers' learning. The author argues that a DBR approach to professional development helps to extend and enrich the five principles of professional development because of the focus on situating the professional development within teacher's classrooms. A number of key design features are identified that can best support teacher learning: teachers and researchers co-teaching and co-planning; negotiating a shared agenda with teachers and other stakeholders; and working prospectively rather than retrospectively.

In the second manuscript, the author examines how a group of secondary English teachers conceptualized writing process pedagogy and digital tool use after a week-long summer professional development program. Teachers used the Prezi software to create

concept maps that showed their understanding of writing with digital tools. In their concept maps the teachers used an apocalyptic narrative as a way to process their understanding of writing with digital tools. The teachers' emerging narrative was not conceptually unified; specifically, there were contradictions in the images and words teachers used to represent what it means to write in authentic ways.

In the third manuscript, the author uses Grossman, Smagorinsky, and Valencia's (1999) activity framework for studying teacher learning to examine how three high school English teachers who participated in a professional development program incorporated digital tools and writing process pedagogy into their classrooms. Drawing upon the concept of appropriation, the author uses a case study approach to analyze each of the three teacher's goals for participating in the Summer Institute, the tools they appropriated, the extent to which they appropriated those tools, and the benefits and challenges experienced by the teacher as a result of appropriating said tools.

INDEX WORDS: professional development, inservice teachers, writing, design based research, activity theory

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DEDICATION

To Keith, who made it all possible.

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CHAPTER 1

INTRODUCTION

The 21st century is characterized by rapidly evolving new technologies, and the new literacies (blogging, wikis, social networks, MMG's, MOO's, etc.) that accompany them. These new literacies have altered the landscape of communication, making it potentially more participatory and more multimodal. Many young people are actively engaged in *participatory cultures* through their participation in affinity groups (Facebook and other online communities), through their production of multimedia creations, and through their circulation of media (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006). However the transformative potential of new media remains unrealized for most young people. In fact, there is a growing gap between youth's digital media use outside the classroom and what happens in most public schools (Ito, Gutiérrez, Livingstone, Penuel, Rhodes, Salen, Schor, Sefton-Green, & Watkins, 2013). Ito et al. emphasized the need for more in-school and out-of-school support to address this significant *participation gap* so that more young people have opportunities to participate in the emerging media landscape. Ito et al. conclude that "the majority of young people need more supports to translate and connect their new media engagements toward more academic, civic, and production oriented activities" (2013, p. 25).

In order to address the growing participation gap in public schools, the role of teachers should be examined. Mills (2010) argued that most research on adolescents and multimodal composing has taken a celebratory approach to multimodal practices of youth

in their recreational spaces. She argued that this approach should be balanced with scaffolded multimodal practice in school settings. Using Vygotsky's zone of proximal development (1934/1987), Mills emphasized the pivotal role teachers have in guiding students' participation in new literacy practices, asserting that "teachers have a key responsibility to scaffold multimodal literacies and model new technical proficiencies. They can lead students to engage in sophisticated, mature forms of communication that are unattainable for many students without intervention and expert guidance" (p. 41). While many researchers assert that teachers need to shift their thinking when it comes to incorporating technology into their teaching, the perspectives and experiences of teachers themselves are often neglected. The purpose of this study was to investigate not just whether or not teachers integrate digital literacies and multimodal writing into their classroom, but how and why they choose to do so.

Problem Statement

Teachers play a crucial role in supporting young people's ability to engage in new multimodal and digital literacies (Mills, 2010). In a national survey of 1,400 literacy teachers on their beliefs about integrating digital technology into their teaching and the perceived obstacles to doing so, Hutchison and Reinking (2011) found that teachers' perceived obstacles to incorporating technology included (a) lack of access to technology and technical support, (b) lack of professional development on how to integrate technology, (c) inadequate time to prepare for lessons involving ICTs. Although there is a crucial need for professional development focused on innovative ways to incorporate digital tools into writing instruction (College Board, the National Writing Project, & Phi Delta Kappa International, 2010), there is no clear empirical evidence about what

approach to professional development might help literacy teachers' integrate digital tools into their teaching (Hutchison & Reinking, 2011).

Research Questions & Design

This design-based study emerged out of a school and university-based partnership funded by a Teacher Quality grant and was created in collaboration with teachers and administrators from the school site and professors in teacher education and rhetoric and composition. The purpose of the project was to provide support for teachers to address a problem that teachers themselves identified: How to meet the needs of individual students and how to incorporate digital tools into their writing instruction to meet the Common Core State Standards.

The overarching goals of the project were three-fold: 1) design a year-long professional development program to help expand secondary English and History teachers' knowledge of writing process pedagogy and their ability to integrate digital tools into their teaching of writing; 2) examine how teachers integrate what they have learned about writing process pedagogy and digital tools into their teaching of writing; and 3) explore the kinds of supports and resources teachers found most helpful to them and their students.

The professional development was designed with a focus on writing process pedagogy that includes attention to the instructional characteristics of writing instruction most often associated with improvements in student achievement (Hillocks, 2006; Langer, 2001), and principles of researched –based professional development most associated with teacher change. It was also designed to address the *Connected Learning* group's concern that “when the public educational system lacks a proactive and well-

resourced agenda for enriched and interest-driven learning, young people dependent on public institutions for learning are doubly disadvantaged” (Ito et al. 2013, p. 25). The goal of the project is to contribute to both practical knowledge and theoretical understandings of the kinds of professional development and support teachers of writing need in order to provide their students, with opportunities for *Connected Learning* (interest-powered; peer-supported, and academically oriented) enabled by digital technologies (Ito et al., 2013).

Theoretical Framework: Activity Theory, Multimodality and DBR

Grossman (2005) argued that researchers who study teacher learning need a framework for professional practice that includes sufficient detail about the nature of the task, the nature of the materials, the nature of classroom discourse, and the role and interactions of teachers and students. Researchers also need to be more explicit about the theories from which they work, and need better tools to examine the relationship between what is taught and what students learn. Grossman argued that researchers also need better theory that goes “beyond the particulars of a specific pedagogical approach to help us understand more broadly the relationship between the pedagogies of professional education and the features of professional practice” (p. 450). In Chapter 2, I discuss the possibility of using a combination of DBR and activity theory as a generative framework for studying teacher learning.

Overall, my dissertation study draws on sociocultural perspectives (Bakhtin, 1981; Vygotsky, 1978) that emphasize the importance of society and culture on individual development and learning, and emphasize the role tools play in mediating learning. Building from this foundation, activity theorists (Cole, 1996; Engeström &

Miettinen, 1999; Lave & Wenger, 1991; Wertsch, 1991) work from the perspective that learning should be seen as activity situated within discourse communities. I have found activity theory offers a useful language that can aid in teasing apart how subjects, goal, tools, and community influence one another. Finally, because multimodality is a central feature of new media, I also draw on social semiotic theories of multimodality (Jewitt, 2011; Van Leeuwen, 2005; Kress, 2010). I am interested not only in multimodal composition as a semiotic resource, but also in the way that incorporating multimodal composing opportunities allows teachers to reimagine how instruction and learning might play out in their own classrooms.

Structure of the Dissertation

This dissertation is written in manuscript style. Chapters 2-4 are written as stand-alone articles that will be submitted to scholarly journals. In Chapter 2, I provide a review of the literature to make an argument for using Design Based Research (DBR) to help support teachers' learning. I argue that a Design Based Research approach to professional development helps to extend and enrich the five principles of professional development because of the focus on situating the professional development within teacher's classrooms. Five studies that have used Design Based Research to support teacher learning are discussed. A number of key design features are identified that can best support teacher learning: teachers and researchers co-teaching and co-planning; negotiating a shared agenda with teachers and other stakeholders; and working prospectively rather than retrospectively. This chapter will be submitted to *Teaching and Teacher Education*.

In Chapter 3 I examine how a group of secondary English teachers conceptualized writing process pedagogy and digital tool use after a week-long summer professional development program. Teachers chose to use the software tool, Prezi, to create concept maps that showed their understanding of writing with digital tools. Analysis included attention to the production of the teachers' concept maps, the concept maps themselves, and the presentation of the concept maps. In their concept maps the teachers used an apocalyptic narrative as a way to process their understanding of writing with digital tools. The teachers' emerging narrative was not conceptually unified; specifically, there were contradictions in the images and words teachers used to represent what it means to write in authentic ways. I argue that examining contradictions in teacher thinking is essential for understanding how teachers are agentive individuals who are trying to use new tools within multiple activity systems that often have competing values and goals. This article will be submitted to *Mind, Culture, and Activity*.

In Chapter 4, I use Grossman, Smagorinsky, and Valencia's (1999) activity framework for studying teacher learning to examine how three high school English teachers who participated in a professional development program incorporated digital tools and writing process pedagogy into their classrooms. Drawing upon the concept of appropriation, I use a case study approach (Yin, 2003) to analyze each of the three teacher's goals for participating in the Summer Institute, the tools they appropriated, the extent to which they appropriated those tools, and the benefits and challenges experienced by the teacher as a result of appropriating said tools. This article will be submitted to *Journal of Teacher Education*

Finally, in Chapter 5, I look across the three chapters to identify recurring themes and discuss implications for research and practice. I conclude with a discussion of suggestions for future research and advocate for literacy researchers to bring in the voices of teachers in their examination of digital media use.

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CHAPTER 2

A LITERATURE REVIEW OF DESIGN BASED RESEARCH FOR PROFESSIONAL
DEVELOPMENT: POSITIONING TEACHERS AS CO-DESIGNERS¹

¹ Johnson, M.L. To be submitted to *Teaching and Teacher Education*.

Abstract

This review of literature discusses the benefits and challenges of using a Design Based Research framework for designing professional development on writing and digital tools. A substantial body of literature has identified five principles of professional development most associated with teacher change. However most professional development programs neglect the context in which teachers teach. A Design Based Research approach to professional development helps to extend and enrich the five principles of professional development because of the focus on situating the professional development within teacher's classrooms. Five studies that have used Design Based Research to support teacher learning are discussed. A number of key design features are identified that can best support teacher learning: teachers and researchers co-teaching and co-planning; negotiating a shared agenda with teachers and other stakeholders, and working prospectively rather than retrospectively.

As evidenced from *Race to the Top* initiatives and the Common Core State Standards, federal, state, and local institutions are investing heavily in technology to improve student achievement and to ensure that students are prepared to meet the demands of the 21st century. The 21st century is characterized by rapidly evolving new technologies, and the new literacies (e.g., blogging, social networking, fanfiction sites) that accompany them. These new literacies have altered the landscape of communication, making it potentially more participatory and more multimodal. This shift in culture has challenged the *old logics of literacy and teaching* and requires that teachers re-conceptualize writing, communication, and learning (Cope & Kalantzis, 2009; New London Group, 1996). Researchers who study new literacies have identified a number of benefits for students who compose with multiple modes. They have found that students find the process of multimodal composing highly engaging (Bruce, 2009; Chandler-Olcott & Mahar, 2003). In addition, multimodal composing practices that draw on students' outside of school lives can help scaffold their academic literacies (Skinner & Hagood, 2008), and can be particularly beneficial to marginalized students (Smith, 2013)

However, the recently released *Connected Learning: An Agenda for Research and Design* warns that digital media could actually be *contributing* to inequities in education and point out a “a growing gap between the progressive use of digital media outside of the classroom, and the no-frills offerings of most public schools that educate our most vulnerable populations” (Ito, Gutiérrez, Livingstone, Penuel, Rhodes, Salen, Schor, Sefton-Green, & Watkins, 2013, p. 8). While some youth are already actively engaged in *participatory cultures* through their participation in affinity groups (Facebook and other online communities), through their production of multimedia creations, and through their

circulation of media such as Instagram and tweets (Jenkins, Clinton, Purushotma, Robison, and Weigel, 2006), there is very little research that investigates what and how students learn to write with and through new technologies in school. Ito et al. conclude that “the majority of young people need more supports to translate and connect their new media engagements toward more academic, civic, and production oriented activities” (2013, p. 25). They advocate for more in-school and out-of-school support to address the significant *participation gap* (Jenkins et al., 2006) so that more young people have opportunities to participate in the emerging media landscape.

Addressing the participation gap for students requires attention to the professional development of teachers. A substantial body of literature has established that the professional lives of teachers have a profound effect on student achievement (Borko, 2004; Darling-Hammond, 1994; Langer, 2000). Many researchers argue that providing teachers with quality professional development opportunities will lead to increased student achievement, more effective teachers, successful reform initiatives, and higher quality U.S. schools (Borko, 2004; Boyle, Lamprianou, & Boyle, 2005; Desimone, 2009;). Moje (2009) has called for literacy researchers to investigate what kinds of research will best support teachers as they work with youth who have various levels of opportunities to use new media. Similarly, Literat and Itow (2012) emphasize the crucial role of teachers in helping students to engage in our increasingly participatory culture. They argue that teachers need access to meaningful and empowering professional development.

Many national organizations in literacy research and the teaching of writing have called for professional development that addresses the teaching of writing with digital

tools. The *Writing, Learning and Leading in the Digital Age* report, conceptualized and written by the College Board, the National Writing Project, and Phi Delta Kappa International (2010) emphasizes that teaching effectively with technology necessitates more than access to computers and mobile devices; it requires that every teacher receive professional development in the how to use digital tools to promote writing. Similarly, the National Council of Teachers of English stresses the need for professional development that provides teachers with opportunities to think about the social, political and economic repercussions of using digital technologies in the classroom. (Swenson, Rozema, Young, McGrail, & Whitin, 2005). The research in teacher development and writing instruction has established the crucial need for research that examines how to create professional development programs for teachers at the secondary level that focuses on innovative ways to incorporate digital tools into writing instruction. However, there is no clear empirical evidence about what approach to professional development might help literacy teachers integrate digital tools into curriculum and instruction (Hutchison & Reinking, 2011).

Purpose & Research Questions

The purpose of this article is to explore the use of Design Based Research (DBR) as a framework for creating professional development in the area of digital writing. The research questions include:

1. How does DBR differ from other models of professional development and why is that important?
2. What are the benefits and challenges of using DBR as a professional development framework for the teaching of writing?

3. How can DBR extend and enrich the five principles of professional development principles most associated with change in teacher practice?

I begin first with the methods used in reviewing the literature. I then briefly discuss five principles of professional development most related to change in teacher practice.

Drawing on five studies that used DBR to support teacher learning, I discuss how a Design Based Research framework for professional development can extend and build upon the established five principles of professional development in productive and generative ways.

Methods

I began my search of the literature for looking for models of professional development and writing instruction. Using the ERIC database, I searched for the subject terms “writing” and “professional development,” for articles that focused on Elementary Secondary Education, High Schools, and Secondary Education published between 2000 and 2013. This search returned 139 results. From that point I chose articles only published in academic journals which narrowed the list down to 11 results. I then searched ERIC for the term “Design based research” in the title published since 2000. This search returned 49 results. A search for the title “Design experiment” returned 95 results. I then searched for “design experiment” and “teacher” in the title. This search returned 3 results. Using these three articles as a starting point, I then followed the citational trail by searching the reference sections of these articles to locate other articles that used a design based research approach to support teacher learning. Ultimately, I was able to located five studies that used Design Based Research (DBR) to support and study the learning of teachers.

Professional Development for Writing Teachers

Research suggests that teacher's professional lives and the ways they are supported in their professional lives greatly influences the literacy achievements of their students (Langer, 2000). Specifically, Langer's study (2000) built on a sociocognitive framework that posits that students develop literacy skills when those skills are part of the "cultural ways of knowing and doing that underlie how their classrooms operate and assignments are completed" (p. 399). Langer identified six characteristics of English teachers' professional lives that supported students' literacy development: 1) schools had a coordinated effort to improve student achievement, 2) schools encouraged teacher participation in professional communities, 3) schools created activities that provided teachers with agency, 4) teachers valued commitment to the profession, 5) teachers had caring attitudes towards their students and each other, and 6) teachers foster respect for learning. Langer also points out that teachers apply the knowledge and experiences from participating in their various professional learning networks in three ways: 1) transported ideas, 2) seed-budded ideas, and 3) rejected ideas.

In conceptualizing a framework for the teaching of writing, and teacher's professional lives and identities, it is important to note the contributions made by one the most widely known professional development programs for the teaching of writing in schools, the National Writing Project (NWP). Founded in 1974 at the University of California, Berkeley, the NWP has grown to include over 200 local sites hosted at universities across the United States. The NWP takes a unique approach to their professional development; rather than hire outside consultants, NWP institutes are facilitated by previous teachers who have gone through the training. The NWP calls this a

teachers-teaching-teachers model of professional development. While the NWP has enjoyed almost unanimous praise from teachers who have participated in Summer Institutes, there has been little empirical research that examines how teachers' classroom practice changes as a result of attending the Institute (Whitney, 2008). Borko (2004) notes that the NWP has been successful in providing professional development for large numbers of teachers; however, they have not provided enough information about the content of their Summer Institutes, nor have they provided evidence that their professional development program can be effectively incorporated with integrity at multiple sites. Graham and Perrin (2007) note that explicit teacher training in the writing process approach was particularly important in determining the success of the writing process approach to improve students' writing. They note that 5 of 6 studies in this area were conducted by the NWP, which was conducting the studies to receive support for their work. Graham and Perrin note that more research is needed in this area to establish a clearer link between what happens in NWP institutes and how that relates to changes in classroom practices, and improvements in student writing. Whitney's study (2008) on teacher transformation in NWP summer institutes shows that "changes in classroom practices of NWP Summer Institute participants have been difficult to document in the past" because teachers' classroom practice was not the focus of the Summer Institute. Instead, NWP Summer Institutes tend to focus on teachers' own writing development and thus "do not translate into easily predictable patterns of change in practice" (p. 179). Because of the lack of research on how the activity during the NWP professional development is reorganized in teachers' actual classrooms, I next turn to a discussion of the five principles of effective professional development most associated with changes in

teacher practice, and then discuss how DBR has the potential to extend and enrich those five principles.

Five Principles of Effective Professional Development

A substantial body of research on the effectiveness of professional development has highlighted five research-based principles that are most frequently associated with changes in teacher practice. These principles include 1) focus on content and pedagogical knowledge, 2) relevance of activities to teacher needs, 3) opportunities for play and active learning, 4) extensive duration, and 5) building networks and communities of practice (Borko, 2004; Grossman, Wineburg, & Woolworth, 2001; Guskey, 2002; Kopcha, 2010; Mouza, 2006).

One important component of high-quality professional development is that it includes a focus on subject matter learning and instructional practices (Borko, 2004; Mouza, 2006). A framework that is often used to assess teachers' ability to incorporate technology into their content area and teaching is the Technological Pedagogical and Content Knowledge (TPACK) framework. Researchers using TPACK have shed light on the intersections of technological, content, and pedagogical knowledge. However, more recent research has shown that while the TPACK framework is helpful from an organizational standpoint, the seven constructs in the model do not actually exist in practice (Archambault, 2010). One reason the framework and constructs don't hold up in practices is because it is difficult to separate out aspects of content and pedagogy and technology (2010). Instead, researchers who use TPACK argue that the focus on professional development should be having teachers examine the affordances and constraints of technological tools in their own content area (Koehler & Mishra, 2008).

Examining technological tools in this way is complex because it requires teachers to situate their understanding of technological tools within their knowledge related to disciplinary knowledge, pedagogical techniques, technological skills (Kereluik, Mishra & Koehler, 2011). These new types of knowledge and skills can be seen as new forms of literacy--forms that are much messier than the traditionally-conceived TPACK model might suggest (Kereluik, Mishra & Koehler, 2011).

The need for quality professional development is especially important when incorporating technology into teaching because it places new challenges on teachers. For example, incorporating new technologies require that teachers rethink deeply held pedagogical practices and beliefs about how students learn (Mouza, 2006). However, teachers receive little support to address these challenges. Mouza (2006) found that professional development activities related to technology integration need to acknowledge and incorporate the prior ideas, beliefs, and experiences of teachers in order for change in teacher practice to occur.

Many researchers have emphasized the importance of providing hands-on and interactive professional development sessions (Koehler, Mishra, Bouck, DeSchryver, Kereluik, Shin & Wolf, 2011; Mouza, 2006; Zhao, Lei & Frank, 2006). However, the majority of professional development programs involve teachers sitting and listening (Mouza, 2006). These *sit and get* sessions have shown to be ineffective methods to help teachers learn to teach with technology (Mouza, 2006). Several researchers have pointed to the importance of providing time to play and tinker in professional development sessions. For example, Zhao, Lei and Frank (2006) argue that teachers need more free time to interact and play with technology so that they can make mistakes without fear of

embarrassment. Similarly, Koehler, et al. (2011) emphasize the need for *deep-play* in professional development that incorporates creativity and playfulness. Examples of *deep-play* assignments include asking teachers to photograph mundane objects with fresh eyes, and writing a short story in 55 words. The deep-play activities were shown to increase teachers' development of TPACK over the course of a semester.

In order for professional development to have lasting impacts on teacher change, it must involve extensive duration (Wells, 2007). Because of the complexities in learning how to incorporate technology and the new literacies and habits of mind associated with new technologies, professional development must be on-going (Zhao, Lei & Frank, 2006).

Another important component in high quality professional development is helping teachers form communities of practice (Borko, 2004). According to Little (2002), research provides evidence that “strong professional development communities are important contributors to instructional improvement and school reform” (p. 936). One of the most important aspects of helping teachers to effectively incorporate new technologies into their classrooms is professional development that aims to help them learn from each other.

Gap in Professional Development Literature: Lack of Attention to Context

The majority of professional development programs focus on teachers as learners and the content of the professional development program, but neglect to account for the context and facilitator of the professional development (Borko, 2004). Yet, research has shown that paying attention to the multiple context teachers work within is central to understanding how they put into practice what they have learned. For example, Langer's

(2000) study emphasizes how the classroom, school, and larger professional and social contexts affect the ways English teachers teach. Addressing the teacher, the student, and the content is needed for systemic reform in schools to occur (Langer, 2000). Similarly, Borko (2004) argues for studying teacher learning within multiple contexts in order to understand individual teachers and the social systems of which they are a part. Cobb, Zhao, and Dean (2009) emphasize the need to situate the activity of teachers in the multiple contexts (school setting, district, state) within which teachers teach. Cobb, Zhao and Dean also emphasize the importance of conceptualizing the relationship between the teacher activity in professional development sessions and teachers' activity in their own classrooms. Ellis (2011) conceptualizes the relationship between professional development and teacher learning as a partnership that presents opportunities for joint work by organizations that have competing objects, tools, and communities. He sees DBR (or what he calls *CHAT-informed formative interventions*.) as a “mediating social space” (p. 183) between schools and universities.

Similarly, Zhao, Lei and Frank (2006) emphasize that schools are complex social environments and urge researchers to take an ecological perspective in seeking to understand how computers ‘live’ in these systems. Zhao et al., use the metaphor of an ecological system to describe the various ways that people, objects, and context interact and coevolve (2006). They emphasize that “When a technology is introduced into the school system, other things such as teaching practices, learning activities, and even social relationships also change . . . Therefore, changes in schools are bidirectional or even circular” (p. 137).

Grossman (2005) argued that researchers who study teacher learning need a framework for professional practice that includes sufficient detail about the nature of the task, the nature of the materials, the nature of classroom discourse, and the role and interactions of teachers and students. Researchers also need to be more explicit about the theories from which they work. She writes that we need better tools to examine the relationship between what we teach and what students learn. Grossman argued that we need better theory that goes “beyond the particulars of a specific pedagogical approach to help us understand more broadly the relationship between the pedagogies of professional education and the features of professional practice” (p. 450). In the next section, I will discuss how using the methods of Design Based Research can provide useful ways for accounting for the multiple contexts in which teachers develop their teaching practice.

Design Based Research

Design Based Research (DBR), sometimes referred to as *design experiments* or *formative interventions*, can be traced back to the seminal work of Brown (1992) and Collins (1992). Brown began her career as an experimental psychologist, but over time came to the realization that real life learning inevitably takes place in a social context (such as a classroom) and not a laboratory setting. She recommended design experiments as a way to better understand the social and contextual aspects of learning. Since Brown’s work, a number of characteristics have described the genre of design based research, but the defining feature of design based research is two-fold: to develop theoretical understanding and to develop an intervention in the real world (McKenney & Reeves, 2012).

In Design Based Research, the researcher works together with teachers and practitioners to identify a valued pedagogical goal or curricular intervention that can be justified theoretically and empirically, and then works together with teachers to implement that intervention. (McKenney & Reeves, 2012; Reinking and Bradley, 2008). Reinking and Bradley (2008) conceptualize design experiments as intervention-centered in authentic contexts, theoretical, goal-oriented, iterative, transformative, methodologically inclusive, and pragmatic. Barab and Squire (2004) state that design research involves engineering classroom learning contexts in order to help researchers improve and generate claims about how to improve learning. DBR is uniquely suited to bridging theoretical research and educational practice and is particularly effective when researchers are working in complex settings such as schools, because they allow the researcher flexibility and creativity in adapting the design to the context (Collins, Joseph, & Bielaczyc, 2004).

However, while DBR studies involving classroom interventions and benefits for student learning in a classroom setting have become more plentiful in recent years, there has been little research that uses design based research to study how to support teachers' learning (Cobb, Zhao, & Dean, 2009). In addition, DBR has been primarily used in the field of mathematics and science education. While using DBR in literacy and writing studies is an emergent field, there is a growing interest in the methodological affordances of this approach to research.

Table 1. Five studies that used DBR to study teacher learning.

Author/Year	Title	Pedagogical goal	Findings/Outcomes
Annetta, Frazier, Folta, Holmes, Lamb and Cheng (2012)	Science Teacher Efficacy and Extrinsic Factors Toward Professional Development Using Video Games in a Design-Based Research Model: The Next Generation of STEM Learning.	help teachers learn how to develop and design science-based video games for use in their own classrooms	Some teachers in the study had a higher self-efficacy toward teaching science inquiry teaching practices after participating in the PD program. Teachers developed support structures from other teachers and university researchers
Chandler-Olcott (in press)	Co-planning and Co-teaching in a Summer Writing Institute: A Formative Experiment.	improve teachers' ability to teach writing to diverse populations of students	co-planning and co-teaching with students and teachers were key enhancing factors
Cobb, Zhao, and Dean (2009)	Conducting design experiments to support teachers' learning: A reflection from the field.	help support middle school mathematics teachers improve their classroom practices for teaching statistical data analysis	Found the importance of brokers in helping to support change of teachers at a district level. Found that teachers developed more student-centered learning teaching styles
Ellis (2011)	Reenergising Professional Creativity from a CHAT Perspective: Seeing Knowledge and History in Practice	stimulate teachers' professional creativity	Idea driven designs by teachers became visions of the future, or expansive learning. Teachers engaged in professional creativity
Thein, Barbas, Carnevali, Fox, Mahoney and Vensel (2012)	The affordances of design-based research for studying multicultural literature instruction: Reflections and insights from a teacher-researcher collaboration.	help teachers use multicultural literature in their classrooms more effectively	Participation in inquiry increased teachers' agency, activism, and intellectualism

DBR and the Five Principles of Professional Development

A number of implications arise from a review of studies that use DBR to support teachers' learning. I will first revisit the five principles associated with teacher change and then discuss how studies in DBR have extended and enriched these principles, paying particular attention to the ways that context—a central defining feature of DBR—plays a significant, if not the most significant, aspect in the professional development of teachers. This attention to context has important implications for each of the five features of professional development most associated with teacher change.

Table 2. How DBR Extends the 5 Principles of PD.

5 Principles of Effective Professional Development	National Writing Project Professional Development Model		How does Design Based Research extend the 5 principles of PD?
1) Focus on content and pedagogical knowledge	Focuses on writing, but criticized for not having a well-specified professional development program that can be enacted with integrity at multiple sites (Borko, 2004).		1) From a focus on content and pedagogical knowledge to co-teaching and co-planning
2) Relevance of activities to teacher needs	Teachers find NWP relevant to their own lives		2) From relevance to teacher needs to negotiating a shared agenda
3) Opportunities for active learning	Teachers very active in the model. Teachers write, present their own work, and eventually help facilitate workshops		3) From opportunities for active learning to developing design principles for the kinds of active learning (play, etc.) that lead to the pedagogical goal
4) Extensive duration	Focus is on building communities of practice and networks of NWP participants. Less attention paid to what is done in classrooms		4) From extensive duration to situating the professional development in teachers' classrooms (learning labs for change)
5) Building communities of practice	Strong focus on building communities of practice (Leiberman & Wood, 2003)		5) From building communities of practice to understanding the design principles that contribute to building communities and networks

From a Focus on Content and Pedagogical Knowledge to Co-teaching and Co-planning

As noted earlier, one important component of high-quality professional development is that it includes a focus on subject matter learning and instructional

practices (Borko, 2004, Mouza, 2006). This is certainly the case in DBR where one of the first steps in the design process is to identify a valued pedagogical goal (Reinking & Bradley, 2008). This valued pedagogical goal is usually identified through a review of the literature. For example, in Thein, Barbas, Carnevali, Fox, Mahoney and Vensel's (2012) study, the first author (Thein), a university researcher, collaborated with 5 teachers (the co-authors of the study) with goal of helping the teachers use multicultural literature in their classrooms in meaningful ways. Thein first began by reviewing the research on how to best teach multicultural literature. From that review, Thein developed four principles for teaching multicultural literature. Thein found that multicultural instruction should: encourage students to consider alternative perspectives and value stances (Louie, 2005; Thein, Beach & Parks, 2007); encourage students to see similarities, differences, and "differences within difference" (Grobman, 2007); encourage students to "talk back" to problematic constructions of difference (Enciso, 1997); and encourage pragmatic as well as personal transformation (Henry, 2005). An important aspect of the multicultural instruction intervention was that it allowed teachers flexibility because it was based on a set of shared principles rather than a fixed curricular unit. This flexibility was helpful as teachers were able to conduct their study within the authentic constraints of their own classrooms (Thein, et al., 2012).

Using the practice of Lesson Study, a professional development model that originated in Japan (Chokshi & Fernandez 2004), Thein and the teachers designed lesson plans together, observed each other teaching those lesson plans, analyzed and critiqued the observations, and then either revised the same lesson or choose to develop a new lesson. Thein, et al., found using teachers' lesson plans as the unit of analysis provided

them “with a wide and flexible lens for examining how theoretical principles related to teaching multicultural literature could be shaped and refined in real classroom” (2012, p. 132). The iterative nature of the lesson study was very much aligned with the iterative nature of DBR. It should be noted that their study differed from action research or lesson study because their “goal was not to refine any one lesson for use among a group of teachers, but instead to investigate and refine principles used within unique lessons each teacher constructed for his or her classroom” (Thein et al., 2012, p. 123). Thus, teachers served as co-designers because they helped to develop and refine design principles for teaching multicultural texts (Thein & Sloan, 2012).

Chandler-Olcott (in press) examined teachers’ professional development as they helped co-teach a summer writing institute for ninth grade students in an urban high school. The main pedagogical goals of the formative intervention were to increase the ninth grade students’ writing skill and improve teachers’ ability to teach writing to diverse populations of students. Chandler-Olcott found two design principles that helped meet their pedagogical goals: 1) having teachers and researchers co-plan lessons and 2) having teachers and researchers co-teach throughout the summer institute. Chandler-Olcott emphasizes the importance of examining not just if an intervention was successful, but also why it was successful.

A key difference in all of the DBR studies that supported teachers’ learning is that the researchers worked together with the teachers to co-plan and co-teach using instructional strategies that were research based. At the outset of two of these studies, the importance of co-teaching and co-planning was not as evident. In fact, Chandler-Olcott had originally conceived of the summer institute as a place where each teacher or pair of

teachers would create one or two lesson plans to teach 9th graders. But what ended up happening was that the group joined in collective lesson plan design. Teachers reported that this collective designing of detailed lesson plans was one of the most beneficial aspects of participating in the study.

From Relevance to Teacher Needs to Negotiating a Shared Agenda

In order to be effective, professional development must be relevant to teachers' needs and build on their beliefs about teaching and learning. In the DBR studies reviewed here, the researchers went further and actually developed shared agendas with teachers. For example, Cobb, Zhao, and Dean (2009) used design based research to help support middle school mathematics teachers improve their classroom practices for teaching statistical data analysis. Their goal of their study was to begin to extend DBR to examine the learning of groups of practicing teachers. The overall pedagogical goal of their 5 year study was that the math teachers would begin to "place students' reasoning at the center of their instructional decision making (p. 169)." Cobb, Zhao & Dean, 2009 point out that developing a shared agenda can be difficult because there is disagreement over what high quality mathematics instruction looks like even within the same district. Based on their work over the course of five years, they have developed the design principle of negotiating a joint agenda for classroom instruction with teachers that reflect teachers' priorities and interest. Based on my work with helping support teachers as they integrate digital technologies into their writing instruction, the importance of situating professional development in teachers' needs remains unrealized. For example, when I began working with a group of English teachers, I followed the design principle of developing a joint agenda with the teachers I was working with. In my first conversation with one of the

lead teachers in the district, a broker who inhabited many different leadership groups within the school, I asked her “what can we do to help you with your classroom instruction?” Though this teacher had been teaching for over 10 years, she was taken aback. “That’s a great question” she replied. “But, I’m going to need some time to think about it, because no one has ever asked me that before.” Researchers often make assumptions about what teachers need and believe without actually asking them, but DBR can be a helpful way in “encouraging teachers toward genuine intellectualism, agency, and autonomy” (Thein, et al. 2012, p. 132). It is important to discuss the aspects of the nature of developing the shared agenda as that can be a design principle that is further theorized and refined. Unfortunately, two of the studies I reviewed (Annetta, Frazier, Folta, Holmes, Lamb & Cheng, 2012; Thein, Barbas, Carnevali, Fox, Mahoney, & Vensel, 2012) did not discuss the nature of the relationship between the researchers and teachers in the study, nor how a joint agenda was negotiated with the research participants. In Thein et al., I inferred that the researcher and teachers knew each other or had a background with each other as they seemed to have many shared assumptions and agendas. But, this is an important point that researchers don’t always address.

From Active Learning to Developing Design Principles for Activities (i.e. deep-play) that Lead to the Pedagogical Goal

All of the studies I reviewed provided teachers with opportunities for active learning. For example, Annetta, Frazier, Folta, Holmes, Lamb and Cheng (2012) examined how a group of 51 science teachers learned to design science-based video games. The professional development focused on helping teachers learn how to develop and design science-based video games for use in their own classrooms. Teachers were

given time throughout the summer and school year to design a science-based video game. Findings suggest that teachers who used more technology in their personal lives had a higher efficacy toward teaching and learning science. They also found the DBR model useful because it helped generate evidence not usually identified through mixed methods design. Namely, they found that “teachers recognize the benefit of the developing support system between fellow teachers, researchers from the university, their school, school districts and state school systems during the process” (Arnetta et al., 2012, p. 59). Teachers in Chandler-Olcott’s study co-designed lessons and co-taught alongside researchers. Similarly, the teachers in Thein et al.’s study (2012) designed lessons and observed one another’s enactment of those lessons. What a DBR model of professional development can add to this feature of active play is documenting the kinds of activities that best help teachers reach the valued pedagogical goal researchers and teachings are working toward.

From Extensive Duration to Situating Professional Development in Teacher’s Classrooms

Because DBR studies are iterative in nature, they all met the criteria of extensive duration of professional development. Most of the studies took place over the course of multiple years. For example, Cobb, Dean, & Zhao’s study (2009) of math teachers took place over four years. Ellis’ (2011) work with English teachers took place over two years. Thein et al.’s study (2012) took place over one school year. Thein and the teachers engaged in four cycles of lesson design, enactment, and analysis, and met a total of 10 times. Chandler-Olcott’s study (in press) took place over several months. What is unique

about all of the DBR studies is not just that they involved extensive duration, but that they were situated in teacher's classrooms.

From Building Communities of Practice to Developing Design Principles that Contribute to Creating Community

One benefit of DBR is that it has the potential to document how communities and networks of practice are formed, maintained, and interact by encouraging researchers to document the different agendas and goals of invested stake-holders. For examples, Cobb et al., (2009) discussed how the mathematics leadership team, the school leadership teams, and the teachers they worked with all had different goals and agendas when it came to mathematics instruction. The authors ultimately found that analyzing the different roles and goals of different stake-holders in the schools, and the role of *brokers* (those who are members of at least two or more groups) and documenting the institutional setting of teaching was crucial in helping them be more effective in supporting teachers' learning.

Benefits and Challenges of Using DBR for Professional Development

Cobb et al, emphasize that one of the most important components of professional development is the way that researchers conceptualize the relationship between teachers' activity in the professional development program and teachers' activity in their classrooms. For Cobb et al.(2009) this conceptualization

impacts all three phases of an experiment. For example, the design conjectures formulated while one is preparing for an experiment necessarily involve assumptions about the specific ways in which teachers' learning in professional development sessions might influence their classroom practices and vice versa. In addition, these assumptions necessarily frame analyses of the participating teachers' learning and are thereby implicated in the resulting teacher development theory. (p. 186)

There are a number of implications for analyzing the relationship between the two systems teachers inhabit as they participate in professional development programs. One key design feature identified after looking across the four studies that use DBR to support teacher learning is the importance of prospective thinking. In other words, working together with teachers to plan units of study and lesson plans was a successful activity that helped researchers meet their valued pedagogical goal. Retrospective thinking, however, proved more problematic. For example, early on in Cobb et al.'s study, the research team asked teachers to look at student work as a way to support teachers' learning. However, they found that their hopes of using student work to support teacher learning was unsuccessful because none of the teachers viewed the activity as relevant to their own classroom practice (Zhao & Cobb, 2007). As Cobb, Zhao, and Dean (2009) point out, "there was substantial evidence that student work was, for the teachers, a tool for *retrospective assessment* of prior instruction rather than a resource for the *prospective planning* of future instruction" (p. 187). Cobb et al. suggest that researchers "should anticipate the ways in which teachers might use artifacts in professional development sessions given how they use them in their classroom practices. In other words, how an artifact is used in one setting needs to be conceptualized in relation to how it is used in the other setting" (p. 188).

This prospective planning was more evident in Thein et al.'s study (2012). The focus of the study from the beginning was that teachers would create lessons that incorporated the four principles of using multicultural literature that teachers themselves would use in their own classrooms. This seemed to be a beneficial activity for teachers., for as Thein et al. notes, "Our research project suggests that when teachers are engaged in

thinking about their practice in ways that position them as intellectuals who have agency and autonomy, they are both driven to approach required curricula with reflection and creativity, and proactive in engaging students in new and innovative texts and activities” (p. 133).

It may be helpful for researchers interested in using DBR for professional development to incorporate what Sandoval (2014) calls a *conjecture map*. While the map is problematic in that represents a somewhat linear approach from goals, to outcomes, it may be helpful for researchers to make visible their thinking behind the design of their research.

Conclusion

This article has provided a discussion of the benefits and challenges of using a Design-based Research framework for designing professional development on writing and digital tools. A substantial body of literature has identified five principles of professional development most associated with teacher change. However, most professional development programs continue to undertheorize the context in which teachers teach. A DBR approach to professional development helps to extend and enrich the five principles of professional development because of the focus on situating the professional development within teachers’ classrooms. Using DBR as a framework for professional development has many benefits including the potential to investigate and document how teachers form communities and networks of practice, and the potential to develop design principles that document the kinds of learning activities that best help teachers reach the valued pedagogical goal researchers and teachers are working toward. A number of key design features from DBR studies have demonstrated how to best

support teachers' learning. These design features include teachers and researchers co-teaching and co-planning; negotiating a shared agenda with teachers and other stakeholders, and working prospectively rather than retrospectively. A DBR framework for professional development has the potential to provide teachers with more meaningful and empowering professional learning as they help their students navigate the changing demands of the 21st century.

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CHAPTER 3

IT'S THE END OF THE WORLD AS WE KNOW IT:
HOW ENGLISH TEACHERS CONCEPTUALIZE WRITING WITH DIGITAL
TECHNOLOGIES²

² Johnson, M.L. To be submitted to *Mind, Culture, and Activity*.

Abstract

This case study is part of a larger study that emerged out of a school and university-based partnership funded by an Improving Teacher Quality grant. Drawing on sociocultural theories of mediated action and tool use (Vygotsky, 1978), this study uses activity theory (Engeström, 2001) and multimodal discourse analysis (Hull & Nelson, 2005) to examine how a group of secondary English teachers conceptualized writing process pedagogy and digital tool use after a week-long summer professional development program. Teachers chose to use the software tool, Prezi, to create concept maps that showed their understanding of writing with digital tools. Analysis included attention to the production of the teacher's concept maps, the concept maps themselves, and the presentation of the concept maps. In their concept maps the teachers used an apocalyptic narrative as a way to process their understanding of writing with digital tools. The teachers' emerging narrative was not conceptually unified; specifically, there were contradictions in the images and words teachers used to represent what it means to write in authentic ways. The author concludes that examining contradictions in teacher thinking is essential for understanding how teachers are agentic individuals who are trying to use new tools within multiple activity systems that often have competing values and goals.

As evidenced from *Race to the Top* initiatives and the Common Core State Standards, federal, state, and local institutions are investing heavily in technology to improve student achievement and to ensure that students are prepared to meet the demands of the 21st century. The 21st century is characterized by rapidly evolving new technologies, and the new literacies (blogging, wikis, social networks, MMG's, MOO's, etc.) that accompany them. These new literacies have altered the landscape of communication, making it potentially more participatory and more multimodal. This shift in culture has challenged the "old logics of literacy and teaching," and requires that teachers re-conceptualize writing, communication, and learning (Cope & Kalantzis, 2009; New London Group, 1996).

Many national organizations in literacy research and the teaching of writing have called for professional development that addresses the teaching of writing with digital tools. The *Writing, Learning and Leading in the Digital Age* report, conceptualized and written by the College Board, the National Writing Project, and Phi Delta Kappa International (2010) emphasizes that teaching effectively with technology necessitates more than access to computers and mobile devices; it requires that "Every teacher, at all levels of education, needs professional development in the effective use of digital tools for teaching and learning, including the use of digital tools to promote writing" (p. 3). Similarly, the National Council of Teachers of English stresses the need for professional development that goes beyond the "functional aspects" of technology and provides teachers with "opportunities to think critically about pedagogical concerns (with whom, when, where, how, why, and to what extent to use them), and about the intellectual, social, cultural, political, and economic impact of using them" (Swenson, Rozema,

Young, McGrail, & Whitin, 2005, p. 219). Moje (2009) has called for literacy researchers to “ask hard questions about what kind of research will best support teachers in teaching many literacy practices to many different children and youth who have different levels of access to, interest in, and opportunities to learn and use a range of media in and out of school” (2009, p. 359). The literature in teacher development and writing instruction has established the crucial need for research that examines how to create professional development programs for teachers at the secondary level that focus on innovative ways to incorporate digital tools into writing instruction. However, there is no clear empirical evidence about what approach to professional development might help literacy teachers’ integrate digital tools into curriculum and instruction (Hutchinson & Reinking, 2011).

Statement of Purpose

This case study is part of a larger study that emerged out of a school and university-based partnership funded by a Teacher Quality grant. The goal of the Teacher Quality grant was to provide professional development for teachers in writing process pedagogy and using digital tools to support writing instruction. The professional development program began with a week-long, 40 hour Summer Institute that was created in collaboration with teachers from the school site and professors in teacher education and rhetoric and composition. The purpose of the project was to provide support for teachers to address a problem that teachers themselves identified: How to meet the needs of individual students and how to incorporate digital tools into their writing instruction to meet the Common Core State Standards.

The professional development was designed with a focus on writing process pedagogy that includes attention to the instructional characteristics of writing instruction

most often associated with improvements in student achievement (Hillocks, 2006; Langer, 2001), and principles of researched –based professional development most associated with teacher change. Research questions included: 1) What concepts about *Writing 2.0* do teachers develop over the course of the professional development Summer Institute? 2) How do the teachers tell their story and what implication does that have for those who design professional development for in-service teachers? 3) How did the tool teachers chose to use—Prezi software—mediate the teacher’s thinking about writing and teaching with digital tools?

Theoretical Framework

This study draws on sociocultural theories (Bakhtin, 1981; Vygotsky, 1978) that focus on the social nature of learning and emphasize the role tools play in mediating learning. Building from this foundation, cultural historical activity theorists (Cole, 1996; Engeström & Miettinen, 1999; Lave & Wenger, 1991; Wertsch, 1991) work from the perspective that learning should be seen as activity situated within discourse communities. Cultural Historical Activity Theory (CHAT) emphasizes that learning takes within a complex system of individuals, the tools they use and the discourse communities within which they are situated. Cultural historical activity theory (CHAT) is especially well suited to efforts to understand the complex systems in which teachers learn and work, and the tools that affect teachers’ thinking and learning because it provides a heuristic and language for general analytical codes such as goal, subject, tool, discourse community, and rules (codes or conventions). According to Wenger (1998), “Having a tool to perform an activity changes the nature of that activity . . . and participating in the changed activity always changes members of the community” (p. 59).

In this article, I explore how tools mediate teachers' conceptual development of writing with digital tools. I focus specifically on one of Vygotsky's key concepts, the double stimulation strategy. The double stimulation strategy refers to "the way in which researchers give their research participants a means of working on a problem or engaging in a task" (Ellis, 2010, p. 96).

Vygotsky (1999) explained:

We do not necessarily have to present to the subject a prepared external means with which we might solve the proposed problem. . . . In not giving the child a ready symbol, we could trace the way all the essential mechanisms of the complex symbolic activity of the child develop during the spontaneous expanding of the devices he used. (p. 60)

In other words, providing a research participant with an open-ended task without providing the tools or symbols to the participant can provide insights into the participants' thinking. This approach "makes the unit of analysis the process or activity of engaging with a task rather than merely the outcome or product (Ellis, 2010, p. 95).

According to Ellis (2010), Vygotsky's double stimulation strategy is a significant methodological concept in researching teacher education and development because it helps to explain the complexity of teachers' development.

Multimodality

Because multimodality is a central feature of new and digital media, I also draw on social semiotic theories of multimodality (Jewitt & Kress, 2003). The process of design or composition in the digital age draws widely on multimodal materials and resources. In thinking about multimodal texts, it is helpful to use the idea of design (New

London Group, 1996) or composition (Smagorinsky, 1995) to conceptualize the vast array of choices that an author confronts in producing a text (Hull & Nelson, 2005). A central argument of social semiotic theories of multimodality is that attention be paid to modes beyond alphabetic text. Thus, I paid particular attention to the ways that teachers in this study created meaning through the selection and interaction of modes.

Hull and Nelson (2005) describe their process of creating the first multimodal transcript of its kind to analyze the different semiotic modes in a digital story and analyze how they work together to multiply meaning. They emphasized that even though semiotic modes may seem to encode the same content, they are experienced by the viewer in different ways. Pictures, for example, are experienced with an ordering principle that is spatial and simultaneous, where linguistic texts are typically organized and experienced temporally and sequentially (Hull & Nelson, 2005).

While a multimodal approach to analyzing data is helpful in articulating the array of modes one uses to communicate, often studies of multimodality focus on a complex text as it is—a fixed object—without paying attention to how the artifact came to be or the dynamic, or dialogic process it has undergone to arrive at its fixed state. Iedema (2003) critiques strictly multimodal analyses of texts because they are “often oriented to finished and finite texts . . . as they are, and less frequently how it is that such constructs come about, or how it is that they transmogrify as (part of larger) dynamic processes” (p. 30).

Ellis’ study (2010) of English teachers’ hand-drawn concept maps of the subject of English showed that the teachers’ drawings “reflected a messy and non-linear understanding of development” over a two year period. Ellis emphasizes that “a

traditional analysis of the images as concept maps might have concluded that the teachers' understandings were becoming less complex, less connected and more idiosyncratic" (2010, p. 99). Ellis emphasizes the importance of paying attention to the processes and talk surrounding the creation of these images, and concludes that "the process of semiotic mediation in visual and verbal modes was of vital interest" (p. 99). Iedema (2003) argued that studies of multimodality should include an additional analytic layer that takes into account how material meanings mutually transform one another. Iedema called this transformative process *resemiotization* (Iedema 1997; Iedema, 2000). Instead of viewing multimodal texts as static or objective, *resemiotization* emphasizes the dynamic nature and social construction of all multimodal texts. Iedema's work addresses the importance of a multimodal approach to meaning making, with an argument that multimodal analysis must be coupled with an approach that attends to how the texts came about or how they are part of larger cultural processes.

Overview of Research Design

This case study is part of a larger study that emerged out of a school and university-based partnership funded by an Improving Teacher Quality grant. The overall purpose of the larger study was to examine how 12 teachers at a public middle school and high school in the Southeastern United States learn to incorporate digital tools and writing process pedagogy through a year-long professional development program. The data for this particular study were collected during a week-long (40 hour) Summer Institute, called *Writing 2.0*, held in July, 2013 at a large, research university. A case study was chosen in order to gain a deeper understanding of the processes involved in how teachers learn to conceptualize learning with digital tools during the Summer

Institute. Yin (2003) points out that case studies offer unique advantages in understanding how and why a phenomenon occurs.

The Summer Institute was designed in collaboration with a lead teacher from the partner school and facilitated by the author, Lindy, Professor Elizabeth Davis from the English Department, and Professor Peter Smagorinsky from the Department of Language and Literacy Education. Because I (Lindy), helped facilitate the Institute, I recognized that I affected the setting. In order to work against bias, I tried focused my analysis on what the teachers said, and the images and tools that teachers chose to use. In other words, I tried to privilege the teachers' voices throughout the process. It should be noted that the purpose, overview, and activities used throughout the professional development program were created in collaboration with the teachers. I sought out teacher feedback throughout the process, and positioned the teachers as respected professionals who should have a say in how they spent their time in the professional development workshop. That is not to say that I assume an equal relationship with the participants in my study. I understand that as a researcher and doctoral student, I was embedded within my own activity system of the university and had my own goals and interests (i.e. completing a dissertation) that were not always in alignment with the teachers' goals and interests.

Participants

Twelve middle and high school English teachers from a school district in central Georgia volunteered to participate in the Summer Institute. All of the teachers identified themselves as female and of European-American descent. All of the teachers were veteran teachers; the average number of years they had spent teaching was 14. The teachers all taught in the same district, Stone Creek Schools (pseudonym), a semi-rural

community in the Southeastern United States. Approximately 42% of the students in Stone Creek School District qualify for free or reduced lunch. Stone Creek School District also reports a percentage of highly qualified teachers that is below the state average. Stone Creek High currently enrolls 1100 students in grades 9-12. Stone Creek Middle School enrolls 755 students in grades 6-8. Stone Creek School District like many districts in the state, was awarded a large technology grant in 2012 that provided laptop carts for most classrooms. At the same time, all teachers in the state were expected to implement the Common Core writing standards which placed a major emphasis on engaging students in sophisticated writing and rhetorical tasks. However, at the time of the Summer Institute teacher had not yet received any professional development on how to use these newly available digital tools.

Description of the Summer Institute

At the beginning of each day of the Summer Institute, teachers were asked to engage in multimodal composing activities. Teachers also read excerpts from two shared texts: *Crafting Digital Writing* by Hicks (2013) and *Teaching to Exceed the Common Core State Standards* by Beach, Haertling-Thein, and Webb (2012). Both of these books emphasized a writing process approach to the teaching of writing. The afternoon of each day was reserved for teachers to meet in grade level teams to plan out their teaching units for the coming year.

On the last day of the Summer Institute, we gave teachers the following task: “Get into groups of four and create a concept map that shows your understanding of Writing 2.0.” We encouraged teachers to work with whatever modes they were most comfortable with—pen or paper, digital tools, etc. All of the groups chose to use the online software

program, Prezi, to create their maps. The teachers had approximately one hour to create their concept maps, after which they were asked to present their concept maps to the whole group. I did not have a specific model or concept in mind of what the teachers' maps should or ought to look like. I was genuinely and interested in how they were conceptualizing the topic of *Writing 2.0*. Similar to Ellis (2010), I asked the participants in my study to engage in a more open-ended task in order to create “more space for subjects' agency” and to provide “opportunities for engaging in difficult but generative problem-solving activities (Ellis, 2010, p. 97).

Research Questions

- 1) What concepts about *Writing 2.0* do teachers develop over the course of the professional development Summer Institute?
- 2) How do the teachers tell their story and what implications does that have for those who design professional development for in-service teachers?
- 3) How did the tool teachers chose to use—Prezi software—mediate the teacher's thinking about writing and teaching with digital tools?

Methods

Data

Data from the Summer Institute included audio and video recordings and artifacts. As the teachers were creating their concept maps in small groups, their conversations were recorded and then transcribed by the author. Teachers' concept maps were collected. Teachers presentations of their concept maps to the whole group were video-recorded and later transcribed by the author.

Data Analysis

The purpose of my analysis was to understand how teachers conceptualized *Writing 2.0* after the Summer Institute. I viewed their concept maps as multimodal compositions not as a direct understanding of *Writing 2.0*, but as a way to study the semiotic remediation of teachers in my study (see Figure 1). I first began my analysis by coding a transcript of the teachers' talk as they created their concept map. The version of activity theory I am using provides a language for general codes such as goal, subject, tool, discourse community, and rules (codes or conventions). Though I had these basic categories, I was also using a constant comparative inquiry approach to my data and research questions (Butler-Kisber, 2010).

I began my initial coding efforts of the teachers' talk as they created their concept map using three main analytical categories—tools, concepts, and subjects. I also tried to code for the source of where I thought the teachers' ideas were coming from. For example, were these ideas from personal experiences? From the Summer Institute itself? From the books we had read and discussed? However, it became very difficult to try and figure out where most of their ideas were coming from as they only occasionally mentioned references to ideas from the book or activities we had done in the Summer Institute. The list of initial codes I generated can be seen in Appendix A

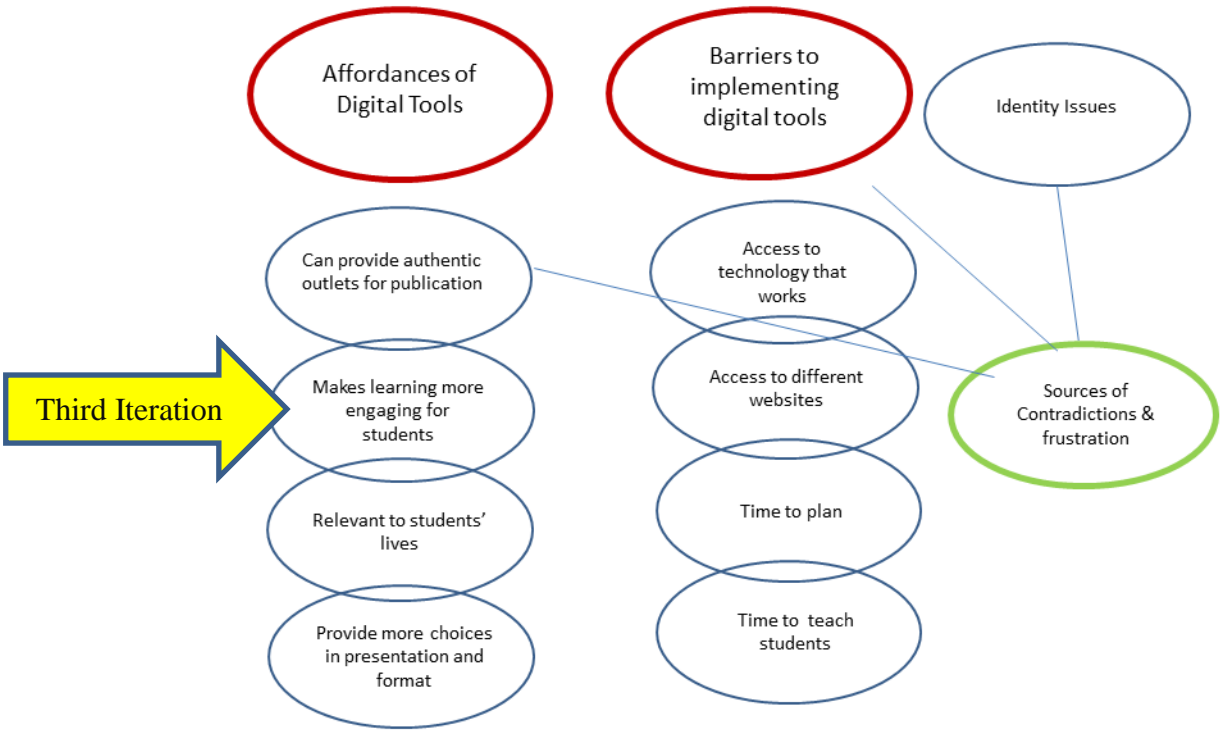
Attention to	Data Source	Analysis
Site of production	Transcripts of teachers' planning session as they created their concept maps	Coded in Nvivo using analytic constructs from Activity Theory (tools, subject, etc.)
Site of image	Prezi Concept Maps	Multimodal transcript and analysis (Hull & Nelson, 2005); visual analysis (information value, salience, framing (Kress & Van Leeuwen, 1996)
Site of audiencing	Transcript of teachers' presentation of their Prezi Concept Map to the whole group	Multimodal transcription and multimodal analysis

Figure 1. Analysis of three sites of group 1's Prezi concept maps

I also created a multimodal horizontal transcript (Hull & Nelson, 2005) to analyze the concept maps teachers created (see Appendix B). This multimodal transcript includes attention to the various modes the teachers used.

The first iteration of coding the teachers' talk was mainly descriptive or thematic. I then began the process of making my codes into more abstract categories. I realized that many of the items I had coded as "concepts" weren't really concepts at all, but issues that came up for the teachers. In this way, I was following Butler-Kisber's suggestion to "give code names to the categories that come from the words of the participants" (2010, p. 31). There were four main issues that teachers spent the majority of their time discussing: authenticity, choice, engagement, relevance. For my second iteration of coding, I condensed comments related to these terms and coded them as "Issues." My second iteration of coding where I attempted to turning the codes into more abstract categories can be seen in Appendix C. Once I had condensed many of the smaller codes into the issues related to authenticity, choice, engagement, relevance, I began asking myself more specific questions about my data. I then went back to the multimodal transcript (see

Appendix B) I had created to examine how teachers were representing their identity in both the concept map and in their talk while composing their maps.



- Second Iteration
- Aesthetics
 - Challenge-Time
 - Concept-digital writing
 - Concept-old tools
 - Concept-Time-That was then this is now
 - Digital portfolios
 - digital storytelling
 - Issue-Authenticity
 - Issue-Choice
 - Issue-Engagement
 - Issue-Relevancy

- Luddite-people who don't like technology
- Non tech writing strategies
- Participants
- Peer review
- Source-music
- Source-Presentation
- Source-Ted talk
- Source-Tools played with during PD
- Source-Tools-Personal knowledge
- Source-UGA Profs
- Tool for presentation--Animoto-characters
- Tool Use
- Trying to figure out the task

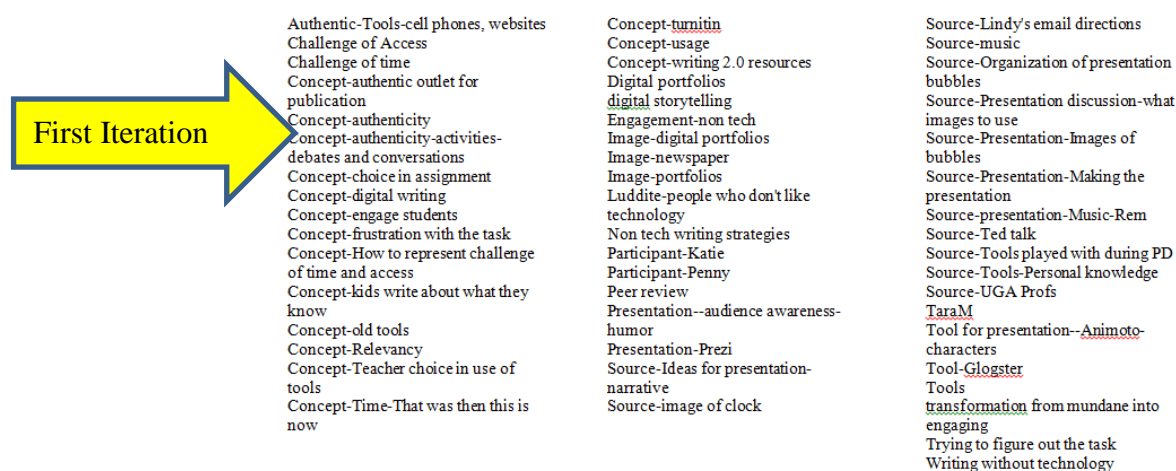


Figure 2. Three iterations of analysis.

As can be seen in figure 1, the third iteration of my coding is organized into four main categories: affordances of digital tools, barriers to incorporating digital tools, identity issues, and sources of contradiction and frustration. The process of moving from generating codes and categories to making meaning from my data was a complex and recursive experience. The theme of teachers experiencing barriers to incorporating technology into their instruction is a topic that has been well established in the literature on technology and teaching. In thinking about the barriers, I then realized that I wanted to go beyond the fact that teachers identified barriers to incorporating technology because that had been well-established in the literature. Instead, I wanted to further explore how the teachers told their stories and the metaphors they used to explain the barriers. I knew that the overriding metaphor the teachers had chosen “It’s the end of the world as we know it” was important because of the salience of the image in their presentation. But, I didn’t know how to go beyond the rather obvious fact that the teachers had chosen this as their metaphor and that they were using a lot of narrative examples to represent their understanding. What did that mean? What did that tell me about their experience?

I then went back to some narrativizing strategies. I drew on Polkinghorne's extension of Bruner's narrative analysis (1995). Bruner argued that there are two types of cognition, or ways of knowing: *paradigmatic cognition* and *narrative cognition*. Narrative cognition seeks to understand human action. In this way, it is very much related to the major tenets and assumptions of Cultural Historical Activity Theory (CHAT). My first analysis of the data which involved coding and categorizing the teachers' talk during their planning session of their concept map was a paradigmatic approach because it involved looking at the similarities in human action.

However, I then took a more narrative approach to my data that focused on the uniqueness or special characteristics about the teachers' concept map. According to Polkinghorne, in narrative thinking, one pays attention to the particularities of people's behavior. Polkinghorne writes, "While paradigmatic knowledge is maintained in individual words that name a concept, narrative knowledge is maintained in emplotted stories. Storied memories retain the complexity of the situation in which an action was undertaken and the emotional and motivational meaning connected with it" (p. 11). Polkinghorne's description was helpful to me as I began to decipher what the teachers' story was. Using thick description, I started drawing on their narrative and bringing in the context and the different modes (images, text, excerpts of dialogue from their planning session, excerpts from their presentation, etc.) the teachers used in order to construct a cohesive narrative. As I worked with these narrativizing strategies (Polkinghorne, 1995), I created a second research question for my data: *How do the teachers tell their story of what it means to teach writing in the digital age? What implications might their story have for those who design professional development for in-service teachers?*

In order to analyze the metaphors the teachers had created, I drew on Lakoff and Johnson's (1980) *Metaphors We Live By*. Lakoff and Johnson argue that patterns of conceptual metaphor form the basis for much of our everyday cognition. Lakoff and Johnson distinguish between conceptual and conventional metaphors. Conceptual metaphors (for example LIFE IS A JOURNEY) is conceptual because the abstract notion of life is explained through the concrete experience of a journey. Thus, it is considered conceptual because it motivates the way people think. I analyzed the metaphors by looking at three levels. First, there were the metaphors embedded in the pre-designed templates of the Prezi software. Second, there were the metaphors the teachers identified in their planning session, and third, there were the metaphors teachers used (both visual and conceptual) in their concept maps. Finally, as I was writing up my findings for this paper, I realized that I needed to add a third question—that of how tool use affected teachers' thinking. The notion of metaphors motivating the way people think has much in common with Vygotsky's work on how tool use affects conceptual development.

Findings

In this section, I organize my findings section into three subsections, according to my three research questions. First, I'll discuss the main themes I identified in the teachers' concept map. Second, I'll discuss the narrative that emerges from their concept map. Finally, I will discuss how the tool teachers chose to use—Prezi software—mediated the teacher's thinking.

Affordances and Barriers to Incorporating Digital Technologies

My first research question asked “What concepts about *Writing 2.0* do teachers develop over the course of the Summer Institute?” In answering this question, I identified

two main themes: affordances of teaching with digital technologies, and barriers to incorporating digital technologies. In conceptualizing Writing 2.0, teachers identified four main affordances of teaching with digital technologies: digital technologies can provide authentic outlets for publication, they can make writing more engaging for students, they are relevant to students' lives, and they provide a range of choices in presenting their writing. For the teachers, authenticity was related to how students write. That is they described authentic ways of writing as writing to a real audience. They used an example of a letter to the editor, and discussed the ways that digital technologies enable students to write for a wider and broader audience.

Another affordance of digital technologies that teachers identified is that using digital tools can make writing more relevant to students' lives. As Tania was presenting her group's concept map, she said, "We talked a lot about relevancy. I don't think teachers worried about that so much when we were in high school. It was just sort of like, "tell me your theme." What you did over the summer? That was relevant to you and that was really cool because you got to write about something you actually cared about. But . . . a lot of us had, you know, canned themes and canned topics." Tania then asks "How do we make writing relevant to them?"

As Tina said during their group's presentation, "All these different ways that make it relevant to the kid. Writing a paper is *not* relevant to them. They don't see the purpose in it. They don't sit down and read letters anymore. They don't do that! You've got to let them do what's relevant to them."

Teachers also discussed the many different choices digital technologies afford both teachers and students. Specifically, the teachers mentioned that students could use

different programs during their process of writing and during their presentation of their writing. Specific platforms mentioned by the teachers included Animoto, Glogster, and Edmodo. As Tina said during her group's presentation, "And we have to give them choice. That's the biggest thing is letting each child be able to express themselves the way they wish to express themselves." Teachers also discussed how each of these affordances work together to make the writing process more engaging for students and can help students see a goal with what they are writing and that it can be something that can cause a change in the real world.

Teachers also identified barriers to incorporating digital tools during their discussion of what to include in their concept map. These barriers included time and access. These barriers were primarily brought up by one teacher, Amelia, although other teachers chimed in. In planning their concept map it was important for Amelia to represent these two challenges or barriers. At one point early on in the planning discussion, Amelia asked, "Could we put some type of a timer on the top? Tick, ticking down, you know what I mean?" Later, she asked, "And showing that we don't have much time to work all these things in. Maybe a stop clock at the top?" It should be noted that Amelia had never used Prezi before, and expressed frustration with her inability to understand how the tool was used. Unfortunately, Amelia's ideas about the challenges of using digital tools ultimately were not represented in the group's final concept map. At one point, Amelia said, "I mean, if I knew how to do it (make the Prezi), I'd have like a bubble in the middle, and then I'd have time and access. And, I'd have it moving back and forth. Like the time shrinking and the access growing. And then the time growing and the access shrinking." In essence, then, Amelia's ideas and contributions were hidden

from the final presentation because of Amelia's lack of knowledge of how to use the Prezi.

One of the main challenges that two of the teachers in the group experienced during their planning session was frustration with their inability to use the software Prezi. While one of the teachers was very experienced and knowledgeable about how to use Prezi, many of the other teachers had never used the tool before. This often happens in teacher learning and professional development. Resources are presented to teachers with the expectation that learning will automatically happen, and when it doesn't, teachers are often the ones blamed for their inability to effectively integrate the latest tools. However, it is not enough to just identify that there is frustration with the tool use. Instead, I wanted to analyze the phenomenon and see if there weren't ways to recuperate something productive. What are the productive ways from moving from frustration to integration? Perhaps, researchers need to see frustration as a part of tool integration. Just as the tool in itself is not a solution to the problem. Neither is frustration in and of itself not evidence of failure. In other words, understanding the interaction between affordances and barriers can be seen as productive to change rather than being seen as counterproductive. This tension will always exist, so it is important to examine the tensions in a more interactive and productive way.

Teachers tell Their Stories

My second research question, "How do the teachers tell their story and what implications might their story have for those who design professional development for in-service teachers?"

The teachers created a Prezi with an overall theme of “It’s the end of the world as we know it.” As I was analyzing the teachers’ process of making sense of *Writing 2.0*, I noticed that they were using apocalyptic terms in their meaning making process. I’ve broken this process of integration down into what I see as 3 stages: First, there is the apocalyptic metaphor, the second stage is what I’m calling a singularity threshold, and the third stage is the post apocalypse, or emerging narrative. They began their Prezi with the image of a photograph of the earth in space. This image is the most salient in their presentation and we see that through contrasts in color; naturalistic image; size; and the location of the image in the center of the Prezi--all of these contribute to my sense of the centrality of this image. Accompanying the image is the text “It’s the End of the World As We Know It.” These words, taken from the Athens-based band, REM’s song of the same title serve as both a nod to the location of the Summer Institute, as well as an organizing metaphor for the teachers’ concept map.



Figure 3. A screenshot of the opening image in the teachers’ concept map.

When thinking about an apocalyptic metaphor as a way to process their understanding, it's very interesting because what the apocalypse represents in every context is an impasse of narrative. There are the stories that we tell ourselves, and when those narratives break down, there is apocalypse. What it narrates, is that the narrative—their understanding-- has broken down. We can see evidence of that narrative breaking down with the radical questioning posed by the teachers during their concept map planning session. When the teachers were composing this particular part of the Prezi, one of the teachers, Molly said, “Like it morphs into or explodes into the Prezi? You could start with a narrative: ‘Who am I?’.” Here, Molly is calling into question her identity as a teacher. Identity in the absence of a narrative begins to disintegrate. Eventually, there will be some casting about for new narratives to orient and a reconstitution of identity, for there is always a post apocalypse. But, first I want to turn to what I am calling the singularity threshold.

The next stage of their showing their process of making sense of Writing 2.0 is what I'm calling a singularity threshold. The idea of a singularity threshold is that one has reached a point of no return. And in dividing their Prezi into two distinct epochs, the teachers have defined their understanding of teaching into two clearly delineated time frames...before and after digital technologies. We see this singularity threshold in the movement from the two main sections of their presentation, “That was then” and “This is now.”

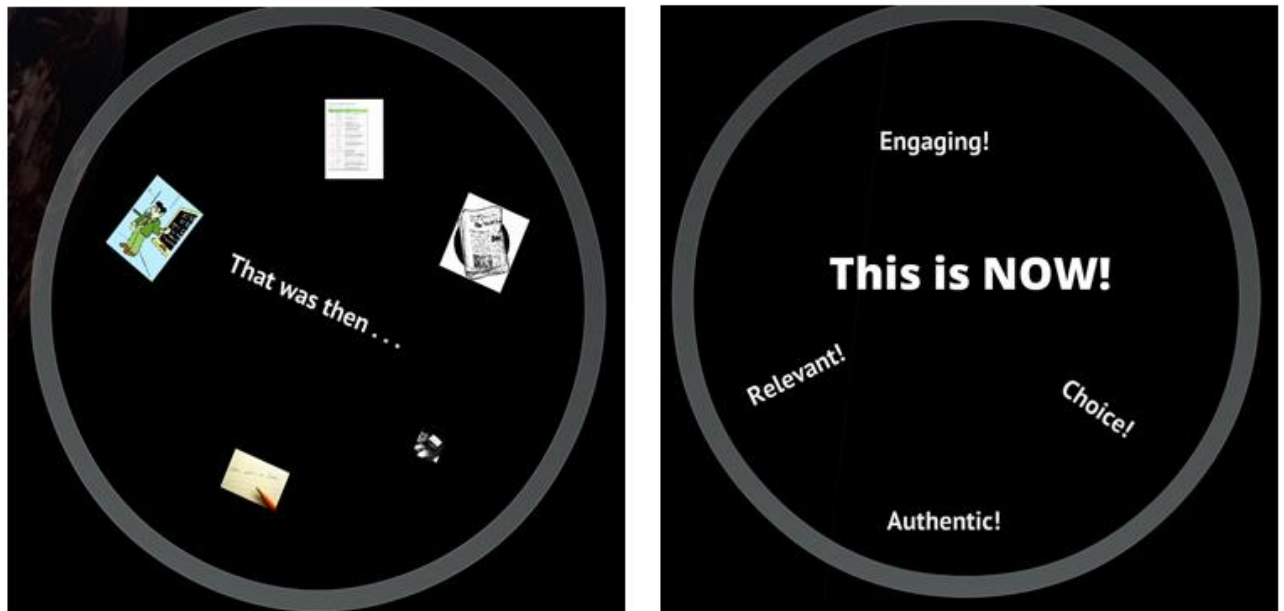


Figure 4. Screenshot from teachers' concept map showing time.

In the “That was then” section, teachers were able to draw on relatively stable and straight forward narratives. During both their planning session and their presentation, the teachers talked easily about how writing was taught and what teaching was like in the past. For example, when presenting the “That was then” section of the Prezi to the whole group, Tina explained, “I guess we entered this from where we all grew up, teaching is very different now.” The teachers represented the past as a time before digital technologies when the primary tools for writing were unimodal; the teachers included images of pencils and paper, a black and white photograph of a typewriter, and a clip art of a black and white newspaper in the “That was then” frame. They also included an image of a Common Proofreading Abbreviations which suggests that they conceptualized the teaching writing in the past as being focused more on grammar and form.

The idea of a singularity threshold means that having gone so far, the teachers can neither return to the past, nor move forward in a linear fashion. Crossing a singularity threshold requires that there must be some sort of way to reimagine how to go forward. In other words, there is always a post apocalypse. I thus see the teachers' "This is now" section, as their emerging narrative—their way of making sense of what comes next after "The End of the World As We know It." The teachers included four words to describe the present as it pertains to Writing 2.0: *engaging, relevant, choice, and authentic*. In this "new" narrative, there are echoes (both in the form of linguistic and visual resources) of some of the ideas and concepts we addressed in the Summer Institute. But, there are also many contradictions, as well. The teacher' emerging narrative in these frames is not necessarily coherent or conceptually unified.

For example, the teachers choose an interesting and unexpected set of images and words to group together in the *authentic* frame on their Prezi that point to a contradiction in the teachers' understanding of the term "authentic." The *authentic* frame includes images of an <http://>, a WordPress site, and a photograph of kids using their cell phones to text. In this photograph, we see authentic as more situated in young people's lives. Young people using writing for real communicative purposes in their lives.

During the presentation of their Concept Map, one of the teachers said, "And the whole point in making something authentic. Something that the students can see a goal with what they are writing and doing. . ." and then later "Will your things be published? What works for you? How will you publish?" Within this same frame, the teachers also selected several images that seemed to be a direct contradiction of their other images and words. For example, on the left, we have a screen shot from "turnitin.com." This tool was

introduced by one of the high school teachers as a possible way to begin using digital portfolios. But, the screen shot they choose to use was the “plagiarism checker.” This image--especially with regards to the color scheme, linearity of the layout, focus on grammar and proofreading, harkens back to that image the included in the “That was then” frame—the “common proofreading errors.” This points to a conceptualization of writing as being read by an audience of one which rather than the focus of the Summer Institute which was on using a writing process pedagogy that encourages writing for real purposes and real audiences.

Further evidence of teachers’ contradictions about what “authentic” means was seen during the teachers’ planning session. As the teachers were deciding how to organize their piece, they had a lot of discussion about whether or not authenticity is dependent upon technological tools. For example, in discussing the difference between relevance and authenticity, Amelia says, “Yeah! These are still authentic experiences that they are going to write about or authentic ways to get them to write. These are “how” they can write about it. All the different ways, right? But, “authenticity” doesn’t change. Maybe. Is what I’m saying. Right? I don’t know.” Amelia seems to be struggling with trying to articulate what authenticity means. According to activity theorists, when a moment of crisis or a problem in practice emerges, it is often an indication that a teacher is trying to make a change toward something new, thus the researcher needs to place particular attention to the constructions and contradictions that contribute to participants’ conceptual development (Engeström, 2011). Engeström writes, that contradictions often emerge when a subject is in between the expected rules of their activity system and their quest for meaning; there is a period of confusion, which could lead to unpredictable and

“irrational” actions”(2011, p. 611). And, I think we see that vividly in their emerging narrative of what Writing 2.0 means.

Prezi and Spatial Metaphors

My third research question, *how did the tool teachers chose to use—Prezi software—mediate their thinking?* emerged only after I began to conduct a metaphor analysis on my data. As discussed in the findings related to my first research question, I identified some teachers’ frustration with the tool of Prezi because of they were unfamiliar with how to use it. In this section, I draw on data from another group of teachers’ concept map in the Summer Institute to show how the tool the teachers used—and the pre-determined template they selected— help to mediate, or shape their thinking. One of the most interesting aspects of the teachers’ concept maps was that all of the small groups of teachers chose to use the online software, *Prezi*, to create their concept maps. While a user can create a Prezi from scratch, most users choose from one of dozens of pre-designed templates to work from. Many, if not most of the Prezi templates are based on metaphors of a journey, featuring maps, pathways, and so on. The software designers developed Prezi with these visual and spatial metaphors in mind. The “About” section on the Prezi website says as much: “People remember spaces and stories. Prezi’s use of spatial metaphor helps your audience remember your content better. Each Prezi is a place where you can use spatial metaphor to engage your audience’s memory” (Prezi Website, 2014).

As discussed above, one group of teachers used a Prezi template that used the earth in space as its overarching spatial metaphor. Another group of teachers (group #2)

selected a Prezi template that featured a dark forest as the overall organizing visual metaphor (see figure 5).

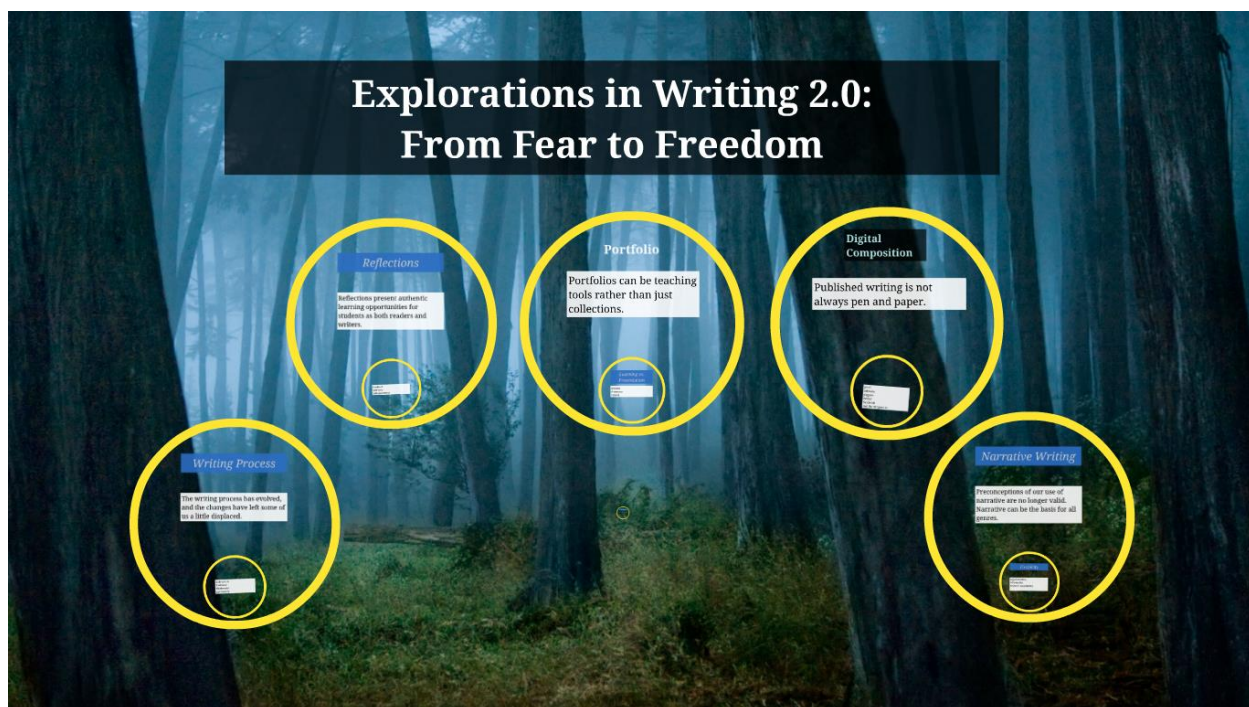


Figure 5. A screenshot of group 2’s concept map.

Group #2 titled their concept map “Explorations in Writing 2.0: From Fear to Freedom” and referred to their visual metaphor in the beginning of their presentation of their concept map. For example, in introducing her group’s Prezi, Diana explained to the whole group:

So, we were kind of working with a theme in reflecting over the week. And, we broke a rule. We choose a pre-designed theme. We talked about fear. A lot of what we were afraid of was changes in the writing process—portfolios and all that kind of stuff. And, we’ll talk about that. Through the course of the week, as we learned more, as we started to examine the “trees” within the “forest” (audience

laughs), we became less fearful and felt an increased sense of freedom. And actually, this isn't so scary, there's a lot of play within these categories.

In both group #1 and group #2's concept maps, the abstract metaphor of fear and anxiety is represented through the physical representation of dark, outer space, and a dark and misty forest. That both groups chose templates with foreboding imagery, and dark colors are interesting since the majority of the predesigned templates in Prezi are market by modern graphics and bright and colorful fonts. However, the similarities between the two Prezi's ends there.

The first group of teachers focused primarily on the affordances and barriers related to digital tools. But, the second group of teachers focused more on the pedagogical aspects of the Summer Institute. They organized their Prezi into five main sections: writing process, reflections, portfolios, digital composition, and narrative writing. The majority of their presentation focused on the pedagogical aspects of the writing process and how they understood narrative writing to be the foundation of all other genres of writing. The second group gave only minor attention and time to digital tools during their discussion of digital composition. During their presentation to the whole group, the focus on digital tools was almost an afterthought. At the end of their presentation, Krystal said, "Wait! There's one more! I think this was part of that fear to freedom was that the published writing is not always pen and paper." Another member of the group, Heather, added, "I think this is where a lot of my fear came from was the digital writing stuff. The 8th grade writing test is pen and paper. Incorporating the digital, but still instilling in them good writing skills." For this second group of teachers, then, using digital tools seemed to cause them some anxiety, because they were unsure of how

those skills might transfer to the “pen and paper” writing tests required of their students at the end of the year.

Discussion

It could easily be argued that the first group of teachers failed to understand the meaning of publishing for an “authentic” audience and purpose. And, teacher “failure” is a popular discourse in both research on professional development as well as in the popular media discourse. What this study contributes is something different because it asks Why was there a contradiction in how teachers understood terms such as authenticity? In other words, understanding the interaction between affordances and barriers can be seen as productive to change rather than being seen as counterproductive. The tension between resistance and appropriation of technological tools will always exist, so it is important to examine the tensions in a more interactive way. I argue that examining how teachers use different tools to tell their stories is one way to investigate those tensions in a generative way. Activity theory is helpful in showing that when a subject, such as a teacher, who is embedded within an activity system adopts a new element from the outside (like a new technology or a new object), it often leads to an aggravated secondary contradiction where some old element (e.g., the rules or the division of labor) collides with the new one. When I presented my initial findings to my colleagues, one of whom who had been a teacher in Georgia for many years, said, “The way that these teachers are talking about “authentic” sounds like the way that Georgia’s Department of education talks about authentic.” And, here is why it’s so helpful to look at data collaboratively because other people inevitable see things in the data that you miss. I went back and reviewed the department of education curriculum documents and

discovered that the way the Georgia DOE was conceptualizing “authentic” assessments was anything that wasn’t a multiple choice test. Thus, if students were writing an essay that was considered an “authentic assessment.” Even though the first group of teachers said during their presentation that “authenticity means writing to change the world,” the teachers are embedded in a system that conceptualizes any type of essay writing as an authentic measure of student performance. The Georgia DOE includes the following information: “Authentic measures (e.g., learner portfolio, recitation, performance) using district-developed performance scoring rubrics (e.g., writing rubrics) to document the Performance” (Georgia DOE website). Thus, it is easy to see why teachers showed such contradictory understandings of the term authenticity as they were negotiating their understanding amidst differing and competing ideas of what authentic assessment looks like. While contradictions can seem problematic, Engeström argues that they are actually an important part of developmental growth. He writes, “contradictions generate disturbances and conflicts but also innovative attempts to change the activity, making the zone of proximal development an invisible battleground (Engeström, 2011, p. 611).

Engeström explains:

Human learning takes place within and between complex, continuously changing activity systems. Learning needs themselves are increasingly opaque. It is not at all clear just what needs to be learned to cope with the demands of complex activities and global networks in constant turmoil. Humans—practitioners, teachers, students—are intentional and interactive beings who keep interpreting and reinterpreting the challenges and tasks they face in their own, multiple, changing, and often unpredictable ways.

Engeström, 2011, p. 599

What I think is especially useful about activity theory in examining how professional development affects teachers' conceptual development is that it focuses on how tools mediate understanding, and encourages the researcher to examine contradictions. In this case study, I want to show how difficult it was to learn a new tool and conceptualize how to teach with that tool when one has very limited experience with that tool. Incorporating new digital tools into the teaching of writing seems to introduce another complex analytical layer of thinking. Teachers in the Summer Institute were really trying to show their understanding of what they learned during the week, but many of them were frustrated with not being able to, or not knowing how to use the Prezi tool. Further, the teachers who had the knowledge of how to use the tool had more power within their group setting.

Technology is often presented as a panacea to the complex issues in education. Much of the literature in technology integration blames teachers for not seeing the value of incorporating technology. This literature tends to focus on how researchers might help teachers overcome barriers and obstacles in order to get teachers to incorporate technology into their classroom learning. However, much of this literature doesn't give teachers credit as agentive individuals who are trying to engage with new tools and achieve goals within multiple systems that have competing values. The introduction of new tools has the potential to change the system it is used within. When teachers made the decision to use the templates from Prezi, they were choosing to show their understanding through metaphor because that is how the templates of Prezi are designed. In our increasingly technologically-mediated society, our understanding and thinking are

being mediated by both hardware and software; the old laptops the teachers used, the Prezi templates created by graphic designers—all played a role in mediating teachers' thinking and understanding of teaching with technology.

This study has explored how teachers develop conceptual understandings of writing process pedagogy and digital tool use after a summer professional development program. Analyzing the teachers' talk and multimodal concept map helped to show contradictions in teachers' thinking about what it means to write in authentic ways. Examining contradictions and “failures” in teacher learning is an essential aspect in researching how teachers learn and develop new conceptual understandings of teaching writing. Because the use of new digital tools shape teachers' abilities to articulate their thinking and understanding, it is important to investigate the types of tools used in professional development, and to discuss with teachers the particular affordances and constraints of various digital tools. It is also important to develop on-going professional development support to help teachers as they continue to work with and integrate digital tools into their teaching of writing. Finally, this study has shown that for many teachers, teaching writing with new technologies may require a shift in both teacher identity and institutional culture.

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CHAPTER 4

REFRAMING THE ASSIGNMENT:
EVOLUTIONS, NOT REVOLUTIONS, IN LEARNING TO TEACH WRITING WITH
DIGITAL TOOLS³

³ Johnson, M.L. To be submitted to *Journal of Teacher Education*.

Abstract

This article uses Grossman, Smagorinsky, and Valencia's (1999) activity framework for studying teacher learning to examine how three high school English teachers who participated in a professional development program incorporated digital tools and writing process pedagogy into their classrooms. Drawing upon the concept of appropriation, I use a case study approach (Yin, 2003) to analyze each of the three teacher's goals for participating in the Summer Institute, the tools they appropriated, the extent to which they appropriated those tools, and the benefits and challenges experienced by the teacher as a result of appropriating said tools. Findings indicate that the extent to which teachers appropriated the tools presented in the Summer Institute depended largely upon the extent to which their own personal goals were aligned with the university facilitators' goals. The findings from this study indicate that teachers' identities and expertise should be taken into account when designing professional development that focuses on incorporating digital tools into writing instruction. The author offers a number of implications for designing professional development that focuses on incorporating digital tools into writing instruction including positioning teachers as co-designers, and developing a framework for assessing multimodal compositions.

Many teacher educators and researchers in the field of English Education have called for teachers to incorporate technology into their teaching. However, there is a growing concern that teachers are neither incorporating new technologies, nor the practices that accompany them, into their classrooms (Pearson & Somekh, 2006; Wilder & Dressman, 2006). More recently, Turner and Hicks (2013) argue that they are *worried* about what they see teachers doing with technology and outline five practices teachers use that *destroy digital literacy*. These destructive practices include setting parameters or formal requirements on PowerPoint presentations; setting up blogs where students respond only to the teacher's inquiry; criticizing students' texting language; asking students questions that can be answered by a search engine; and using "cool" new tools, such as polls using cellphones, to deliver a planned. Yet, little research has focused on how teachers might learn to develop the skills required that don't destroy their students' digital literacy. In other words, there is little research that has examined why it is that teachers use particular practices regarding technologies and not others.

While many researchers assert that teachers need to shift their thinking when it comes to incorporating technology into their teaching, the perspectives and voices of teachers themselves are often neglected. The purpose of this study is to investigate not just whether or not teachers integrate digital literacies and multimodal writing "successfully" into their classroom, but how and why teachers incorporate technology into their teaching of writing. In this article I use Grossman, Smagorinsky, and Valencia's (1999) activity framework for studying teacher learning to examine how three high school English teachers who participated in a professional development program incorporated digital tools and writing process pedagogy into their classrooms. The goal of

this article is to explore the influence of professional development on secondary English teachers' understanding and application of digital tool use and writing process pedagogy.

Research questions include the following:

- 1) To what extent do teachers who participated in the professional development program appropriate the tools presented in the Summer Institute into their classrooms?
- 2) What benefits and challenges did teachers experience as a result of appropriating said tools into their classrooms?

Review of Literature

The most recent study on writing, the National Study of Writing Instruction (NSWI), funded by the National Writing Project and the College Board, provides an overview of how writing is taught in secondary schools in the United States (Applebee & Langer, 2013). Over the last 30 years, progress has been made with regards to teachers' development and conceptions of the teaching of writing, including an increase in the number of teachers who use process-oriented approaches to writing instruction (Applebee & Langer, 2013). The actual writing that goes on in classrooms is still largely dominated by preparation for high-stakes, on-demand, writing assessments, and writing for learning, authentic research, and inquiry is still quite rare (Applebee & Langer; Hillocks, 2006; Kiuvara, Graham, & Hawken, 2009; MacArthur, Graham & Fitzgerald, 2006). A variety of factors may contribute to this lack of enactment. Many teachers don't feel confident about their ability to teach writing (Kiuvara, Graham, & Hawken, 2009). Teachers' insecurity about their ability to teaching writing may stem from their lack of preparation in learning how to teaching writing (Read & Landon-Hays, 2013). Even though many teachers report that they have a sense of research-based practices in the teaching of

writing, they are often not able to enact those practices into their classrooms because of institutional constraints such as a prescribed curriculum, a heavy focus on literature, lack of time, large class sizes, and a heavy paper load (Read & Landon-Hays, 2013). Coker and Lewis argue that because mastering writing involves so many variables (context, audiences, and purposes), “educators need substantive directives on how to teach the skills and strategies necessary to make this happen” (2008, p. 235). Thus, the research has established that teachers need a great deal of support in learning to teach writing.

In their research on how teachers in secondary school settings are providing support for student writing, Applebee and Langer (2013) reported that teachers use technology primarily for presentational aids for traditional teaching practices (for example, replacing chalk-and-talk with PowerPoint presentations). Applebee and Langer found that few classrooms used technology to support students’ thinking. They argued that blogs, wikis and other technologies, “have the still largely untapped potential to engage students in intellectually challenging ways to think about and with the concepts they are studying as well as to interact conceptually with their teachers and peers” (p. 127). However, Applebee and Langer did find a number of practices that contributed to successful uses of technology to support student learning. These practices included having students develop online writing portfolios, assigning students written assignments that reflect the evolution of digital media, and using technology tools to foster collaboration and inquiry (2013).

A substantial body of literature has established the need for helping teachers develop expertise in effectively incorporating technology into their teaching (Applebee & Langer, 2013; Mouza, 2009; Kopcha, 2012). However, there is no clear empirical

evidence about the best ways to go about providing that support (Hutchinson & Reinking, 2011). Here, then, I draw on literature that discusses how teachers learn to teach writing in an attempt to bridge the gap between what we know about how teachers learn to teach writing and how we might apply some of those principles in order to understand how to better support teachers as they learn to teach digital writing.

The research on studying how teachers learn to teach writing is not particularly robust (notable exceptions include Kennedy, 1998; Grossman, 2001). Kennedy (1998) argued that in thinking about the relationship between teacher education and teacher learning, one should consider three main issues. First, what do teachers need to learn about the nature of writing? Second, what do teachers need to learn about the teaching of writing? And, third, how can teacher's ideas about writing be changed? Kennedy defines the school subject of writing as neither solely prescriptive, nor solely purposeful, instead she says that it is a blend of all three ways of looking at writing. The subject matter of writing, then, consists of a number of conventions or prescriptions, a number of concepts such as genre, chronology, rhetoric, and strategies and purposes. These map onto, roughly, content knowledge and pedagogical knowledge about the teaching of writing.

Kennedy stated that since the 1980s, there has been a growing emphasis on encouraging teachers to adapt a writing process model. This model encourages teachers to help students learn strategies for achieving their own purposes in writing, to think about authentic audiences, and to think about the many strategies students can draw on to solve problems in their writing. Kennedy argued that to getting teachers to adopt a writing process model would be difficult because it would cause teachers to shift the content of their classes, and would also affect their classroom management and

interpersonal relationships with their students. Kennedy (1998) emphasized that “Since all three aspects of writing represent important ideas, the challenge to teachers is to make writing meaningful by encouraging students to write about things that interest them and at the same time to insert important concepts about writing into their thinking and provide important prescriptions” (p. 13). Kennedy suggested that examining how teachers learn to teach writing is a “painfully vivid example of the general problem of managing the uncertainty that arises from competing ideals” (1998, p. 14). Kennedy proposed a model of teacher learning that defines learning as a complete transformation, or a complete change of one’s ideas, as opposed to simply a refinement of ideas one already has. However, as Kennedy pointed out, it has been well established that changing teachers’ beliefs is extraordinarily difficult because those beliefs are established early on. Indeed, the majority of professional development programs focus on teachers as learners and the content of the professional development program, but fail to account for the context and facilitator of the professional development (Borko, 2004). In order to understand how individual teachers learn, one must study teacher learning within the multiple contexts and social systems within which teachers are situated (Borko, 2004). An activity theory perspective on teacher learning offers a more nuanced view of why teachers believe and act in certain ways because of the attention paid to the context and settings in which teachers work and learn.

Theoretical Framework: Studying Teacher Learning

This study draws on sociocultural perspectives (Bakhtin, 1981; Vygotsky, 1978) that focus on the social nature of learning and emphasize the role tools play in mediating learning. Building from this foundation, activity theorists (Cole, 1996; Engeström &

Miettinen, 1999; Lave & Wenger, 1991; Wertsch, 1991) work from the perspective that learning should be seen as activity situated within discourse communities. Drawing on activity theorists (Cole 1996; Leont'ev 1981; Tulviste 1991), Grossman, Smagorinsky, and Valencia (1999) provide an activity theory framework for studying teacher education. Though their study focuses on preservice teachers as they learn to teach during student teaching and university coursework, the same framework also provides a useful heuristic for analyzing in-service teachers as they learn new concepts in professional development. Activity theory provides useful key concepts in analyzing how teachers learn. These key concepts include activity settings, tools, and appropriation.

An important aspect of activity theory is that the action that takes place within settings is oriented toward some goal. In order to understand the goals of activity settings, it is important to pay attention to their sociocultural history. Of particular interest in this study are the cultural and historical understandings of professional development. Traditionally, professional development programs involved teachers sitting for long periods of time while an outsider came in to tell them what they were doing wrong. It is important to pay attention, then, to the historical roots of professional development programs, their overarching aims and purposes, the way they tend to position teachers, and the overall motives and goals for providing the professional development.

Grossman, Smagorinsky, and Valencia (1999) argued that the concept of appropriation is particularly useful in studying teacher learning because the extent of appropriation is dependent upon the alignment of a learner's goals with members of the culture who have more experience or more power (often, but not always university professors). There has been a large body of research that shows that the majority of

professional development has had little impact on teacher learning. This is likely because teachers have little reason to care about what an outside “consultant” who they don’t know and will likely never see again has to say. These outside consultants are not usually seen as having more experience or power in the culture teachers are embedded within.

Grossman, Smagorinsky, and Valencia (1999) outlined five degrees of appropriation: lack of appropriation, appropriating a label, appropriating surface features, appropriating conceptual underpinnings, and achieving mastery. There can be varying reasons for a lack of appropriation that do not necessarily involve lack of understanding. Even though individuals such as teachers may work within the same setting, they do have agency, construct their own understandings, and may have different goals, may also exhibit resistance to the goals within an activity system (Grossman, Smagorinsky & Valencia, 1999). For example, a teacher may simply reject the premises of the conceptual tool, or may find it difficult to enact the tool in their specific context (Grossman, Smagorinsky, & Valencia, 1999).

Design of the Study

This study is framed as Design Based Research that seeks to “bring about positive change in education environments through creative, innovative, instructional interventions grounded in theory and guided by systematic data collection and analysis” (Reinking & Bradley, 2008, p. 6). I work from Reinking and Bradley’s (2008) conceptualization of design research as intervention-centered in authentic contexts, theoretical, goal-oriented, iterative, transformative, methodologically inclusive, and pragmatic. In design experiments, the researcher identifies a valued pedagogical goal or curricular intervention that can be justified theoretically and empirically, and then works

together with teachers to implement that intervention. While DBR studies involving classroom interventions and benefits for student learning in a classroom setting have become more plentiful in recent years, there has been little research that uses design based research to study how to support teachers' learning (Cobb, Zhao, & Dean, 2009). However, using Design Based Research approach to support teacher learning can provide useful ways for accounting for the multiple contexts in which teachers develop their teaching practice. Choosing to call the professional development program an *intervention* brings up several assumptions that are seemingly problematic because it positions teachers as needing help—or an intervention—into their practice. The overall goal of the intervention was to support teachers in their teaching of writing with the ultimate goal that their students would have more meaningful and engaging writing opportunities.

Because I was interested in how and why teachers learned to use digitals, I choose to use a case study approach (Yin, 2003). Yin points out that case studies offer unique advantages in understanding how and why a phenomenon occurs, and are particularly appropriate for addressing “how” and “why” questions (p. 9). The case studies presented here were drawn from data that was part of a larger year-long study that emerged out of a school and university-based partnership funded by a Teacher Quality grant. Professors in teacher education and rhetoric and composition, and a doctoral student (author) from a large research intensive university worked in collaboration with teachers from the partner schools to create a shared agenda. Teachers and administrators at the school sites identified writing as a central concern, especially with regards to the new writing standards associated with the Common Core State Standards. They also asked for support in incorporating digital tools into their writing instruction. The year-long professional

development program began with a week-long Summer Institute (40 hours) held at the university. Four follow-up meetings were held throughout the 2013-2014 school year at the middle and high school. The Summer Institute and follow-up meetings were facilitated by a professor in rhetoric and composition and by a doctoral student in English Education (author).

Context

Stone Creek school district is located in a semi-rural community in the Southeastern United States. The district includes one large high school, one large middle school and several elementary schools. The students from Stone Creek come from primarily working class backgrounds. Approximately 42% of the students in Stone Creek School District qualify for free or reduced lunch. Stone Creek District reports student demographics as follows: white (67%), black (27%), Hispanic (4%), multiracial (2%). The district reports a percentage of highly qualified teachers that is below the state average. Stone Creek High currently enrolls 1100 students in grades 9-12. Stone Creek Middle School enrolls 755 students in grades 6-8.

Like many districts in semi-rural areas in the Southeastern United States, Stone Creek has limited access to up-to-date technology. The high school has one computer lab which was in high demand at the time the study was conducted. As a result, most teachers were only able to get to the computer lab about once a month. Most of the English teachers who participated in the study had their students create only one multimedia presentation a year because of the lack of access to computer equipment. Stone Creek School District was awarded a large technology grant last year that provided netbook carts to be shared among multiple classrooms. At the beginning of the study, teachers in

the district had not received any professional development on how to use these newly available digital tools. At the same time, the teachers in the district were under multiple new mandates including the requirement to implement the Common Core State Standards, and required participation in the Teacher Keys Evaluation Program. The Teacher Keys Evaluation Program ties a percentage of teachers' evaluation to their students' performance on high-stakes tests. In short, the teachers at Stone Creek were under immense pressure from multiple levels. In addition, because the district has cut the professional development days due to budget constraints, many teachers in the district have expressed concern about having the time and space to both digest the new standards, and to develop thoughtful units that meet the CCGPS and their individual students' needs.

Participants

In this study, I focus on three case studies, that of Claire, Zoe, and Savannah. All three of the teachers taught English at Stone Creek High School. Claire had taught for 21 years. Savannah had taught for 15 years, and Zoe had taught for 10 years. They are all self identify as female and Caucasian.

Data collection and analysis

The data for this study was gathered during a Summer Institute, held in July, 2013, and throughout the 2013-2014 school years at Stone Creek High School. As the author was also one of the university facilitators in the professional development program, participant observation was one form of the data. Other data collected included surveys with open-ended questions (given three in July, 2013, August, 2013, and April, 2014). The Summer Institute was audio and video recorded (30 hours of recording).

These recordings were then transcribed. Video and audio recordings of the 4 follow-up meetings held at the middle and high school were also transcribed (24 hours). Other data collected included teachers' written reflections from the Summer Institute, and teachers' curriculum planning documents, rubrics, and student work.

Case studies should include multiple sources of evidence (Yin, 2003) including documents, archival records, participant-observation, and physical artifacts. Thus, I used a variety of sources—initial surveys, emails, reflective journal entries, and recorded and transcribed conversations from the larger study to create a descriptive case, organized chronologically, for each participant in the study. In creating the descriptive case studies, I used thick, rich description as an interpretive act (Freeman, in press). As Schwandt (2007) stated, “To thickly describe social action is actually to begin to interpret it by recording the circumstances, meanings, intentions, strategies, motivations, and so on that characterize a particular episode. It is the interpretive characteristic of description rather than detail per se that makes it thick” (p. 296). I also used narrativizing strategies (Polkinghorne, 1995) to create a story that focused on the teachers' experiences from the time they began the Summer Institute to the end of the professional development program.

After I created the descriptive cases, I used the key concepts outlined in Grossman, Smagorinsky, and Valencia's (1999) framework to analyze what tools the teachers appropriated, to what extent they appropriated the tools, and to analyze why the teacher's appropriated the tools to the extent that they did. The concepts from activity theory provided useful heuristics as they enabled me to chunk the descriptive narrative

case studies into categories: the teachers' goals, the settings in which they worked, the settings of the Summer Institute, and follow-up meetings, and so on.

The Professional Development Program

The professional development program included two distinct settings: that of the Summer Institute, held at The University, and that of the follow-up meetings held at the teachers' schools. The location of the setting is important as it had effects on the ways that teachers were positioned and how learning occurred. The professional development program began with a week-long Summer Institute, (40 hours) held at the university in July, 2013. The Writing 2.0 Summer Institute was facilitated by a professor in rhetoric and composition, a professor in English Education and by a doctoral student in English Education (author). The Summer Institute was designed with a focus on writing process pedagogy that emphasizes student choice and inquiry; conferring; examining author's craft; and using portfolio assessment. In meeting with the teachers from Stone Creek High, three main concerns emerged: 1) How to implement the writing component of CCGPS, 2) Lack of time to implement CCGPS, 3) How to incorporate technology to meet the CCGPS in innovative ways. One teacher said that the heavy emphasis on writing in the CCGPS was "a major cultural shift for most teachers and students" at the school.

According to the Georgia's DOE expectations, during the 2013-2014 academic year, teachers were expected to assign 4-6 analytic pieces of writing and 2 narrative pieces of writing during each 9 week term. Most teachers at Stone Creek High taught over 120 students; so teachers expressed concern about how to assign and effectively assess this volume of writing.

As noted in the introduction, activity theory provides tools for analyzing the setting in which learning occurs. For this study, I conceptualized the Summer Institute as its own setting full of the historical and cultural background associated with teacher learning and professional development. Though teachers volunteered to participate in the Summer Institute, and were consulted before hand about the kinds of support they needed, I expected that the teachers might have some reservations and skepticism toward the university researchers and facilitators. In later conversations with the teachers, they told me that they regarded most professional development “opportunities” as a chance for a well-known author or consultant to come in for a day to sell their wares and make a lot of money. Teachers, then, brought their own histories to bear with them to the workshop—these histories included their ideas and beliefs about the teaching of writing, the kinds of support they needed and wanted, and their own goals for participating in the professional development program.

In the hopes of making our multiple motives and goals somewhat more explicit, I began the Summer Institute by asking teachers to introduce themselves and to explain their purpose for participating in the professional development program. I explained that I was a doctoral student, that I was interested in learning how teachers learn to teach with digital tools, and that I would be using the professional development program to collect data for my dissertation. I also explained that all of the materials provided for teachers (small stipends, books, and food) had been provided by an Improving Teacher Quality Grant. Thus, I was also operating under the conditions and goals set out by the grant reporting requirements. Elizabeth Davis stated that her purpose for being involved in the study was to learn about what was going on in high schools. She stated, “I’m really

interested in learning about what is going on in the high schools. I'm really interested in learning about the foundations that get established at the secondary level so that I understand my students better, and their writing backgrounds." Peter Smagorinsky stated that he the Summer Institute was an opportunity for him to learn. He said, "There's probably so much I could learn from this, I'm not sure I want to start."

The structure of the summer workshop was designed to include time for unpacking the Common Core State Standards, reading from two professional trade books (*Crafting Digital Writing* by Troy Hicks, and *Teaching to Exceed the Common Core*), and experimenting with a variety of different digital tools and activities, and then providing time for teachers to plan their own units for the upcoming year. The digital tools we spent the most time "playing around" with included using Animoto to create "I am From" poems; using Twitter to engage in discussions; and experimenting with different digital storytelling platforms such as blabberize, GoAnimate!, Googlemaps, Prezi, and Glogster.

One of the main concerns the teachers in the study had expressed concern about was a new requirement (from their district, which they originally thought was from the CCSS) that students were expected to complete 4-6 analytic pieces of writing and 2 narrative pieces of writing during each 9 week term. Thus, a significant portion of the Summer Institute was dedicated to helping teachers understand how to navigate assigning the 8pieces of writing per quarter in ways that would be meaningful to their students. Elizabeth Davis facilitated a number of activities and discussions centered on using portfolios as a way of on-going assessment. Professor Davis explained:

Well, the process of portfolio keeping, and your individual projects, and what we were doing this week, is kind of sequencing your projects so they build on one another. That's a mini portfolio in and of itself. There are all those little different pieces of that project that go into the making of the project. Oh, this is the finished product, but I can look and see how this project evolved, right? And presumably you've been giving formative feedback at different stages on the final project that they turn in.

Another key concept discussed in the Summer Institute was using narrative as a foundation for other genres of writing such as argumentative writing and persuasive writing. Our hope was that by presenting a number of different tools—both practical and conceptual— teachers would discover the tools that best met their own pedagogical goals, as well as the needs of their individual students.

Four follow-up meetings were held throughout the 2013-2014 school year at the middle and high school. The follow-up meetings lasted between 5 and 6 hours and were attended by the author, Lindy, and Elizabeth Davis, a professor in rhetoric in composition. In the follow-up meetings, teachers were asked to share an assignment and student work from a unit they had planned to do from the Summer Institute. The structure of the follow-up meetings was much looser than the Summer Institute, and teachers were primarily the ones doing the talking and presenting of student work.

Findings

In this section, I present three case studies, that of Claire, Zoe, and Savannah. Each of the cases includes a discussion of the teacher's goals for participating in the Summer Institute, the tools she appropriated, the extent to which she appropriated those

tools, and the benefits and challenges experienced by the teacher as a result of appropriating said tools. After discussing each of the cases, I will discuss the implications for teacher learning and professional development.

The Case of Claire: “I’m Just Trying to Keep Up”

Claire was an experienced teacher who taught 11th and 12th grade, and dual enrollment courses. In 2013-2014, she was assigned to teach 12th grade British literature which she had not taught in almost 10 years. In talking about her goals and purposes for participating in the Summer Institute, Claire said that since the last time she had taught British lit, the standards had changed twice. She said, “I am just getting old. This technology thing is going so fast, I’m just trying to keep up with it. I would love some time management and quality management things.”

During the Summer Institute, Claire explained that her British literature class provided her with the opportunity to completely “reinvent” her curriculum, and that she looked forward to trying out some new things with her students.

Claire was able to accomplish at least one of her goals that she stated at the onset of the Summer Institute, that of keeping up with new technology tools and incorporating them into her teaching. Thus, while Claire did appropriate digital tools into her teaching of writing, she primarily appropriated the surface features of the digital tools rather than the conceptual underpinnings. Grossman, Smagorinsky and Valencia (1999) state that appropriating surface features happens when a teacher learns some of the features of the tool but “does not understand how those features contribute to the conceptual whole” (p. 17). Claire had her students use the tool of Animoto but she did not understand or focus on the specific ways that Animoto could amplify or constricted meaning.

At the November follow-up meeting, Claire shared the Multi-Genre Research Paper assignment that she had incorporated into 12th grade British Literature class as a result of attending the Summer Institute. For this assignment Claire asked her student to write a traditional written research paper about a member of the British monarchy. Students were then asked to take that research and “interpret it using technology and art and music” to create three artifacts that they would present to the class. Claire’s stated goal for this assignment was to differentiate instruction by grouping students together, to have students collaborate with each other and to provide students with many different choices of technology to present their research in innovative ways. She asked students to choose 3 of the 6 options from a matrix of choices (see figure). During the follow-up meeting, Claire shared several pieces of student work from the multi-genre research assignment, including an Animoto video created by Alex, which showed 6 images of Edward the Confessor, accompanied by an upbeat contemporary pop song.

<p>Group 1: Print Media</p> <p>(use Publisher)</p> <ul style="list-style-type: none"> • Obituary • Editorial • Letter to the Editor • Advice Column • Magazine Article • Newspaper article 	<p>Group 2: Visual with Words</p> <ul style="list-style-type: none"> • Poster • Invitation • Ad • Travel Brochure • Greeting Card • Cartoon or Manga Version • Postcards • Character “baseball” cards • A play or skit 	<p>Group 3: Visual Display</p> <ul style="list-style-type: none"> • Artwork • Collage • Map • Wanted Poster • Artifacts for a Time Capsule
<p>Group 4: Nonfiction/Informational</p> <ul style="list-style-type: none"> • Interview (think <i>People</i> magazine or the Oprah Show) • Trivia Game • Timeline 	<p>Group 5: Fiction/Creative Writing</p> <ul style="list-style-type: none"> • Skit or Play • Song • Poem (s) • Short Story/Novel excerpt • Diary of a character 	<p>Group 6: Digital and Web 2.0</p> <ul style="list-style-type: none"> • Photo Story • MovieMaker • Web Page • Glogster www.glogster.com

<ul style="list-style-type: none"> • Bulletin Board • Diary 	<ul style="list-style-type: none"> • Eyewitness account • Double-voice piece/double voice poem • Found poem • Verbal collage • A story • Recipe • Lists 	<ul style="list-style-type: none"> • ScrapBlog www.scrapblog.com • Facebook/myspace page • Powerpoint • Animoto
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Figure 6. Claire's multi-genre research assignment.

In enacting the design of her assignment and thinking about the affordances of technology, Claire expressed a number of challenges and benefits that she saw in enacting the multi-genre research assignment. She said that the digital technologies and Web 2.0 components helped her and her students “stretch themselves” a bit. She noted that students were able to share expertise and collaborate with one another. She felt that using this distributed expertise and knowledge was effective for her students which included a great variety of student interests and abilities. Incorporating new technology also caused Claire to rethink the individual nature of student research. Although students did end up creating individual presentations, she built in opportunities for students to collaborate and share their expertise with one another.

However, Claire expressed her frustration with what she called the “poor quality” of almost all of the students’ work on this assignment. As part of her goals for the Summer Institute, Claire shared that she was concerned with managing the quality of digitally-mediated writing assignments, and this concern came up in the group’s discussion of the Animoto project. Part of the issue for Claire with Animoto assignment was that students “really don’t have much room for pictures or words at all. It would be really effective if they imagined it like the Zen PPTs, where you were only allowed to put one word on it. They could only have 6 for the whole topic, then Animoto would work.”

Here, Claire was beginning to articulate the specific affordances of the Animoto tool, but she was still primarily appropriating surface features of the digital tool because she was not yet able to articulate the ways in which the digital tool could amplify meaning in writing. It is particularly interesting to note that in Claire's assignment matrix, she sets the digital tools aside as their own genre, separate from, for example, fiction, or artwork, found poem, etc. Thus, the digital tool "genre" seems to be content-free. Grossman, Smagorinsky and Valencia point out that they "assume that that the authoritative version of the concept has a particular, officially articulated meaning and that this meaning has been offered as a conceptual tool by a teacher of some kind. As we describe this level of appropriation, then, we are assuming that the learner is making some effort to grasp the official conception, yet is succeeding in doing so only at the surface level" (p. 17). Well, here, this gets a little problematic and complicated because in looking back at the workshop, we did talk about how teachers needed to understand "what these tools can do" and the "affordances and constraints of the tools" but we never articulated explicitly that Animoto was particularly good at amplifying meaning in specific ways.

It would require much more thinking and talking among the group before there was general consensus about the most effective ways of using Animoto. One of the teachers, Andrea, shared that giving her students so many choices in writing meant that some students had knowledge of that genre—whether it was obituaries, or novels, while other students lacked the knowledge of the genre resulting in student work that was quite poor. Claire agreed and said that she had offered only "vague" criteria about any of the genres, and that this may have contributed to the poor student work.

After Andrea and Claire brought up their concerns the teachers and university facilitators had a conversation about what was unique about Animoto focusing on what the tool Animoto could do that other tools could not do? The discussion focused on the affordances of Animoto—that because it uses transitions, music, and is image-heavy, it is particularly apt for conveying mood. One of the teachers noted that Claire’s topic for the assignment, “What does it mean to be the ruler of “England” when (a monarch) was in charge? What did it mean to be a citizen/writer during that time?” could be modified slightly to make good use of the affordances of Animoto. Zoe said, “I was thinking about the Animoto, that it would be really awesome if the kid...because that question that Claire posed, about what it would have been like to have been a citizen at that time of that ruler, that that would be a really effective use of Animoto. With no text, just music and images. Just to create a mood or something, that then you could ask the class—from what was presented, what would you guess the time period was like?” The group discussed that framing the question around mood would require sophisticated research that would have to get at how the political situation influenced the mood of the country as a particular time?

The conversation with teachers and university facilitators was important and powerful because both the university facilitators and teachers were constructing new knowledge together. Going into the follow-up meetings, the university facilitators really had no idea what was going to come up for teachers and what exactly would come out of them. It wasn’t until we carefully looked at the students’ work together that we were able to understand the challenges and issues experienced by both teachers and students. There was definitely an improvisational space where teachers would riff off each other—they

would bring up questions that the university facilitators would never have anticipated or even thought might be brought up. The follow-up meetings, then, served as an important mediational means for generating new knowledge about how to use digital tools in teachers' specific contexts.

The Case of Zoe: “Inventing as We Went Along”

At the beginning of the Summer Institute, Zoe introduced herself as an “English literature” teacher who taught 10th grade American literature and AP literature. In terms of her goals for attending the workshop Zoe stated, “I really want to learn about how to get my students writing as much as possible. Get them some meaningful feedback, but not make myself crazy. So, portfolios, and since we have all this new technology at the school, or even greater access to it, with our netbooks and stuff, I’d like to actually use it for something other than word processing.” Overall, Zoe was open and enthusiastic about the ideas presented in the Summer Institute. Zoe had taken courses with the one of the university facilitators, Peter Smagorinsky, and had completed all of her coursework toward a doctoral degree at The University. Zoe had also been named a Teacher of the Year, and was a known leader at her school, serving on the Instructional Leadership Team, and other school-wide committees. Because of her reputation as a leader, she was asked to serve as the school-site coordinator for the professional development program. In this role, Zoe collaborated with the university facilitators in developing the agenda for the Summer Institute, identified needs of the teachers at the high school, coordinated the follow-up meetings, and generally served as a liaison and broker between the university and the high school settings.

Zoe appropriated both digital tools, such as digital storytelling platforms, and conceptual tools, or ways of thinking about the teaching of writing, from the Summer Institute into her classroom. The conceptual tools she incorporated were 1) using narrative genres of writing as a seed for other forms of writing, and 2) portfolios as a way of on-going assessment. Specifically, Zoe decided to adapt the strategies from the Summer Institute into a unit on Romanticism and Individualism that she used in her 10th grade American Literature.

She had met her goals for the Summer Institute by incorporating portfolio assessment and new technologies for something “other than word processing.” That Zoe incorporated so many of the conceptual underpinnings of portfolio assessment and the use of digital tools from the Summer Institute was most likely due to the fact that she had a close relationship with the University and her own personal goals were closely aligned with the university facilitator’s goals.

Zoe appropriated many of the conceptual underpinnings from the portfolio assessment tool and using narrative as a seed from the Summer Institute. In fact, Zoe appropriated these tools in almost the exact same ways in which they were presented in the Summer Institute. For example, Zoe wrote:

After today’s discussion, I decided to add a narrative based on our readings of the Lewis & Clark expedition. The focus will be imagery as Romanticism is featured in the unit. I will follow same strategies used today: freewrite, add more detail, peer review, etc. Students will draw from those to create a digital narrative. Will wrap up assignment with an informative piece explaining their process. (Zoe, Written Reflection, July 23, 2014).

Zoe followed the same sequence that was presented in the Summer Institute, and she did so unproblematically. In other words, she did not exhibit any resistance to the concepts of the approach. Again, this was likely due to Zoe's goals being closely aligned with those of the university facilitators.

Another tool that Zoe appropriated from the Summer Institute was using portfolios as an assessment tool. The portfolio assessment tool was a new concept for teachers, including Zoe. As discussed earlier, portfolio assessment was defined as the careful sequencing of smaller assignments that build on one another into a final project. The three principles of portfolio assessment included collection of these small assignments, selection of which assignments to include in the portfolio, and reflection on the process. When asked what Zoe had done with portfolios in the past, she replied that she was primarily using portfolios to collect student writing. Zoe appropriated conceptual underpinnings because she was asking student to collect, select, and then reflect with the goal of helping students develop more ownership over their writing and to become more metacognitive and reflective about what they had done in their writing.

Zoe not only appropriated the conceptual underpinnings of the portfolio assessment tool, she also helped persuade several other teachers in the Summer Institute to use portfolio assessment. During the grade-level team planning meetings held during the Summer Institute, Zoe introduced the idea of using portfolios for a unit on Romanticism she planned to teach in her 10th grade American Literature class. She shared an outline of how she thought she could scaffold written assignments in her unit to build on another to a culminating assessment that asked students to reflect on their understanding of Romanticism, or theme if Individualism.

Zoe's plan can be seen in figure 1.

Portfolio 2nd Nine Weeks:

Culminating / reflective essay--Address how any three of the following assignments listed below contributed to your understanding of Romanticism and/or theme of Individualism.

(40)

Select any two pieces for revision

- Narrative essay (10)
- Digital narrative (10)
- Presentation of digital narrative (10)
- Informative essay on digital composition (20)
- Symbolism piece (10)
- Gothic paragraph (10)

In reflecting on her planning for portfolio assessment Zoe wrote:

“PORTFOLIO!! At last, I think I’ve got it figured it out. So happy. Our discussion on portfolios was so helpful as was the time for discussion. I think my fellow teachers and I (at the high school) just needed time to work out all of the kinks. It is such a relief to finally have this issue resolved. Granted, it will shift over time, but at least we have a starting place. (Written reflection, July 24, 2013)

Although Zoe appropriated some of the ideas of portfolio assessment, and even incorporated portfolio assessment throughout her entire curriculum, she did not appropriate the conceptual underpinning of using narrative as a seed to generate authentic questions and inquiries that could then be developed into argumentative or persuasive essays accompanied by research and so on. Thus her frustration may have stemmed from Zoe's struggle to achieve mastery of this concept.

Zoe found that appropriating new technology tools into her teaching of writing presented a number of benefits and challenges. At the November follow-up meeting, Zoe shared her assignment “Journal from an Explorer,” along with student examples of

assignments, and assessment rubrics at the (see Appendix A and C). The assignment asked students to “Pretend you are an explorer and write a complete journal entry about a time you saw something spectacular in nature for the first time. Then, retell that story in a digital format.” In describing the enactment of the unit, Zoe said that often times she felt unfocused. She said, “I’ll just be honest. Um, it was kind of inventing as we went. And, just kind of like not sure and then kind of rethinking what I wanted the end product to be. I felt unfocused, so I felt like maybe they were, too.” She said that in giving the students this assignment, Zoe said that it changed her thinking and caused her to get “real loose” with the definition of a nature journal. In the past, Zoe had asked students to write a journal as if they were an explorer seeing a place for the first time. But, in this assignment, Zoe said the kids were a little confused about what to write about. In looking at the assignment (Appendix A), there is actually a wide mix of genres, so it’s not necessarily surprising that both the students and Zoe felt a little “unfocused.” According to the assignment sheet, students are asked to “pretend you are an explorer and write a complete journal entry.” But, they are then asked to write “a first person narrative about a time you saw something awe-inspiring in nature.” Finally, they are reminded to “include multiple paragraphs, including an introduction and conclusion. Be sure to have a thesis statement, topic sentences, and closing sentences. In addressing this confusion, Zoe said that she told students, ““It was not like journal from an explorer, it was like ‘a journal.’”

But “inventing” as she went along provided benefits for her students that Zoe had not anticipated. Zoe said that this looseness actually presented some benefits. Talking about the looseness of the assignment, she said, “And, one thing that was good about that, was that I got a lot of presentations that I wouldn’t have gotten otherwise. I think the kids

really, really loved getting to share parts of themselves that they wouldn't have otherwise." Zoe reported that the student presentations went particularly well, especially given that Zoe said that she usually hated student presentations because she felt "stressed the whole time because their peers are so disengaged and so disinterested." But, this assignment was different. Zoe stated that students gave each other really helpful feedback. She said, "the feedback has been great! It's like 'your song was great, but the audio was way too loud.' Finally, Zoe said that it "went really well and in general everybody had expressed how much they liked getting to learn more about each other. Things that they had not known about one another." (Presentation, November 18, 2013). Zoe focused more on the opening up the digital stories offered her students, and the opportunities it offered for students to bring in more of their personal lives and subjectivities into the classroom.

During the Summer Institute, Zoe said that she was much more comfortable teaching literary devices and rhetoric associated with AP literature, but was less sure of her ability to teach narrative writing because it felt so subjective. And, even though she was eager to incorporate portfolio assessment and the idea of using narrative as a seed, she struggled to achieve some of the conceptual underpinnings presented in the Summer Institute. Indeed, later on in the discussion, Zoe said that she felt that she was conflating the digital aspects of the assignment with the narrative assignment. She said:

I feel like I am mixing the two up and, see I thought that was something great for the narrative. But I'm not sure how well it translates to the digital narrative. I feel like I want to do these as separate. Together but separate. Like, the narrative is one big grade as it were, and the presentation is another. Because

they are the same, but different. I felt like I [claps hands together] put them together too much. And I lost sight of what I was trying to do. (Presentation, November 18, 2013)

That Zoe felt unsure and showed a general lack of confidence in enacting this assignment serves as evidence that she had not yet mastered the conceptual underpinnings of using narrative to generate authentic inquiries from which students could generate arguments.

Another challenge for Zoe came in assessing the digital narratives. Zoe noted that the rubric she had designed did not get at what she needed or wanted in her students' work. Zoe shared a piece of student work created by Alex, who as Zoe put it, "didn't really get at what I was looking for." Zoe explained that Alex was a student who rarely completed school assignments, so the fact that he did do the assignment was quite surprising. However, Zoe didn't feel that Alex took the assignment seriously. For Alex's assignment, he had created a Prezi that explored the first time he ate a hamburger. The Prezi included a number of images and words and was accompanied by the PacMan video game soundtrack. Zoe was disappointed because the assignment didn't get at the description or insights she was looking for, but because it met many of the formal requirements, Alex did relatively well according to the rubric. Zoe was frustrated because she felt that Alex's assignment shouldn't pass, but it had to because of the way her rubric was designed. She said, "I think that's what really stuck in my craw was like when I started going through the rubric, there were some things I could ding him on, but this shouldn't pass in my opinion, really. But, it has to because of my rubric."

Other teachers offered feedback to Zoe about how she might alter her rubric in order to get at issues of quality. Elizabeth recommended that Zoe ask her students to

articulate, as part of their compositional process, what it was that they wanted their audience to think, feel, and believe after having watched their digital presentation.

Elizabeth pointed out that while Alex's piece did not meet the requirements Zoe was looking for, if Alex's purpose had been to make people laugh, he was successful from a rhetorical point of view.

Overall, Zoe met her goals for participating in the Summer Institute. Because her goals were closely aligned with the goals of the university facilitator's goals, Zoe was able to easily appropriate the surface features of many of the tools presented in the Summer Institute. However, Zoe struggled to appropriate all of the conceptual underpinnings of the tools of using narrative as a seed for inquiry and argumentation and for allowing students to generate their own topics of inquiry and to write for their own purposes and audiences.

The Case of Savannah: "I Know How Students Would React"

Savannah came to the Summer Institute with a higher comfort level using technology than most of the other in the group. She was known in the group as being "tech-savvy" and other teachers often asked her for advice on how to use Prezi, Windows Movie Maker, and other digital software. In addition, as the yearbook director Savannah had experience using different technologies to facilitate the production of the yearbook. Overall, Savannah was mostly concerned with practical matters associated with teaching. Savannah stated that her goals for participating in the professional development program were managing the new writing requirements of the new CCSS. She stated that she wanted help incorporating "all this writing that is required and manage it. Because there are only 24 hours in a day." Savannah stated during the Summer Institute:

I still see time as the biggest difficulty. It's great to have all of the new instructional tools, but realistically, school starts in a week and I will have my students for 50 minutes a day three times a week and 80 minutes one day each week. I have to find a way to cover all of the CC requirements, but still fit some of these great ideas in. Over the last few days I've certainly worked on this and had success, but the reality is I can't teach writing all period every day. Because my students don't do "homework" or "outside reading," I have to cover everything during the period.

(Written reflection, July 25, 2013)

Savannah was also much more skeptical about the ideas presented in the workshop. She frequently brought up alternate viewpoints, and pushed back against the ideas presented. She also was fairly critical of the workshop, overall. For example, when asked to reflect on the Summer Institute about what was more and less helpful, Savannah wrote that there were many things she found not helpful, including writing like a student, reading from books and reflecting them, and more than 30 minutes spent in discussions. She wrote, "When we were asked to write and "role play" as students. I have been teaching for 16 years, so I know how my students would react and I can think about how the activities would be useful without doing them (I don't mean visiting the websites and trying them out; I mean let's write a paragraph or a poem)." However, in spite of her initial skepticism, by the end of the Summer Institute, Savannah had decided to appropriate both digital tools and portfolio assessment tools into her teaching.

The extent to which Savannah appropriated the tools presented in the Summer Institute was largely dependent upon the extent to which Savannah's own personal goals

were aligned with the university facilitator's goals. But there is also evidence that Savannah's colleagues, the way she was positioned in the Summer Institute, and her own identity as a tech savvy person also played a role in the ways in which Savannah appropriated those tools. Overall, Savannah was able to meet her goals of managing the paper load, meeting the CCSS, and getting her students to use new digital tools.

Savannah appropriated many of the digital tools presented in the Summer Institute into her classroom teaching quite easily. That Savannah appropriated the surface features of the digital tools so easily was likely due to the fact that she came to the Summer Institute feeling confident in her own ability to use digital tools and troubleshoot technical aspects. For example, during the Summer Institute planning meeting Savannah planned to do the following: "I am going incorporate the digital media idea in a writing assignment I used last year entitled "Journal from an Explorer." Instead of just writing the narrative as last year, students will then create a digital media piece using Google Maps, Storify, Prezi, etc."

Like Zoe, Savannah decided to share her "Journal from an Explorer" unit during the November follow-up meeting. When discussing her enactment of her plan to have her students create a digital media piece in her Romanticism unit, Savannah focused primarily on the technical and managerial aspects of incorporating digital tools, rather than the conceptual underpinnings of the digital tools. Savannah's presentation consisted mainly of talking about the various digital tools she had "field tested." Savannah reported that she got on the students' laptops and tried to access each of the 50 digital story platforms listed on the Dominoe site

[see <https://50ways.wikispaces.com/50Dominoes>] in an effort to trouble shoot in advance which sites worked, which sites were slow, and so on. Savannah's emphasis in her presentation was on the technical aspects because that's what she was concerned about and also what she was particularly good at managing. However, there is also evidence in the data that it may have something to do with Savannah's desire to maintain order and authority. Savannah was necessarily concerned about how to make sure that the sites ran properly on the computers, making sure that they were easy for students to access, and so on. Savannah stated, "plus, I knew that if students saw 50 options, they would spend the whole time just clicking, just playing, and a lot of them do exactly the same thing" (Presentation, November, 18, 2013). Thus, Savannah had a desire to be the authority figure in her classroom, and to know how and in what ways students would respond to the assignment. As Kennedy noted (1998), adopting a writing process model requires a shift in teachers' relationships with students because it would shift the expertise and authority from the teacher to the students.

As Savannah stated at the beginning of the Summer Institute, she saw herself primarily as a teacher of literature, and said that she didn't have time (nor the inclination) to spend a significant amount of time on writing. The "Journal from an Explorer" assignment met Savannah's goals because it helped her make progress in completing her unit on literature from the Romantic period, and it was designed so that could maintain her status as the authority in the classroom. At the same time, appropriating digital tools into this unit created space for her students to bring in some of their own unique interests and perspectives in ways that the traditional, linguistic-only "Journal from an Explorer" did not.

Differing Interpretations of Student Work

At the November follow-up meeting, Savannah shared a piece of student work created by a 10th grade student named Jason. This incident illustrates the tensions at work in the competing goals and motives of the teachers and university facilitators. In introducing Jason's work, Savannah stated, "It is a really good presentation, and I know you said don't choose the best, but I didn't choose it because it was good I chose it because he did really make it evolve into a focus on what I asked" (Presentation, November 18, 2013). Savannah reported few issues or frustrations with the implementation of this assignment. For Savannah, much of the success of the assignment seemed dependent upon students successfully following her directions to narrow down their narrative to 10 elements. For example, Savannah stated that "originally, it was focused on the trip itself, but after reading his narrative, he did a really good job, quality, on narrowing it down, and thinking more about this exploration idea." Jason used a pre-designed Prezi template to illustrate the exploration aspects of a trip he took to an FAA convention. Savannah noted that she was impressed by Jason's decision to include video clips from YouTube into his Prezi. Savannah was thus focused primarily on the formal aspects of the digital tool rather than on the ethos. For example, she stated that this assignment was really about students "learning to tell their story in a digital format they have never used before." In thinking about what was "really good," Savannah focused on the student who listened and followed the directions of the assignment, and who had a well-designed Prezi in terms of the format that included video clips, as well as 10 images (the one quantifiable aspect in the rubric).

Savannah's interpretation of the student's work and the university facilitator's interpretation of the student work were quite different. But, both of the university facilitator's saw some problematic issues in Jason's piece. Specifically, Jason's digital story did not have an ending, and ended abruptly in what seemed like the middle of his narrative arc. However, this didn't seem to bother Savannah. Even though the rubric Savannah had created put an emphasis on having a "coherent whole," this didn't seem to come into play in her evaluation of Jason's digital story. This shows the difficulty teachers had in assessing the multimodal compositions, and of their tendency to focus on the digital tools used and technical aspects rather than on whether or not students had well-developed, or well-crafted narratives.

Savannah identified several benefits and challenges she experienced as a result of appropriating tools from the Summer Institute into her classroom. For example, Savannah found the process of having her students go back to their written narratives and pull out key phrases or elements to then use in their digital stories particularly helpful for students. Savannah said, "You have this whole thing, so what is important to pull out? I mean, I didn't really expect that, but that was a good exercise for them." So, incorporating the digital piece—along with the conceptual underpinnings of portfolio assessment, proved to be a beneficial exercise for Savannah's students that she had not anticipated, and may not have been available to her without those tools.

Appropriating the Portfolio Assessment Tool: The Mediating Effect of Conversations with Colleagues

Savannah also appropriated the portfolio assessment tool into her classroom teaching. The role of her colleagues, and Zoe, especially, played a large role in mediating the extent to which Savannah appropriated the portfolio assessment tool. In the section that follows, I will trace how Savannah moved from initial resistance to using portfolio assessment to appropriating many of the conceptual underpinnings of the tool including using all three elements of portfolio assessment (collection, selection, and reflection). Savannah was initially very resistant to appropriating the tool of portfolio assessment. During the discussion on portfolio assessment during the Summer Institute, for example, Savannah expressed concern about the amount of time the portfolio process would take out of her other units, and saw it as one more add-on to her already-full curriculum. Later during the small group teacher planning session Savannah reiterated her concerns. Specifically, she was concerned about having to cover *The Great Gatsby* in only 7 weeks. She said:

I could totally see doing the reflective piece at the end of each 9 weeks, that's doable. I just couldn't see layering the other pieces when I don't even have enough time to finish a unit. And then at the end of the year, take away a week for testing, just exam week, and then possibly take away the week before, so then I am down to 7-8 weeks trying to do my last unit.

Yet, after a 2-hour conversation with Zoe and Claire, Savannah shared, "Zoe and I decided to use the portfolio idea to modify our culminating assignment for each unit. Students will write a reflective piece addressing the unit theme using the pieces they

wrote throughout the unit.” Savannah later said, “I would like to continue to develop our units with the information we've been given. I don't think I need much more information (you've given us terrific info), just time to figure out how to utilize and implement it all.” What accounts for the change in Savannah's level of appropriation? I argue that that it was the conversations with Zoe. Their conversation played a large role in mediating how Savannah reframed her assignments and appropriated the portfolio assessment tool.

Talking about the specifics of how the assignments would be graded, how they would manage the paper load, and what technological tools the teachers would use to store the portfolios with her colleagues seemed to help Savannah see the benefits of portfolio assessment. The majority of the time during Savannah and Zoe's conversation was dedicated to a discussion of how using portfolios would change the way they assessed student work with an explicit focus on the point break down for each of the assignments. In the discussion of the point break downs, Savannah asked Zoe, “So, the points you have listed out to the side there is what it was originally worth? 40 points is what they'd actually get on the assignment? Zoe replied, “Right. Here Zoe addresses Savannah's concerns about the point value, and allays her concerns about the time constraints. Zoe's concern can be shown when she explains to Savannah: “So this gets at what you were concerned about [time]. I was thinking this is good because, one, at the end of the 9 weeks, I'm grading something that is a lot easier to grade and a lot quicker.” After Zoe pointed out the benefits of portfolio assessment for the teachers, Savannah responded, ““Not only is it a lot quicker, I think it's better for them because it really pulls everything together.” This kind of back and forth dialogue between Savannah and Zoe went on frequently. For example, Zoe also talked about how they could use turnitin.com

as a place to address one of the principles of portfolio assessment—the collection of students’ writing. Zoe also brought solutions to the conversations. For example, Zoe said she felt that turnitin.com, would also allow students to do the reflection piece.

Again, the discussion centered on actually envisioning what this kind of portfolio assessment, namely reflection, would look like in the teachers’ own classrooms. Zoe also seemed to try to address Savannah’s concern about the specifics of managing the revisions which in Savannah’s mind created additional work. For example, Zoe posed the possibility of having students turn in a completely new assignment for the revision, but then wondered how she could see what changes students had made from their original draft to the final draft. After addressing a number of Savannah’s concerns, including field testing how students could highlight revisions they had made in their writing and upload the revisions, Zoe pronounced, “So it officially can all be in one place! We can do it all online and be completely paperless . . . so that is awesome!” Savannah replied, “That is awesome! I’m going to go show the 9th grade teachers and see if they want to use it.”

What was particularly interesting was their discourse and how it was situated within an activity system that the university facilitators, despite being former teachers and being in schools, could never really understand. The activity system within which Zoe and Savannah were embedded had different rules, goals, and discourses. Of primary importance in their activity system was dealing with the logistics of incorporating portfolio assessment. These logistics included how to manage the time factor and how to specifically use tools that they already were familiar with and that they could access easily at their school site. Zoe was able to negotiate and help Savannah meet her specific

goals in ways that it may have been very difficult, if not impossible, for the university facilitators to accomplish.

It is important to note that Savannah did not see this as a massive shift in their teaching. Savannah noted in her reflection that she and Zoe were “modifying” their culminating unit. Both of the teachers were using their own agency and creativity to solve problems in their practice. At the end of the week, both Zoe and Savannah had collaborated to create a unit on Romanticism (see figure 1).

In theorizing about Savannah’s level of appropriation, why Savannah was initially so resistant to the idea of portfolio assessment when she so readily embraced the digital tools? As previously discussed, partly it was because of Savannah’s own goals for participating in the professional development program, which were not closely aligned with the university facilitator’s goals. But, it could also be the ways in which she was positioned during the Summer Institute. In thinking back upon why Savannah was so

Portfolio 2nd Nine Weeks:

Culminating / reflective essay--Address how any three of the following assignments listed below contributed to your understanding of Romanticism and/or theme of Individualism. (40)
Select any two pieces for revision

- Narrative essay (10)
- Digital narrative (10)
- Presentation of digital narrative (10)
- Informative essay on digital composition (20)
- Symbolism piece (10)
- Gothic paragraph (10)

resistant, I return to her statement, “I have been teaching for 16 years, so I know how my students would react and I can think about how the activities would be useful without doing them (I don't mean visiting the websites and trying them out; I mean let's write a paragraph or a poem).” Here, Savannah seems to be asserting herself as someone whose knowledge and expertise wasn’t necessarily valued in the Summer Institute. She seemed

to construe the writing activities as the university facilitators thinking that she didn't know how students would react. However, my own goal or hope was that by participating in the writing activities—by writing with digital tools themselves—teachers might be better able to reflect on the affordances and constraints of working with such tools, and might further be able to anticipate the areas where students would have difficulty or need more scaffolding or support.

In fact, Savannah's knowledge and expertise with technology was not really acknowledged or drawn upon in significant ways during the Summer Institute. Yet Savannah appropriated the digital tools easily, and without question, partly because she herself was good at them and thus valued them. If you're good at something, you value that and probably want to teach it to others. It's also important to note the ways in which identity shapes and is shaping within the broader activity settings. Lave and Wenger (1991) stated:

Activities, tasks, functions, and understandings do not exist in isolation; they are part of broader systems of relations in which they have meaning. These systems of relations arise out of and are reproduced and developed within social communities, which are in part systems of relations among persons. The person is defined by as well as defines these relations. Learning, thus, implies becoming a different person with respect to the possibilities enabled by these systems of relations. To ignore this aspect of learning is to overlook the fact that learning involves the construction of identities (p. 53).

Discussion and Conclusion

Overall, all three teachers were able to accomplish the goals that they had established for themselves in the Summer Institute. All of the teachers incorporated technological tools introduced in the Summer Institute such as Animoto, GoAnimate! and other digital storytelling platforms. Teachers also incorporated conceptual tools, or ways of thinking about the teaching of writing including using narrative genres of writing as a seed for other forms of writing, and portfolios as a way of on-going assessment. Overall, the mutually constructed goals of helping teachers incorporate a writing process pedagogy and digital tools into their teaching of writing to better meet the writing standards of the CCSS were met. In addition, the teachers were able to meet the majority of their own personal goals for attending the Summer Institute. However, their goals were not always aligned with the goals of the university facilitators. The extent to which teachers appropriated the tools presented in the Summer Institute depended largely upon the extent to which their own personal goals were aligned with the university facilitator's goals.

While Claire chose to completely “invent” new assignments and new curriculum to use with digital tools, Zoe and Savannah applied what they had learned from the Summer Institute into their own teaching, in ways that they called, “Reframing” their assignments. Zoe was able to negotiate and help Savannah meet her specific goals in ways that it may have been very difficult to the university facilitators to do. This mediating conversation, planning, and collaboration was not available to Claire—not because of any structure in the Summer Institute, but because she was the only teacher at her school who taught 12th grade British Literature.

As discussed earlier, Kennedy (1998) argued for a model of teacher learning that defines learning as a complete transformation, or a complete change of one's ideas, as opposed to simply a refinement of ideas one already has. Yet she herself argued the inherent difficulties in changing teachers' beliefs. The data from my study provides a different perspective. Teachers shifted their thinking in small and subtle ways, but their changes in thinking and enactment were evident after having attended the Summer Institute. That does not necessarily imply a directly causal relationship. In terms of thinking about the process of how teachers came to appropriate different tools from the Summer Institute, teachers' conversations with their colleagues were a powerful mediator of the ways in which teacher's appropriate the tools. The findings from this study indicate that one of the most powerful mediators for teacher learning is not only other teachers, but other teachers who work in the same contexts—the same district, subject matter, and even teaching the same course were all important because teachers have different needs and different goals in different classes with different students. This finding confirms Lave and Wenger's (1991) assertion that learning occurs within communities of practice and that learning involves the construction of identities. Much of the teacher learning took place in the form of learning from each other within the mediating spaces provided by the Summer Institute and follow-up meetings. The follow-up meetings, especially, seemed to serve as important mediating events in teachers' understanding of the tools presented in the Summer Institute. The follow-up meetings' mediating effects likely had to do with several factors, one of which was the ways in which teachers were positioned as knowledgeable experts of their own practice.

Positioning Teachers as Co-Designers

In analyzing how the teachers appropriated various tools in the Summer Institute, I realized that we had inadvertently positioned teachers in the two settings of the professional development program, the Summer Institute, and the follow-up meetings, in very different ways. In the Summer Institute, teachers were positioned primarily as learners, while in the follow-up meetings, they were positioned as co-designers and experts on their own teaching. Although the university facilitators worked from the assumption that teachers brought unique knowledge and experiences to share, some of the activities we asked teachers to participate in during the Summer Institute were taken up differently than the way we had intended them to be. Some teachers felt that they were being positioned as students rather than as experts.

In the follow-up meetings, teachers were positioned quite differently. This positioning was due to a variety of factors including the fact that the follow-up meetings were held at the teachers' schools, and the teachers were asked to present their lessons and their students' work front of the group. Asking the teachers to present the assignments and rubrics they designed, and to reflect on the benefits and challenges they experienced contributed to the teachers being positioned more as the experts of their own practice whose knowledge and experience was valued and worthy of attention. In addition, during the follow-up meetings, it was the teachers who led the discussions and the discourse was shaped primarily by the teachers' specific questions and challenges.

In positioning teachers as the experts of their own practice, I do not mean to imply that the presenting teacher was the sole authority in the room. The follow-up meetings were a space where the teachers and university facilitators could explore the use of digital tools in more depth by examining together the challenges teachers experienced when

incorporating new tools into their teaching. And, where we could discuss the tensions that arose between the goals and motives of the university facilitators and teachers. The follow-up meeting served as a mediating space where teachers could experiment with different ways of thinking about how to best use digital tools to meet their students' needs as well as their own needs.

Central Concern for Teachers: Assessing Multimodal Compositions

A central concern for all three teachers in this study was how to assess digital writing. A good portion of the group's discussion was teasing out the qualitative differences between what teachers identified as "good" and "poor" pieces of student work and talking about how teachers might communicate those differences to their students. Even though all the teachers had developed their own rubrics that they used to assess their students' digital writing projects, and even though each of those rubrics gave attention to multiple modes of communication, all three teachers indicated difficulties in how to assess what they felt were subjective qualities of the multimodal texts. Teachers felt a lack of confidence about how to distinguish between "good multimodal compositions" and "poor" multimodal compositions.

In thinking about why it was difficult for the teachers to assess multimodal composing, I realized that it required that teachers shift their thinking in two ways. First, it required that teachers shift from a focus on literature to a focus on writing. And, second, it required that teachers shift their thinking from standardization to aesthetics. However, teachers tend not to be well-versed in the aesthetic and rhetorical qualities of various kinds of texts. In addition, the difficulty in these shifts are made more difficult because of the current educational climate which emphasizes a standards-driven

curriculum and high stakes tests. In addition, the teachers who participated in this study, like many teachers in the United States, are under increased scrutiny; beginning in 2014, the evaluations of the teachers was tied to their students' performance on multiple-choice end of course tests. Teachers are increasingly monitored, evaluated, and critiqued, and it makes sense that they might be reticent to give up control in their classrooms to try out new practices.

Yet, the data from this study indicate that when teachers incorporated technological tools from the Summer Institute, even if they were not completely appropriated in the ways that the university facilitator's had hoped for, their thinking and their classroom practices were affected. Several scholars have emphasized that incorporating new and digital literacies into the classroom to improve students' learning requires a significant shift in teachers' thinking (Kist, 2005; Bailey, 2009). Similarly, Kennedy (1998) argued that letting students set their own writing goals and purposes for writing would require major shifts in the way most teachers view their personas in the classrooms. The data from this study do indicate that shifts in teachers' thinking are needed when incorporating digital tools into their teaching of writing. But, when those shifts need to happen is unclear. Here, Cazden's (1988) notion of *performance before competence* comes into play. The data indicated that when teachers incorporated technological tools from the Summer Institute, even if they were not completely appropriated in the ways that the university facilitator's had hoped for, shifts in their thinking and practices did occur. But, it is important to note that these shifts often did not occur until after the teachers had incorporated the digital tools into their teaching and

after they had seen how their students responded to the tools, and after they had reflected upon their experience with their colleagues.

Previous research has shown that teachers need much of support when teaching writing; a separate body of research has shown that teachers need a great deal of support when incorporating technology. Based on the data from this study, and the previous literature, I argue that when incorporating digital technologies into the teaching of writing that need for support becomes magnified. In order to effectively incorporate digital technologies into the teaching of writing, teachers must not only have a deep understanding of the writing process, they must also have an understanding the affordances and constraints of digital tools, as well as a good understanding of how to effectively use images and other modes in writing.

In thinking about the case of Claire and Animoto, what is particularly problematic is that the university facilitators did not work from an explicitly stated framework. Partially, this may have been because the university facilitators had implicit understandings of the tools, or an intuitive sense of what would work aesthetically, or not. Therein lays the problem. For in borrowing aesthetic sensibilities and rhetorical qualities of multimodal compositions, there are simply no real concrete frameworks with which to draw from. Part of the issue, then, is the lack of a coherent framework for using digital tools in the teaching of writing. In moving both practice and research forward on digital technology and writing, it would be helpful to have a coherent framework for writing with digital technologies. NCTE's *Framework for 21st Century Curriculum and Assessment* offers a starting point by providing teachers with a number of questions to reflect on relating to the literacy demands of the 21st century. However, the framework

provides teachers with little guidance in terms of designing and assessing multimodal compositions.

My study has shown that the extent to which teachers appropriate digital tools is largely dependent upon the extent to which teachers' goals align with university researchers' goals. This is not to say that teachers' goals are somehow superior to university researchers' goals or vice versa. However, often these conflicting goals and agendas can cause researchers to give up on schools. I concur with Vasudevan, Schultz, and Bateman (2010) who after completing a multimodal composing study in a classroom noted how traditional classroom practices that focus primarily on testing:

often leads scholars to give up on school sites for learning in vibrant, engaging ways. We are reluctant to turn away from schools. Instead, we argue that bringing multiple digital and non-digital modalities into the classroom that allow students to use their knowledge and experience from their homes and communities holds possibilities for new understandings of authoring texts and participation in school.

(p. 464)

In bringing teacher's voices and perspective into dialogue with researcher's agendas there is likely to be tension over whose agenda gets privileged, but bringing those two (sometimes, but not always competing) agendas together can result in productive change that can hopefully result in writing experiences that are more meaningful for young people.

One limitation of my study is that it focused on solely on the teachers' learning; examining how the changes in the teacher's learning influenced their students' learning and experiences was outside the scope of my study. However, based on the teachers'

reports and discussion of their assignments and students' reaction to those assignments, I can infer that incorporating digital tools from the Summer Institute seemed to positively influence student interactions in their classrooms. These findings confirm Vasudevan, Schultz, and Bateman's findings (2010) that incorporating multiple modalities into the classroom can be a way to help connect the text of youth's lives to their school experiences. In the future, it may be helpful for researchers to create professional development that brings teachers and K-12 students together to use new and digital media to address issues important to them and their communities.

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Appendix A

Journal from an Explorer Assignment

Journal from an Explorer

Pretend you are an explorer and write a complete journal entry about a time you saw something spectacular in nature for the first time. Then, retell that story in a digital format.

Part I: Narrative

Write a first person narrative, modeled after Lewis and Powell's journals, about a time you saw something awe-inspiring in nature. This could be inspired by a trip where you visited a famous sight or it could be as simple as a time you took a walk in the woods, on the beach, or down your street.

- Use imagery to describe the experience. Your narrative should make your audience feel as if they, too, have been to this location.
- Incorporate the narrative strategies. These should be in your notes!
- Your narrative should include multiple paragraphs, including an introduction and conclusion. Be sure to have a thesis statement, topic sentences, and closing sentences.

Part II: Digital Story

1. Using the template, complete a digital storyboard to plan your digital story.

- Write down **at least ten** key phrases/elements/points from the story in chronological order; make sure that you **use complete sentences** to convey your point.
- Choose a picture to represent each of the **ten or more** sentences. These pictures may be

personal photos, images found on Google Images, drawings you create, or a mix.

2. Create your digital story. **You may not use PowerPoint**, but any of the digital formats below

are acceptable:

- **ImageLoop** <http://www.imageloop.com/> Upload images from computer or flickr or upload PowerPoint files. Select from animated templates.
- **One True Media** <http://www.ontruemedia.com/> "...effortlessly combine photos and video clips with words and music to personalize your story. Quickly share with our Online Slideshow or get as creative as you want with our Video Montage." Upload images and audio for story track. Great template choices.
- **Slideroll** <http://www.slideroll.com/> Create slideshows via a movie timeline- add transitions, Ken Burns like effects, titles, captions, music. Direct import photos from flickr.
- **Picasa** <http://picasaweb.google.com> Google's free site for storing and sharing photo serves a similar service as flickr, but it also offers the ability to create slideshows with captions, and to associate images with a location on a map.
- **OurStory** <http://www.ourstory.com/> Write a 'story' which is what happened on a date in time, add pictures, video, and OurStory creates a timeline.

- **Toondoo** <http://www.toondo.com> Create your own 1, 2, or 3 panel cartoons using a library of cartoons, text bubbles. Images can be uploaded and manipulated with simple tools.
- **Google My Maps** <http://maps.google.com/> Associate steps of your stories with locations on a map. Editing each one allows annotation of locations with mages (e.g. using links from flickr), and other rich text features.
- **Prezi** <http://prezi.com> A most unique presentation tool that provides dramatic levels of pan, rotation, and zoom. Sequencing allows for a unique way to connect pieces of a story.
- **Windows Movie Maker** computer program Import and catalog supported video, audio, and still-image files into collections. Allows pictures, narration, and audio.

Appendix B

Savannah's Digital Narrative Rubric

Name: _____

Grade: _____/50

	Exceptional	Skilled	Developing	Insufficient
Content (W3)	<ul style="list-style-type: none"> -Strongly engages and orients audience with 10 or more interesting observations and explanations of significance -Exceptional use of narrative techniques to develop experiences and events -Interesting reflection on observations provided in the narrative <p style="text-align: center;">(15-14 points)</p>	<ul style="list-style-type: none"> -Engages and orients audience with 8 or more observations and explanations of significance -Uses narrative techniques to develop experiences and events -Reflects on observations provided in the narrative <p style="text-align: center;">(13-11 points)</p>	<ul style="list-style-type: none"> -Somewhat engages and orients audience with 6 or more observations; little explanation of significance -Uses some narrative techniques to develop experiences and events -Some reflection on observations provided in the narrative <p style="text-align: center;">(10-9 points)</p>	<ul style="list-style-type: none"> -Does not engage or orient audience with 5 or fewer observations; lacks significance -Uses few narrative techniques to develop experiences and events -Little reflection on observations provided in the narrative <p style="text-align: center;">(8-7 points)</p>
Organization (W3,8)	<ul style="list-style-type: none"> -Integrates exceptional selective information to maintain the flow of ideas -Exceptionally sequences events to build on one another to create a coherent whole and builds toward a particular tone and outcome <p style="text-align: center;">(10-9 points)</p>	<ul style="list-style-type: none"> -Integrates information selectively to maintain the flow of ideas -Sequences events to build on one another to create a coherent whole and builds toward a particular tone and outcome <p style="text-align: center;">(8-7 points)</p>	<ul style="list-style-type: none"> -Integrates some information to maintain the flow of ideas -Somewhat sequences events to build on one another to create a coherent whole; somewhat builds toward a particular tone and outcome <p style="text-align: center;">(6-5 points)</p>	<ul style="list-style-type: none"> -Does little to maintain the flow of ideas -Little sequencing of events to create a coherent whole; does little to build toward a particular tone and outcome <p style="text-align: center;">(4-3 points)</p>

Style (W3, 4)	<ul style="list-style-type: none"> -Exceptional use of precise words and phrases, details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters -Exceptionally addresses what is most significant for specific purpose and audience <p style="text-align: center;">(5 points)</p>	<ul style="list-style-type: none"> -Uses precise words and phrases, details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters -Addresses what is most significant for specific purpose and audience <p style="text-align: center;">(4 points)</p>	<ul style="list-style-type: none"> -Uses some words and phrases, details, and sensory language to convey experiences, events, setting, and/or characters -Somewhat addresses what is significant for specific purpose and audience <p style="text-align: center;">(3 points)</p>	<ul style="list-style-type: none"> -Uses few precise words and phrases, detail, and sensory language to convey experiences, events, setting, and/or characters -Does not address what is most significant for specific purpose and audience <p style="text-align: center;">(2 points)</p>
Conventions (L1,2)	<ul style="list-style-type: none"> -Demonstrates exceptional command of the conventions of standard English grammar and usage, capitalization, punctuation, and spelling when writing and speaking <p style="text-align: center;">(5 points)</p>	<ul style="list-style-type: none"> -Demonstrates command of the conventions of standard English grammar and usage, capitalization, punctuation, and spelling <p style="text-align: center;">(4 points)</p>	<ul style="list-style-type: none"> -Some command of conventions and usage, capitalization, punctuation, and spelling; while distracting, it does not interfere with message <p style="text-align: center;">(3 points)</p>	<ul style="list-style-type: none"> -Little command of the conventions of standard English grammar and usage, capitalization, punctuation, and spelling; detracts and interferes with the message <p style="text-align: center;">(2 points)</p>
Presentation (SL4, L5)	<ul style="list-style-type: none"> -Conveys an exceptionally clear and distinct perspective -Organization, development, substance, and style are creative and appropriate to purpose, audience, and task -Creative and engaging use of digital media to enhance understanding and to add interest <p style="text-align: center;">(15-14 points)</p>	<ul style="list-style-type: none"> -Conveys a clear and distinct perspective -Organization, development, substance, and style are appropriate to purpose, audience, and task -Makes strategic use of digital media to enhance understanding and to add interest <p style="text-align: center;">(13-11 points)</p>	<ul style="list-style-type: none"> -Somewhat conveys a clear and distinct perspective -Organization, development, substance, and style are somewhat appropriate to purpose, audience, and task -Somewhat makes strategic use of digital media to enhance understanding and to add interest <p style="text-align: center;">(10-9 points)</p>	<ul style="list-style-type: none"> -Does little to convey a clear and distinct perspective -Lacks organization, development, substance, and style; inappropriate to purpose, audience, and task -Little use of digital media to enhance understanding and to add interest <p style="text-align: center;">(8-7 points)</p>

Pre-writing

Envision the place you would like to describe. On your sheet of paper, complete the following statements with MULTIPLE examples:

- I see...
- I hear...
- I smell...
- I taste...
- I feel...(remember that this refers to texture, temperature, etc.)
- My emotions are...

Appendix C

Zoe's Digital Narrative Rubric

Name: _____

	4	3	2	1
Preparation Process	<p>Clear purpose</p> <p>Extensive preparation tasks (prewriting, narrative essay, storyboarding)</p>	<p>Implied purpose</p> <p>At least two preparation tasks</p>	<p>Purpose weak</p> <p>Only one task completed</p>	<p>Purpose missing</p> <p>No tasks completed</p>
Content Knowledge	<p>Main idea clear; focus consistent</p> <p>Details support main idea; creative, focused, & precise meaning expressed</p> <p>Communicates significant new insight from experience</p>	<p>Main idea evident; focus changes</p> <p>Details support main idea with adequate focus</p> <p>References new insight gained from experience</p>	<p>Main idea lacking clarity; communication lacks focus</p> <p>Some relevant details</p> <p>Attempts to communicate a new insight gained from experience.</p>	<p>No main idea; communication unfocused</p> <p>Few or no relevant details</p> <p>No effort to communicate a new insight gained from experience.</p>
Format Structure	<p>Ideas organized effectively and flow smoothly</p>	<p>Ideas most organized</p>	<p>Ideas often lack consistency and flow.</p>	<p>Ideas are rarely consistent and appear disconnected.</p>
Image Communication	<p>Significant, enriching contribution extending relevancy and meaning to the topic and message.</p>	<p>Relevant and supportive of topic's message.</p>	<p>Not relevant to topic – use appears mostly as “decoration”</p>	<p>Too few images used in presentation and/or images are irrelevant.</p>
Text Communication	<p>Minor or no mechanical errors</p>	<p>Few mechanical errors</p>	<p>Several mechanical errors —while distracting, it</p>	<p>Many mechanical errors— detracts and</p>

			does not interfere with message	interferes with the message
Voice / Sound Communication	Quality of volume, diction, fluency, and flow is high.	Quality of volume, diction, fluency, and flow is acceptable.	Difficult, but possible, to hear and understand.	Barely audible and/or diction is unacceptable.

Score: _____ out of 24

Appendix D

Clarie's Multi-genre Artifact Rubric

Criteria	Exceeds Standards	Meets Standards	Does Not Meet Standards
Era match	Images and/or text are especially well-chosen and consistent with the era.	Images and/or text are consistent with the era.	Images and/or text are not consistent with the era.
Content	Images and/or text provide comprehensive, relevant information to reader/listener/viewer	Images and/or text provide some relevant information to reader/listener/viewer	Images and/or text do not provide comprehensive, relevant information to reader/listener/viewer
Workmanship	Images and/or text show careful attention to detail.	Images and/or text show attention to detail.	Images and/or text do not show attention to detail.
Explanation of Artifact	Clearly and concisely explains artifact.	Clearly explains artifact inclusion.	Does not explain artifact inclusion.

CHAPTER 5

CONCLUSION

This study has examined a number of challenges, benefits, and tensions that have arisen as teachers appropriated a variety of digital and conceptual tools presented in a professional development Summer Institute. In looking across the three manuscripts I've written, I have identified three recurring themes related to my findings: First, the importance of positioning teachers as co-designers, second, the importance of moving beyond the barriers of access and time, and third, examining contradictions, confluences, and identity. After discussing the recurring themes, I offer a number of implications for practice, research, and theory.

Positioning Teachers as Co-Designers

In Chapter 2 I discussed using a Design Based Research framework for designing professional development on writing and digital tools. Most professional development programs continue to undertheorize the context in which teachers teach. I argued that using DBR as a framework for professional development has many benefits including the potential to investigate and document how teachers form communities and networks of practice, and the potential to develop design principles that document the kinds of learning activities that best help teachers reach the valued pedagogical goal researchers and teachers are working toward. I identified a number of key design features from DBR studies have demonstrated how to best support teachers' learning. These features include teachers and researchers co-teaching and co-planning; negotiating a shared agenda with

teachers and other stakeholders, and working prospectively rather than retrospectively. In Chapter 4, I revisited the theme of positioning teachers as co-designers. In working with the group of teachers in my study, I attempted to negotiate a shared agenda and position teachers as co-designers. During the Summer Institute, I along with the other university facilitators worked from the assumption that teachers brought unique knowledge and experiences to share. However, some of the activities we asked teachers to participate in during the Summer Institute were taken up differently from the way we had intended them to be. Some teachers felt that they were being positioned as students rather than as experts. Conversely, during the follow-up meetings, teachers were positioned as knowledgeable experts. This positioning seemed to contribute to a good deal of teacher learning and shifts in their thinking about teaching writing with digital tools.

Moving Beyond the Barriers of Time and Access

As I discussed in Chapter 3, technology is often presented as a panacea for the complex issues in education. Much of the literature in technology integration blames teachers for not seeing the value of incorporating technology. This literature tends to focus on how researchers might help teachers overcome barriers and obstacles in order to get teachers to incorporate technology into their classroom learning. However, much of this literature doesn't give teachers credit as agentive individuals who are trying to engage with new tools and achieve goals within multiple systems that have competing values.

In Chapter 3, I examined a concept map created by a group of four teachers in which they showed their understanding of the term *Writing 2.0*. The teachers identified

affordances of teaching with digital technologies and barriers to incorporating digital technologies. In an effort to move beyond a discussion of the affordances and barriers of incorporating technology into teaching, I wanted to examine the tensions in a more interactive and productive way in order to see if the interactions between affordances and barriers could be understood as productive to change rather as counterproductive. In order to do so, I drew on a variety of methodological tools including metaphor analysis and narrativizing strategies. Ultimately, I found that when the teachers made the decision to use the templates from Prezi, they were choosing (unconsciously or not) to demonstrate their understanding through metaphor because that is how the templates of Prezi are designed. The teachers' thinking was mediated by both hardware and software; the old laptops the teachers used, the Prezi templates created by graphic designers—all played a role in mediating teachers' thinking and understanding of teaching with technology.

Contradictions, Conflation, and Identity

In Chapter 3, I explored how one group of teachers used an apocalyptic narrative in their concept map as a way to process their understanding of writing with digital tools. The teachers' emerging narrative was not conceptually unified; specifically, there were contradictions in the images and words teachers used to represent what it means to write in authentic ways. I concluded that examining contradictions in teacher thinking is essential for understanding how teachers are agentic individuals who are trying to use new tools within multiple activity systems that often have competing values and goals. While contradictions can seem problematic, Engeström (2011) argues that they are actually an important part of developmental growth. Thus, examining the tensions,

frustrations, and “failures” in teacher learning is an essential aspect in researching how teachers learn and develop new conceptual understandings of teaching writing.

What is especially useful about activity theory in examining how professional development affects teachers’ conceptual development is that it focuses on how tools mediate understanding, and encourages the researcher to examine contradictions. Incorporating new digital tools into the teaching of writing seems to introduce another complex analytical layer of thinking. Finally, my study has shown that for many teachers, teaching writing with new technologies may require a shift in both teacher identity and institutional culture.

Web 2.0 tools such as those introduced in the Summer Institute are often assigned an undergirding ethos by proponents of technology. This ethos includes the somewhat amorphous concepts of collaboration, distributed cognition, participatory culture, and so on (Jenkins, 2006; Lankshear & Knobel, 2011). In many discussions of digital tools and learning, there is often a conflation of the digital tools with the conceptual underpinnings. In examining my data, I have come to wonder if tools can really have an ethos. Many of the teachers in my study did not use them in the way that many proponents of technology (myself included) would advocate for.

Thus, it is unclear if the ethos of the technology is a function of the technology itself, or some conceptual shift that is activated by the technology, or if proponents of technology are ascribing to the technology an ethos that is in actuality a function of their ideology—or their own goals and motives.

Therefore, rather than focusing on the “ethos” of a tool, I find activity theory and the concept of appropriation to be a more productive way to examine the use of digital

technologies because the use/value assigned to digital tools is generated in the activity system or culture. In other words, it is the culture that ascribes meaning and value to particular ethos (or particular ways) of thinking about these digital tools, and university researchers tend to forget sometimes they are embedded in very different activity systems from the teachers with whom they work. I don't mean to be completely relativistic, but what effective writing instruction with digital tools looks like is ultimately dependent upon the pedagogical goals of individuals and the activity system within which they are embedded. Thus, adapting the conceptual underpinnings of the tools—the ethos--doesn't just require a shift in teacher thinking, it requires that teachers' goals align with researcher's goals, and that may require a shift in their identity—as teachers of literature, as the sole authority of knowledge, and of their desire to maintain control of the topics their students write about and the genres in which they write them.

Implications for Practice and Research

My dissertation offers several implications for practice and research. As I discussed in Chapter 3, using new digital tools shaped teachers' abilities to articulate their thinking and understanding. It is clear from the data that digital technologies are influencing the way people think. Thus, in thinking about how digitally-mediated tools shape our thinking, taking a measured approach seems reasonable. In thinking about the teachers' own goals and decision-making processes from the perspective of activity theory, I have found that the teachers more measured approaches to “remixing” their practice, and “reconceptualizing” their profession to be quite rationale, logical, and in some ways, even critical. Making small shifts, or being “late adopters” rather than “early adopters” of technology, provides teachers with space to critically examine how digital

technologies are changing the nature of writing within their own unique contexts. Rather than arguing that teachers and the field of education in general move more quickly to adopt new technologies, I believe there are benefits in actually slowing down in order to think more deeply and more carefully about the tools we use and the ways those tools affect our, and our students' thinking and ways of being in the world. For example, I suggest that before school districts unilaterally adopt a one-to-one technology initiative, they should be very clear about why they are adopting this initiative, what benefits it will provide their students, and how it will improve students' learning.

Because digital tool use adds another complex layer to the writing process, it is important to develop on-going professional development support to help teachers as they continue to work with and integrate digital tools into their teaching of writing. My study also offers a number of implications for designing professional development to address this need. First, while it is important to investigate the types of tools used in professional development, and to discuss with teachers the particular affordances and constraints of various digital tools, I think that it would be helpful future professional development to foreground the conceptual underpinnings of the tools. Then introduce various tools that might meet the conceptual underpinnings and pedagogical goals. For example, if the professional development were to focus on the principles of inquiry, or writing for an authentic audience, or collaborating with community members first, then thinking about which tool would best fit that need.

As discussed in Chapter 4, the findings from my study indicate that teachers' identities and expertise should be taken into account when designing professional development that focuses on incorporating digital tools into writing instruction. Attention

should also be paid to how teachers are positioned in the various activities in the professional development. Are they positioned primarily as learners and students, or as experts, and co-designers? Thinking through and making explicit the roles of teachers and how they are being positioned would be helpful.

In addition, professional development should be situated within teachers' contexts.

Researchers should work together with teachers in their schools and classrooms to gain a better understanding of the social systems and constraints within which teacher work.

As discussed in Chapter 4, teachers who participated in the study expressed difficulty when assessing students' multimodal compositions. Part of the issue is the lack of a coherent framework for using digital tools in the teaching of writing. In moving both practice and research forward on digital technology and writing, it would be helpful to have a coherent framework for writing with digital technologies. This framework could be jointly developed by educators and university researchers to provide teachers with little guidance in designing and assessing multimodal compositions.

Finally, and perhaps most importantly, I want to encourage researchers who examine adolescents' use of digital media to work with teachers and schools. As I discussed in Chapter 4, when it comes to discussion of digital media use, little attention has been paid to the voices and experiences of teachers. I believe that teachers offer unique perspectives and that bringing their perspectives into dialogue with research on digital tool use could be very generative. After working with the twelve teachers who participated in this study over the course of a year, I am more committed than ever to designing professional development that brings teachers and K-12 students together to use new and digital media to address issues important to them and their communities.

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