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I, Thomas A. Highley, hereby submit this original work as part of the requirements for the degree of Doctor of Education in Literacy and Second Language Studies.

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Agents of Influence: A Metaphor Analysis of Middle Level Students' and Teachers' Conceptualizations Surrounding Blended Learning

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Agents of Influence: A Metaphor Analysis of Middle Level Students' and Teachers' Conceptualizations Surrounding Blended Learning

A dissertation submitted to the
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of the University of Cincinnati
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Department of Educational Studies of the
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by

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Abstract

For over 20 years, researchers and state boards of education have been emphasizing the importance of incorporating digital literacies into instruction. Based on the perceived potential of digital technologies to create greater educational opportunities, and the push from state governments to empower students to fully participate in our knowledge-based economy, proponents have advocated for the incorporation of increasingly computer dependent, blended learning experiences in the classroom, presenting them as fundamental to academic achievement and career success. As public K-12 school districts in Ohio increase their investment in classroom technology through blended learning initiatives, it is important to understand how students and teachers from varied geographic and socioeconomic settings conceptualize the utility and value of blended learning as a platform for learning and literacy. Therefore, the purpose of this study is to gain insight into the conceptualizations of middle level students and teachers from three socioeconomically and geographically diverse public school settings regarding their experiences with blended learning in order to understand the factors that influence the teaching and learning transaction. To better understand these influences, the study employed metaphor analysis (Lakoff & Johnson, 1980), as well as the critical lenses of Brandt's (2001) theoretical framework of literacy sponsorship and the theory of multiliteracies (New London Group, 1996). Analysis of the transcripts suggests that blended learning initiatives would benefit from enhanced blended learning curricula, emphasizing multimodality, choice, facilitation, and social context in digitally integrative instruction.

Keywords: blended learning, case study, digital literacy, literacy sponsorship, mediation, metaphor analysis, middle childhood, multiliteracies, sociocultural literacy

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Chapter 1

Introduction to the Study

For over 20 years, researchers have stressed the importance of incorporating learning activities into classroom instruction that support digital literacies, noting the potential of digitally integrated instruction to help students master digital forms of communication and advance educational equity (Cope and Kalantzis, 2000; Darling-Hammond, 2010; Gee, 1996; Kress, 2003; Lankshear and Knobel, 2010; New London Group, 1996; Warschauer, 2007). State and federal departments of education have also underscored the importance of imparting digital literacy skills and knowledge to students, citing the need to create learners who not only understand the global nature of the digital world they live in, but who are also prepared for the digital reality of 21st century careers (Ohio Department of Education, 2011). These calls for schools to include a greater focus on the development of digital literacies often assert the assumption that millennials are "digital natives" (Prensky, 2001), whose innate affinity for digital devices demands digital, student-centric forms of instruction (Christensen, Horn, & Johnson, 2008). Based on the perceived potential of digital technologies to create greater educational opportunities, and the push from state governments to empower students to fully participate in our knowledge-based economy, many proponents now advocate for the incorporation of increasingly computer dependent, personalized digital learning experiences in the classroom, presenting them as fundamental to academic achievement and career success.

The use of digital technology in classroom learning is, of course, not new. Personal computers were common in the public schools of the late 1980's, although student access was somewhat limited (Johnstone, 2003). The academic use of computers has progressed since then, from basic word processing and the establishment of computer labs, to the introduction of digital learning games and programs. More recently, with the availability of ever faster broadband internet and Wi-Fi, the incorporation of social media applications and the online production of content has become routine (Mills, 2016). As computers have become more ubiquitous and more affordable, schools have heeded

the call to integrate digital literacies into instruction, moving toward a one-to-one computer ratio (Warschauer, Zheng, Niiya, Cotten, & Farkas, 2014). Making use of laptops and other mobile devices, digital technology can now provide 24/7 student access to the internet, allowing schooling to become increasingly personalized through the presentation of individualized online curricula (Horn & Staker, 2014). This personalization has opened the door for forms of schooling that bypass brick and mortar schools altogether, providing an online curriculum independent of the classroom (Horn & Staker, 2014). However, as schools rush to personalize learning through technology, opinions of students and teachers regarding the value of digitally dependent learning have been largely overlooked, as well as existing research and theory on how to best utilize digital literacies.

Shifting instruction towards a personalized, computer dependent model represents a distinct turn from social learning, an approach widely implemented in public schools and supported by sociocultural and constructivist research for the past forty years (Pearson & Stephens, 1994). Sociocultural literacy theory was, in fact, foundational in the development of digital literacy theories, emphasizing the potential of networked forms of communication to generate educational equity, using digital devices as tools for accessing and producing online content (Barton, 1994; Gee, 1996; Heath, 1984; Kress, 2000; Lankshear & Knobel, 2010; New London Group, 1996; Street, 1984; Warschauer, 2007). However, these theories also acknowledged the importance of the social construction of knowledge as a way to develop critical thinking and broaden the scope of student learning (Lankshear & Knobel, 2010; Wertsch, 1985).

While based on increasingly powerful technological innovation, the movement towards personalized online curricula is reminiscent of understandings of literacy before the social turn (Gee, 1999). Emphasis on individual mastery of content (Horn & Staker, 2014) and the independent development of technical literacy skills among digital natives (Prensky, 2001) resonates with the cognitive theory of literacy development, which implies literacy can be learned independently from social or cultural influences (Davidson, 2010). This approach has long been criticized for its emphasis on autonomous learning (Street, 1984). In short, while the current emphasis on digital forms of

personalized learning is built on the most current advances in technology, it seems like a pendulum swing back to the cognitive theories of the past.

Interpretations of how technology should be incorporated into instruction varies from school to school, resulting in a wide range of digital learning models. Although public, private, and charter schools differ in how they incorporate digital learning, each requires a ubiquitous integration of digital technology, as the goals and objectives inherent to digital literacy require that each student have 24/7 access to a digital device (Horn & Staker, 2014). In an effort to keep up with smaller private and charter schools (Case, 2016), public school administrators are investing heavily in digital technology. In the 2015-2016 school year alone, U.S. public schools spent 8 billion dollars on the physical requirements for digital age learning, including laptop computers, educational software, robust broadband networks, and adaptive technologies to meet the demands of digital age learning (Herold, 2016). Many Ohio school districts have followed suit, responding to pressures from the state and federal government, as well as the demands from corporate America (Porter, 2015).

Beyond the physical requirements necessary for digital age learning, schools are also employing varied instructional methods. Some schools make use of station rotations, employing a variety of multi-modal resources from which students choose. Others employ flipped classrooms, which require students to view online lectures and presentation materials for homework, using classroom time for practice, problem solving, and application (Horn & Staker, 2014). Some have moved away from brick and mortar schools in favor of virtual instruction, allowing students to take classes from home via computer, or incorporating periodic face-to-face meetings with the online curricula (Basham, Smith, Greer, & Marino, 2013). Clearly, there is no one size fits all model for the integration of digital age learning.

Most Ohio K-12 public schools favor the incorporation of some form of *blended learning* (Arnett et al., 2015). This concept of blended learning evolved from the development of disruptive innovation theory. Disruptive innovation theory first emerged from the discipline of business in the mid 1990's by Harvard business professor Clayton Christensen (Christensen, Horn, & Johnson,

2008), based on the concept that larger more ponderous companies were vulnerable to smaller more innovative companies, like Uber, who used consumer-centric technologies to get a competitive edge. In the early 2000's, disruptive innovation theory was extrapolated to address educational contexts (Christensen, Horn, & Johnson, 2008). This was done in response to conceptions of declining instructional effectiveness in both K-12 public schools and in higher education. Specifically, the authors asserted that traditional models of instruction were failing in several key areas: maximizing human potential, facilitating critical thinking, developing capabilities necessary to compete in the global economy, and nurturing diversity. The authors contended that only a disruptive approach to education could meet the needs of students in the 21st Century (Horn & Staker, 2014).

By combining disruptive digital resources with face-to-face instruction, blended learning was proposed as the most appropriate model for most public schools (Arnett et al., 2015). While the term blended learning has been defined in various ways (Wang, Han, & Yang, 2015), the following definition has become commonplace in public schools:

> Blended learning is a formal education program in which a student learns:
>
> 1) at least in part through online learning, with some element of student control over time, place, path, and/or pace;
>
> 2) at least in part in a supervised brick-and-mortar location away from home;
>
> 3) the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience. (Horn & Staker, 2014, p. 52)

On the surface, the blended learning model seems well suited for public schools, providing a safe brick and mortar setting for students during the school day, while also allowing for a more personalized learning experience through the use of district and student owned digital devices (Horn & Staker, 2014). Further, as it aligns with Common Core standards on digital literacy, this approach also promises to meet the demands of governmental pressure (Ohio Department of Education, 2011).

However, as local school districts rush to meet the technological requirements of blended learning initiatives, recent scholarship brings the benefits of blended learning into question. A recent

global study by the Organization for Economic Co-operation and Development (OECD) reported that, based on standardized test results, students in countries that invested most heavily in school technology reported stagnant or diminished academic gains (OECD, 2015). These findings were corroborated by a recent RAND study, which claims that the popularity of blended and personalized learning far outpaces any evidence supporting its superiority (Pane, Steiner, Baird, Hamilton, & Pane, 2017). In fact, the majority of the reports that support blended learning pedagogies have been sponsored by the very companies and organizations who promote and profit from digital age learning initiatives, raising doubts about the validity of the reports (Feldstein, 2016).

As research continues to catch up with spending, several new studies have also brought assumptions about the innate abilities of digital natives into question. A recent study in *Teaching and Teacher Education,* for example, presents evidence that challenges the reality of the digital native, reporting that assumptions of innate affinity and multi-tasking behavior among millennials are largely unfounded (Kirschner & Bruyckere, 2017). In another study, findings imply that the concept of the digital native may be misleading, and that the disconnect between students' school technology experiences may be the result of a lack of sufficient teacher training with regard to technology integration strategies (Wang, Campbell, & Coster, 2014). As the concept of the digital native is foundational to blended learning practices, these studies cast blended learning in a more critical light.

Based on the billions of dollars school districts have invested in blended learning initiatives, schools would be justified in expecting improved academic achievement and significant increases in test scores. However, in 2015, the OECD released the results of a three-year global study on computer use in public school classrooms conducted through The Program for International Student Assessment (PISA). With regard to schools from the United States, the PISA study reported that, although the U.S. recorded one of the highest computer to student ratios (1.8 to 1), the United States ranked only 12th in digital reading (OECD, 2015). It should be noted that the PISA study has been criticized for a global escalation in the use of standardized testing and its reliance on quantitative measures, which overlooks cultural complexity (Strauss, 2015). Regardless, the study asserts that

weaknesses are apparent in both the overarching design of digital instructional and in teacher professional development in U.S. schools (OECD, 2015). The study also noted that, although student-computer ratios were almost one to one in U.S. schools, 20.2% of U.S. 15 year olds did not have a home internet connection. Although the study did not directly link diminished internet access to childhood poverty, the data did indicate that low socioeconomic status was a factor in low academic performance (OECD, 2015). This percentage closely reflects the national childhood poverty rate of 23% (National Center for Childhood Poverty, 2016).

Given the exceptionally high childhood poverty rates in three of Ohio's major cities (Cleveland, 53.9%; Cincinnati, 45.3%; Toledo, 43.7%), the disparity in home internet access is likely much higher (National Center for Childhood Poverty, 2016). As 24/7 access to online resources is the foundation of most digital learning models, the lack of robust broadband internet connections at home presents a formidable obstacle for Ohio students from families of lower socioeconomic status. This disparity could threaten the equity of blended learning initiatives and reinforce the digital divide (Bauer, 2012; Ruecker, 2012).

Another largely overlooked consideration in the implementation of blended learning is the influence of geographic and socioeconomic contexts on how digital technology is integrated into classroom instruction. To date, little qualitative research has been done to explore the attitudes of students and teachers from diverse cultural and socioeconomic settings who are directly affected by this pedagogical shift to a computer dependent curriculum (Chandler-Olcott & Lewis, 2010). In fact, the sociocultural and psychological aspects that mediate the transition of teachers and their students from face-to-face to online learning seem to go unexamined in the research literature (Aguilar, 2012). That being the case, a study of diverse students and teachers in varied blended learning settings could provide useful insights.

Given that not all blended instruction is equal, an understanding of the viewpoints of both students and their teachers could be beneficial for school administrators as they plan for the implementation of blended learning programs. It is important to understand the students' affinity for

digital or print forms of academic instruction, as assumptions of their status as digital natives has been brought into question. Further, it would be valuable to know which forms of literacy teachers value, whether print or digital, as their attitudes may influence their commitment to digital integration. Finally, understanding the factors that influence blended learning implementation could facilitate more effective program design and teacher training. Attention to these areas of inquiry could strengthen instruction, as the success of computer dependent blended learning programs is dependent on the attitudes of the students and teachers who actualize them in the classroom.

Purpose of the Study

As public K-12 school districts in Ohio increase their investment in classroom technology through blended learning initiatives, it is important to understand how students and teachers from varied geographic and socioeconomic settings conceptualize the utility and value of blended learning as a platform for learning and literacy. Therefore, the purpose of this study is to gain insight into the conceptualizations of middle level students and teachers from three socioeconomically and geographically diverse public school settings regarding their experiences with blended learning in order to understand the factors that influence the teaching and learning transaction. Findings from the study are intended to inform current and future blended learning initiatives in diverse school settings.

The three research questions guiding this study are:

1) How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital resources?

2) How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital pedagogies?

3) How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize their school-affiliated identities within print-based and digital learning environments?

Making use of a qualitative study design, this study provides insights into the attitudes of students and teachers from diverse school settings on the resources, teaching styles, and identities they value and utilize in the teaching and learning transaction. Comparison of school sites is intended

to provide insights into the various ways blended learning is defined and implemented in diverse classrooms. Further, this study is meant to inform future academic applications of blended learning by highlighting the importance of sociocultural literacy in the development of blended learning curricula. Although blended learning models are used across academic levels, this study focuses on seventh and eighth grade classrooms, as the Ohio Academic Content Standards first address the higher order thinking skills of technology application, analysis, and production in the 6-8 benchmark (Ohio Department of Education, 2003).

Significance of the Study

With regard to the literature, this study adds to the research in two critical fields. First, the study contributes to conceptions of digital literacy integration. Although there has been significant research on digital integration and blended learning in elementary, high school, and college settings, few studies have considered the incorporation of digital resources and pedagogies in middle level education. This study is significant in that it explored the experiences of middle level students and teachers from geographically and socioeconomically diverse areas. Secondly, this study is significant to the field of sociocultural literacy, as it employed literacy sponsorship and multiliteracies as theoretical frames for the interpretation of findings. While accepted as a critical model of sociocultural literacy, more studies are needed to demonstrate the utility of literacy sponsorship in determining the influence of outside agency, as well as what counts as literacy in classrooms. This study adds to the literature supporting this theoretical model. The use of multiliteracies as a pedagogical theory provides support for the application of appropriate instructional design for the blending of social and digital tools. Taken together, this study provides findings that may inform a number of research agendas.

Definitions of Key Terms

Academic mediation. Academic mediation refers to the one or two-way flow of literacy between students and their teachers (Brandt, 2001). In one-way mediation, the flow of literacy is teacher-centered, presenting information in a lecture format while students take notes. In two-way

mediation, literacy flows between the students and the teacher. A student-centered approach to mediation, this two-way flow transfers literacy between student and teacher or among other students. The two-way flow positions the instructor as a facilitator in learning activities.

Digital consumption and production. The consumption of digital resources refers to the viewing or reading of online content. This may include web browsing, viewing online videos, listening to music, reading digital print, or viewing content from social media sites. Digital production refers to a person's ability to, "design and create content that makes use of images, photographs, video, animation, music, sounds, texts, and typography" (Kress, 2003; Warschauer, 2007). Production activities are considered more robust, identified as Web 2.0 applications (Lankshear & Knobel, 2010).

Digital Literacy Theory. Digital literacy theory is a blanket term for a growing number of sociocultural approaches to the incorporation of digital literacies (Barton, 1994; Gee, 1996; Heath, 1984; Lankshear & Knobel, 2010; New London Group, 1996; Kress, 2000; Street, 1984; Warschauer, 2007). Well known articulations of digital literacy theory include new literacies, New Literacy Studies, 21st Century literacies, multiliteracies and multimodal literacies (Mills, 2016). Theories of digital literacy are primarily concerned with extending the tenets of sociocultural literacy to the incorporation of digital resources and pedagogies in classroom instruction, emphasizing the importance of learning and applying digital skills to engage critical thinking and as a means of improving educational equity for students. As technology and pedagogies continues to evolve, new articulations of digital literacy theory will continue to emerge.

Flipswitch©. The Nova Schola School made use of an online curricula called Flipswitch©. which was used by all students from grades seven through twelve. Students spent 50 percent of their school day working their way through academic units focused on language arts, science, math, and social studies. Based on their performance on an entrance exam, students entered the curricula at different points, completing sections of the curricula independently at their own pace. As students completed units, they took exams, which required a score of 80% to pass. If students failed, they were

required to repeat the unit in Flipswitch©. The program did not incorporate writing, so all writing instruction was through their face-to-face language arts teacher, who they saw twice a week.

Lightsail©. One language arts instructor in the study made use of a tablet-based program called Lightsail© to allow her seventh and eighth grade students choices in their personal reading. Students were required to take a Lexile test first, to identify their reading level. The tablet-based program then offered students a range of reading selections to choose from, although all choices had to be approved by the language arts instructor. Comprehension assessment was built into the program, presenting students with fill in the blank questions every few pages, related to plot points in the story. Scores on these assessments were automatically transferred to the language arts teacher's online gradebook. Students could discontinue a book if they lost interest, but had to justify the switch to their language arts teacher. However, it was reported that the Lightsail© program was later discontinued due to technical malfunctions.

Literacy sponsorship. Literacy sponsorship (Brandt, 2001) is an explanatory model of literacy that considers the influence of outside agents, or sponsors, in determining which type of literacy would be considered most valuable at a given point in time within a particular society. A sponsor is any agent "local or distant, concrete or abstract, who enable, support, teach, model, as well as recruit, regulate, suppress, or withhold literacy—and gain advantage by it in some way" (p. 19).

Metaphor analysis. This critical literacy method of analysis identifies and interprets tacit and explicit metaphoric linguistic expressions in oral and written language. Common metaphoric linguistic expressions within a transcript are categorized and identified as conceptual metaphors. A fuller description of this method is provided in Chapter 3.

Multiliteracies. The theory of multiliteracies (New London Group, 1996). was generated at a meeting in New London, New Hampshire by a group of ten sociocultural literacy scholars with the focus of creating a new literacy pedagogy that would emphasize multimodality, social context, and critical thinking in classroom instruction. The new theory was a response to the inadequacy of the existing print-based theory.

Personalized learning. In 2017, the U.S. Department of Education released its technology plan, in which they defined personalized learning:

> Personalized learning refers to instruction in which the pace of learning and the instructional approach are optimized for the needs of each learner. Learning objectives, instructional approaches, and instructional content (and its sequencing) may all vary based on learner needs. In addition, learning activities are meaningful and relevant to learners, driven by their interests, and often self-initiated (U.S. Department of Education, 2017, p. 45).

Although the definition is open to interpretation, personalized learning has come to be synonymous with online schooling and curricula, rejecting the importance of socially constructed spaces (Pogorskiy, 2015). This term is not intended to be synonymous with blended learning.

Schoology©. Both the rural and suburban middle schools in this study employed the Schoology© learning management system. A learning management system is an online site or software program used to help administrators, teachers, and their students interact with course-based materials. Typically, these programs incorporate assignment calendars, online gradebooks, online document storage, online dropboxes, and interactive features, such as discussion forums. The Schoology© program was in its second year of use at the rural school, while the suburban school had used the program for several years.

Summary. Chapter 1 provided an overview of the research topic and purpose of the study, as well as the potential significance of the study's findings to a range of theoretical and methodological domains. The three research questions were presented and definitions of key terms shared. In Chapter 2, the theoretical lenses used to frame the study are explained and a review of relevant research studies is presented.

Chapter 2

Theoretical Frameworks and Review of Relevant Literature

In this chapter, I explain the theoretical basis behind the current study regarding the conceptualizations of students and teachers from urban, suburban, and rural middle schools regarding the utility and value of blended learning. First, I describe my own positionality as a literacy researcher, a middle level language arts educator, and as a proponent of the academic integration of digital literacies. Next, I outline the socioculturally based theoretical frameworks used to ground the study, describing Brandt's (2001) model of literacy sponsorship and the digital literacy theory of multiliteracies (New London Group, 1996). Finally, I review relevant studies from the areas of literacy sponsorship, digital literacy, blended learning, and academic identity formation, as these studies inform the discussion of findings presented in Chapter 5.

Researcher Stance

My research study is fundamentally grounded in my beliefs as a literacy researcher. Based on Vygotsky's (1978) articulation of sociocultural theory, I believe that literacy and learning is a social act and that meaning is constructed on the social level before becoming integrated into individual cognition. I also believe in Vygotsky's conception of the Zone of Proximal Development, asserting that guidance from adults or expert mentors allows young learners to achieve more than they could as an individual and that social interactions with peers broadens the scope of what a child is able to learn. Building on this foundation, I adhere to the tenets of researchers who theorized the *social turn* in literacy research (Bazerman, 1989; Cazden, 1988; Cook-Gumperz, 1986; Freire, 1973; Graff, 1979; Heath, 1983; Lakoff & Johnson, 1980; Scollon & Scollon, 1981; Scribner & Cole, 1981; Street, 1984; Wertsch, 1985), which asserts that what counts as literacy is dependent on social context. I also follow pedagogical theories emerging from the subsequent *digital turn* in literacy research (Gee, 1996; Kress, 2000; Lankshear & Knobel, 2010; New London Group, 1996; Street, 1984; Warschauer, 2007), building on theoretical conceptions of print-based reading and writing to address the academic

use of digitally networked forms of communication, both for the consumption and production of knowledge.

As a veteran middle level language arts instructor, I believe in the tenets of middle school philosophy as articulated in the publication *This We Believe: Keys to Educating Young Adolescents* (Association for Middle Level Education, 2010), which asserts that education for young adolescents must be developmentally responsible, challenging, empowering, and equitable. Within the sixteen characteristics of the middle level framework, the call for critical thinking, social learning, and multimodality in middle level instruction coincide with my pedagogical stance, which is student-centered and facilitative.

The potential of academic technology as a learning tool has always been a focus in my instructional design. Stemming from my interest in the academic integration of digital resources and pedagogies, I see the integration of networked digital tools as vital in preparing students for the workplace of the future (New London Group, 1996). However, I consider digital technology a tool for learning rather than a curriculum. Based on my support for sociocultural theory (Bazerman, 1989; Cazden, 1988; Cook-Gumperz, 1986; Freire, 1973; Graff, 1979; Heath, 1983; Lakoff & Johnson, 1980; Scollon & Scollon, 1981; Scribner & Cole, 1981; Street, 1984; Wertsch, 1985), I believe digital literacy instruction must incorporate opportunities for social learning, providing multimodal choices and opportunities for critical discussion with peers and teachers (New London Group, 1996).

The theoretical constructs I have chosen to frame my study resonate with my positionality. My choice of Brandt's (2001) model of literacy sponsorship was based on her critical assertion that outside and local agents were dominant in determining what counts as literacy in a given place and time, using their influence to urge or suppress particular types of literacy. Based on my sociocultural stance, I believe consideration of agency in classrooms informs understandings of student attitudes and values. My use of the theory of multiliteracies correlates with my stance on digital integration, as I feel the four-stages of the pedagogy— *situated practice, overt instruction, critical framing*, and

transformed practice—provide teachers and students with a practical framework for developing the digital, social, and critical skills they will need in the future.

Theoretical Frameworks

Two relevant theories were selected to provide meaningful context for this study: Brandt's (2001) model of literacy sponsorship and the digital literacy theory of multiliteracies (New London Group, 1996). Both of these frameworks emerge from and are aligned with sociocultural literacy theory, asserting the influence of agency, social context, and teacher facilitation on student literacies. Viewed together, teachers are recognized as instrumental in asserting what counts as literacy in the classroom and in providing academic mediation to guide students toward deeper levels of critical understanding. Using these two frameworks as critical lenses through which to view the data highlighted differences in the integration of blended learning at the school sites. A fuller description of each theoretical framework and how it informs the study is provided below.

Sponsorship as a model for understanding literacy as a social Value. Beginning in the mid-1970's, literacy theory began to move toward a sociocultural model (Bauer & Kendall Theado, 2014), asserting what counts as literacy is dependent on social context, is mediated by language and other symbol systems, and is best understood in temporal terms (Gee, 1996; Heath, 1983; Scribner & Cole, 1981; Street, 1984; Vygotsky, 1978). Resonant with emerging scholarship on social constructivism (Vygotsky, 1978) and critical literacy (Freire, 1973), the sociocultural movement shifted focus away from definitions of literacy as an independent, cognitive achievement toward a reconceptualization of literacy as a social practice (Gee, 1996; Heath, 1983; Scribner & Cole, 1981). This movement became known as *the social turn* (Gee, 1999), exerting wide influence on the human and social sciences (e.g., Bazerman, 1989; Cazden, 1988; Cook-Gumperz, 1986; Graff, 1979; Heath, 1983; Lakoff & Johnson, 1980; Scribner & Cole, 1981; Scollon & Scollon, 1981; Street, 1984; Wertsch, 1985).

Building on this foundation, Brandt's notion of *literacy sponsorship* (2001) advances an explanatory model that focuses on the influence of outside agents, or sponsors, in determining which

type of literacy would be considered most valuable at a given point in time within a particular society. Her model provided a view of literacy as a resource influenced and stratified by economic interests. Viewed through this lens, sponsors of literacy are defined as, "any agents, local or distant, concrete or abstract, who enable, support, teach, model, as well as recruit, regulate, suppress, or withhold literacy—and gain advantage by it in some way" (Brandt, 2001, p. 19). Within this model, the social forces of family, schooling, government, and the workplace may all be influential in determining what sorts of engagements with language and symbol systems are of most value at a given time and place.

Brandt's (2001) model of literacy sponsorship emphasizes the economic and social forces influencing the meaning and value of the concept of literacy as it circulates within a given cultural and temporal context. Further, as an explanatory model, literacy sponsorship can be viewed as critical, in that it considers the groups or individuals who benefit either from the sanction or suppression of particular literacy practices (Brandt, 2001). Because this study explores the viewpoints of students and teachers regarding which sorts of literacy are of more or less value to schools, literacy sponsorship serves as an instructive theoretical model for the interpretation of data. When Brandt (2001) first articulated this theory, the academic application of digital technology was in its infancy. Now, nearly twenty years later, the value of digital literacy in education has grown dramatically. Examining student and teacher conceptualizations of blended learning through the filter of literacy sponsorship may help us understand the influence of both contextual and external factors on the value and utility of blended learning for literacy instruction in middle school contexts.

Digital literacy theory of multiliteracies. Digital literacy theory is an umbrella term that covers a number of sociocultural approaches to the incorporation of digital literacies (Barton, 1994; Gee, 1996; Heath, 1984; Lankshear & Knobel, 2010; New London Group, 1996; Kress, 2000; Street, 1984; Warschauer, 2007). In its simplest terms, digital literacies refer to the use of an ever-expanding menu of networked digital tools to consume and produce knowledge (Gee, 2011). Digital consumption refers to the reading and viewing of digital and online content. Digital production refers

to a student's ability "to interpret, design and create content that makes use of images, photographs, video, animation, music, sounds, texts, and typography" (Kress, 2003; Warschauer, 2007). Such literacies require an understanding of and practice with a number of multimedia skills, including visual composition and coloring, transitional effects, network navigation, and typography, as well as audio, image, and video editing (Daley, 2003). And while the application of technology currently dominates decisions on instructional spending, the concept of digital literacy is not new. It is, in fact, grounded in the principles of socioculturalism, building on the importance of social context in reading and writing to address digital interactions.

Evolving expressions of digital literacy theory extended the tenets of sociocultural literacy to address the incorporation of digital resources in the classroom. Sociocultural literacy theory was also influential in laying the foundations for the New Literacy Studies (Bauer & Kendall Theado, 2014), a theory most closely associated with Gee (1996), although a number of other theorists played influential roles in developing the wider field of study (Barton, 1994; Heath, 1984; Street, 1984). Collectively, their work emphasized the significance of social groups in determining what is valued as literacy, and asserted that reading and writing practices are situated by and within the cultural norms and expectations of a particular social group (Bauer & Kendall Theado, 2014).

As engagement with reading and writing has become increasingly digital and personalized, digital literacy theory has evolved to recognize the importance of critical perspectives in digital learning while still acknowledging the influence of social context (Mills, 2016). Refuting conceptions of literacy as an independent set of reading and writing skills, literacy has come to be viewed as the product of a full range of "cognitive, social, interactional, cultural, political, institutional, economic, moral, and historical contexts" (Gee, 1996, p. 2), including engagements with digital literacy.

Developed in response to the academic and cultural limitations of theories addressing print-based, teacher-centered pedagogies, the theory of *multiliteracies* (New London Group, 1996) emerged, embracing multiple modes of meaning construction and production, including diverse digital and online modes. Further, the concept of multiliteracies embraced the incorporation of

diverse cultural contexts in classroom pedagogy, "as a way to focus on the realities of increasing local diversity and global connectedness" (New London Group, 1996, p. 64).

Multiliteracies was articulated as a theory of pedagogy, emphasizing the incorporation of digital resources and pedagogies to address issues of social justice in the classroom (New London Group, 1996). To that end, the importance of social context is central to the theory: "Our view of mind, society, and learning is based on the assumption that the human mind is embodied, situated and social" (New London Group, 1996, p. 82). Given its emphasis on pedagogy, the members of the New London Group suggested four distinct stages of instruction as a theoretically supported model for digitally and socially integrated instruction. These stages are explained below:

Situated practice. This initial stage of the pedagogy situates the student within the topic of inquiry, immersing them in a pool of multimodal resources related to the learning goal at hand. Choosing from among these resources, situated practice emphasizes the importance of awareness of possible connections between the intended learning, multimodal resources, and the self. For example, a study of Antebellum slavery might begin with an exploration of the many forms of slavery, past and present, using a range of available media.

Overt instruction. Based on this initial immersion, teacher facilitation would follow, building understanding through teacher scaffolding. Based on teacher guidance, the student would identify the best method for more focused knowledge acquisition before moving on to critical examination of the knowledge. In the hypothetical study of slavery, the teacher might facilitate the student's learning by introducing appropriate resources for the student's learning style and focus of inquiry. For example, depending on the student's strengths and interests, they might be guided to websites, podcasts, online videos, or readings from primary sources.

Critical framing: After teacher facilitation, students would discuss and critically interpret the social and cultural contexts of acquired knowledge in groups. This requires pulling back from the specifics of what they are studying and critically examining the subject in relation to its context. In

the slavery study, this might take the form of a critical examination of the authors, audiences, and subjects from the resources to identify biases and agendas.

Transformed practice: Transfer in meaning-making puts the critically transformed meaning to work in other contexts or cultural sites. In the study of Antebellum slavery, this transferability of understanding could result in an examination of present circumstances that mirror the elements of slavery, noting similarities and differences. (New London Group, 1996)

These four stages are presented as a lens through which to view digitally integrative pedagogy. Given their theoretical grounding, the focus of these four stages will be used to inform discussions of the findings in Chapter 5 regarding blended learning.

The theoretical frameworks of literacy sponsorship (Brandt, 2001) and the theory of multiliteracies (New London Group, 1996) are used in this study as a means of gaining insight into what students and teachers from diverse geographic and socioeconomic contexts value or do not value about blended learning, as well as their assumptions about the utility of literacy as a social practice.

The findings from this study inform the use of blended learning in schools by highlighting student attitudes regarding the utility and value of digital technology in academic settings. The study further informs blended learning implementation by exploring the backgrounds, affinities, and conditions that promote or hinder adoption of blended learning pedagogies among middle level faculty in diverse academic settings.

Summary. This section of Chapter 2 discussed the theoretical basis for study, identifying the personal dispositions and theoretical frameworks through which the data was viewed. My stance as a researcher was addressed, emphasizing the importance of sociocultural literacy, middle school philosophy, and digital integration to my interpretations of the findings from the study. The two theoretical frameworks used to provide context for the study were identified and described, including Brandt's (2001) model of literacy sponsorship, as well as the four-stage pedagogical theory articulated in pedagogy of multiliteracies (New London Group, 1996). The application of these two

frameworks to the current study will be discussed in chapter 4. A review of relevant research studies follows.

Literature Review

Overview

A review of the relevant literature revealed several significant trends within the categories of literacy sponsorship, academic applications of digital literacy, blended learning, and academic identity that will provide a practical basis for interpretation of data in the study. Although not comprehensive, the review of 38 studies from 2011 to 2016 informs the investigation of student and teacher attitudes relevant to the three research questions central to this study. Where these topics intersect with the three research questions, connections are explicitly noted.

Search procedures. The studies discussed in this this review were selected based on a systematic thematic analysis of the related literature. Based on the three research questions and the two theoretical frameworks at the center of the study, I identified literacy sponsorship, digital literacy, blended learning, and academic identity formation as the search terms of my literature review. Given the emphasis on both student and teacher attitudes in the questions, I searched for studies that focused on both populations.

Databases accessed in the search for articles included Academic Search Complete, Academic Research Library, Expanded Academic ASAP, UC Library Catalog, Wilson OmniFile: Full Text Mega Edition, and Education: A SAGE Full-Text Collection. More studies were accessed through the Google Scholar database, particularly with regard to the theme of blended learning.

Inclusion Criteria. Only data-driven studies published in peer-reviewed journals between 20011- 2016 were included for this review. Studies were chosen based on their relevance to the three research questions. Of the 38 research studies included, most were qualitative in nature, with only five quantitative studies reviewed. The qualitative studies chosen included ethnographies, text analyses, and case studies. However, one mixed methods study was also included. Student participants in the studies ranged from middle school to college level. Adult participants included

middle school teachers, high school administrators, and college faculty, as well as legal advisors, in one study of literacy sponsorship.

Analysis Procedures. Each article was examined systematically, using a matrix to break articles down into citations, study types, participants, theoretical bases, research questions, and findings/conclusions. Through repeated readings, trends were identified and recorded in separate matrices for each search target. Color coding was used to organize findings based on common features. Observations on frequencies of these common features was documented at the end of each matrix.

In the literature review below, I discuss the findings from each of these studies, organized thematically.

Literacy Sponsorship

Analysis of the findings on literacy sponsorship revealed the presence of three relevant themes. First, the influence of family and community in sponsoring literacy among marginalized students (Jacobs, 2014; Meyers, 2012; Ruecker, 2012), second, the lack of robust mediation in instruction (MacDonald, 2015; Wooten, 2013), and, third, discrepancies in the application of literacy sponsorship among government agencies highlighted the importance of consistency (Lebduska, 2014; Tomlinson, 2011). Although the studies supporting the third theme were not conducted in an educational context, findings on sponsorship from government agencies may prove helpful in understanding the role schools play as governmental sponsors of digital literacy.

Literacy sponsorship among marginalized students. The majority of the studies reviewed focused on the influence of literacy sponsorship in academic settings **(**Jacobs, 2014; Lebduska, 2014; MacDonald, 2015; Meyers, 2012; Ruecker, 2012; Wooten, 2013). Studies on literacy sponsorship in K-12 public schooling (Jacobs, 2014; Meyers, 2012; Ruecker, 2012) concentrated on the educational experiences of marginalized students, addressing issues of racial, social, and economic inequity. Collectively, these studies revealed that students from marginalized populations relied more strongly on sponsorship from family and community than school sanctioned sources.

The conflicting educational priorities of educational policy makers and homeless families were addressed in Jacobs' (2014) ethnographic study. Interactions of homeless families with school-based literacies were explored using semi-structured interviews, observations, and document analysis. Interviews with six parents from multicultural contexts revealed that, although homeless parents believed that the adoption of school-based literacies would be beneficial for their children long-term, constant economic hardships crippled their attempts to facilitate their child's learning. Findings further revealed that parents remained optimistic, encouraging their children to work harder to master school sanctioned forms of literacy, even as those forms excluded opportunities for equal participation among the homeless. Jacobs concluded that current educational policies, while emphasizing increasingly rigorous academic standards, did little to address differential access for students of poverty and called upon schools to expand access and opportunities for participation. Jacobs suggested implementation of a model of school literacy sponsorship that pushes back against what Jacobs perceived as neoliberal policies that ignore the daily challenges of the racially and economically marginalized.

The importance of family and community sponsorship among the marginalized was also explored in Meyers' (2012) critical ethnography, focusing on the migrant experience. Positioned as a participant researcher, the author lived with families in a small Mexican village known for its high rate of U.S. immigration. Through semi-formal interviews, classroom observations, and reviews of community archival records, Meyers explored the influence of migration on motivation and school success among Mexican immigrants. Findings from the analysis of 85 interviews suggested that social support, in the form of both family encouragement and information shared by the community, was positively correlated to school success and was, in fact, more influential on the development of literacy than school-based sponsorship. The researcher concluded that the concept of migration acts as a sponsor of literacy, as it offers new ideological orientations for schooling.

A case study by Ruecker (2012) investigated school literacy sponsorship in relation to the digital divide. The experiences of two English/Spanish speaking students from schools on the U.S.-

Mexico border were examined as they made the transition from high school to college. In considering the issues of access and digital literacy sponsorship, the author discovered an unequal distribution among participants. In one case, even though home access to the internet was limited, the student's digital literacy was aided by community center sponsorship and strong parental support. In the other case study, although access to technology was not an issue, a lack of community and family support created disadvantages for the student in dealing with online environments. Ruecker concluded that, although access to technology is important, challenging the digital divide requires more attention to the social factors surrounding digital literacy development.

Acknowledging the importance of mediation in higher education. Literacy sponsorship conceptualizes mediation as the movement of literacies between literacy sponsors and those they sponsor (Brandt, 2001). Such mediation suggests the possibility of a two-directional transfer of literacies between teachers and students, opening up opportunities for students to influence instruction. However, in the current study, differences in how teachers transferred literacy to their students highlighted the importance of strong academic mediation. Two of the studies reviewed highlighted the need for greater attention to mediation in educational contexts (MacDonald, 2015; Wooten, 2013).

In an analysis of English language learning among refugees, MacDonald (2015) asserted the importance of mediation in college instruction, acknowledging the rich contextual insights sponsored refugees bring to literacy learning events. The author framed the song lyrics and poems of Sudanese refugees Jal's and K'naan's as valuable forms of mediation, resisting Graff's (1979) assertion that the conception of literacy as a path to economic progress is a myth. Further, MacDonald claimed the study of the students' hip-hop lyrics supported the value of local contexts in speaking to power, echoing similar assertions by Canagarajah (1999). The author suggested the incorporation of an "emissaries of literacy" framework for refugees in university English language learning contexts, noting the potential of the model to mediate language experiences in educational contexts, drawing on their diverse experiences as they rework their relationship to English language learning.

The need for university instructors to mediate the transfer of literacies was also addressed in online contexts (Wooten, 2013). Examining historical texts from correspondence courses offered by the University of North Carolina-Chapel Hill early in the twentieth century, the author cited similarities in the one directional flow of literacy mediation between both early distance learning and current online courses, noting similarities in the consistently low completion rates and the low level of interactivity in both. Building on the conception of literacy sponsorship (Brandt, 2001), Wooten questioned assertions of course equivalency, calling for greater attention to how institutions mediate literacy in both face-to-face and online courses.

Discrepancies in governmental literacy sponsorship. In addition to academic applications, two studies addressed how military and judicial agencies have used literacy sponsorship both to exploit and benefit those they sponsor (Lebduska, 2014; Tomlinson, 2011). Lebduska's (2014) analysis of evaluative reports on the value of higher education sponsorship in the U.S. military exposed inequities in the Post 9/11 G.I. Bill, revealing an organizational lack of interest in soldier and veteran literacy within the military bureaucracy. The Post 9/11 G.I. Bill promised increased educational opportunities for soldiers in return for their military service, guaranteeing 36 months of post-secondary education. Rhetorical analysis showed that the military's literacy sponsorship favored those who entered the program college ready, while disadvantaging those who needed more time to adapt to the demands of higher education. Resonant with Graff's (1979) assertions on the misconception of literacy as a road to increased economic opportunity, Lebduska contended that literacy sponsorship by the military is little more than purveyance, using the promise of educational opportunity as a means of baiting new recruits.

Governmental oversight was framed as beneficial to citizens in a study of legal literacy sponsorship (Tomlinson, 2011). Conducting interviews with magistrates within a Northern Ohio Domestic Relations Court, the case study examined the validity of the county court's mediation program as a legal literacy sponsor. Findings reflected interest in representing court sponsorship as benevolent and as contributing to family well-being. The mediation of legal literacies between the

sponsors and sponsored were found to promote contextually grounded decisions among the sponsored parties, aiding them in their understanding of legal proceedings. The authors noted that, although the focus on these sponsors of literacy may mask the realities of individuals going through the legal system, this was not the goal of the study. Further research into the viewpoints of the sponsored may complicate these assertions.

Conclusions drawn from the review of the literature on literacy sponsorship informed the interpretation of the findings in the current study. First, consideration of the reciprocal nature of literacy mediation among the racially, socially, or economically marginalized is vital to improving equity between literacy sponsors and the parties they sponsor (Jacobs, 2014; Lebduska, 2014; Macdonald, 2015; Meyers, 2012; Ruecker, 2012). Secondly, Graff's (1979) contention that literacy does not guarantee economic or social mobility is, while sometimes argued, still relevant to discussions of literacy sponsorship (MacDonald, 2015; Meyers, 2012; Lebduska, 2014). Third, literacy sponsorship is not confined to governmental organizations, as family and community groups can be more influential in determining what counts as literacy (Jacobs, 2014; Meyers, 2012; Ruecker, 2012; Tomlinson, 2011). Finally, the literature emphasizes the importance of equity in literacy sponsorship, making room for resistance and voice among the sponsored (Jacobs, 2014; Lebduska, 2014; MacDonald, 2015; Tomlinson, 2011; Wooten, 2013).

Digital Literacy

The review of recent studies regarding student/teacher attitudes on the academic use of digital technology was relevant to the study. Three trends were identified from the review of studies related to digital literacy. First, strong instructional design was seen as vital to the successful incorporation of digital technology in the classroom (Simpson, & Walsh, 2014; Soobin, Warschauer, Zheng, & Lawrence, 2014; Warschauer, Zheng, Niiya, Cotten, & Farkas, 2014). Secondly, studies highlighted the potential connections between students' personal uses of digital devices and their classroom practices (Buck, 2012; Bussert-Webb & Diaz, 2012; Steinkuehler, 2011). Third, teachers were found

to be instrumental in bridging informal and formal uses of technology with students (Greenhow & Lewin, 2016; Jong & Shang, 2015; Kist & Pytash, 2015; Nowell, 2014; Steinberg & McCray, 2012).

The importance of instructional design in one-to-one settings. Many schools have implemented programs to provide individual access to digital and online resources. Known as one-to-one initiatives, schools across the country have invested heavily to provide low cost, cloud based digital devices for students, based on the promise of increased engagement, increased achievement, and preparation for the workplace of tomorrow (Jackson, 2004). While generally supportive, several studies in this review emphasized the importance of strong instructional design in the implementation of technology initiatives in schools (Simpson, & Walsh, 2014; Soobin, Warschauer, Zheng, & Lawrence, 2014; Warschauer, Zheng, Niiya, Cotten, & Farkas, 2014).

Employing a multimodal/ sociological theoretical framework, Simpson and Walsh (2014) examined the use of touch pad technologies in an Australian fifth grade classroom. Driven by concerns about the amount of technology training teachers were receiving, classroom observations and teacher reflections supported the need for careful lesson planning and ongoing pedagogical training in the use of touch pad technologies (Simpson & Walsh, 2014).

The need for stronger instructional design in the academic implementation of digital technology was also supported in a study of cloud-based collaborative writing (Soobin, Warschauer, Zheng, & Lawrence, 2014). Conducted with 16 teachers and students from two Colorado middle schools, the authors used interviews, surveys, classroom observations, and shared student documents to examine individual and group writing, using the cloud-based Google Docs program. Findings suggested that, although cloud based cooperative writing may aid students in meeting Common Core literacy standards, issues regarding true authorship and deep revision require the development of strong instructional designs and robust departmental collaboration if cloud based cooperative writing programs are to succeed.

The issue of equity in one-to-one computer initiatives was also explored in a study of five focal schools across three districts, conducted by Warschauer, Zheng, Niiya, Cotten, and Farkas

(2014). This multiple case study examined the implementation of one-to-one computer programs in five demographically diverse fourth and fifth grade classrooms. The authors found that, although the one-to-one programs were conducted at the same grade level, the differences in the programs from site to site and district to district were numerous and widespread, revealing discrepancies in the equity of the programs. The findings echoed research from Vigdor, Ladd, & Martinez (2014), suggesting that, without consistent instructional design and training, technology programs may be detrimental to students.

The importance of students' out of school digital practices. The review of digital literacy studies was not restricted to research on formal academic applications. Several studies focused on the potential connections between informal and school-based uses of digital technology (Buck, 2012; Bussert-Webb & Diaz, 2012; Steinkuehler, 2011).

Buck (2012) examined the literacy practices of one undergraduate student through his use of social media outside the classroom. Drawn from a larger longitudinal study, the article focused on the social media posts of Ronnie, a digitally savvy college student who created numerous alternative online identities, altering his writing to reflect the personality and fictional experiences of his creations. Making use of interviews, online transcripts, time use logs, and social media "profile tours," Buck (2012) determined that Ronnie's creation of aliases on his many social media sites was, in fact, a deeply literate activity, developing not only his digital literacy skills, but his written literacies, as well. The study suggests that instructors would gain a better understanding of their students' overall literacy by drawing on the sophisticated rhetorical and literacy skills they develop in social digital environments.

Bussert-Webb and Diaz (2012) sought to understand the out of school digital literacy of children of poverty. Using literacy logs and semi-structured interviews, the authors examined the experiences of 28 Latino/a children from low socioeconomic settings to determine their access to and use of technology in and out of school. Informed by the frameworks of New Literacy Studies (Gee, 1996), the authors found that students of poverty focused on consumption in their informal digital

literacy experiences, primarily interacting with online material for entertainment. The children's in school interactions with technology were decidedly low level, focused on remediation, tests, and worksheets. The researchers perceived this circumstance as a perpetuation of social inequity, as the digital literacy skills required for the creation of online material are more valued, both in education and the workplace. They concluded that schools must address this inequity by providing better access to technology for children of poverty, as well as by affirming the value of their identities and digital literacy practices (Bussert-Webb & Diaz, 2012).

The relationship between out of school digital literacy practices and academic reading was explored in Steinkuehler's (2011) study on online gaming. In this case study, the author sought to understand the connection between video gaming and reading ability by studying a group of struggling readers from a local middle school. Engaging in afterschool gaming sessions with *World of Warcraft*, the struggling readers made use of complicated print gameplay guides, intended for audiences well above their reading level, in order to better interact with the game. Steinkuehler asserted that the students' use of sophisticated gameplay texts functioned as a bridge between informal and more academic forms of language, as the reading was more interest driven. This study highlighted the importance of drawing on students' out of school interests in bridging their digital literacy to academic applications.

Teachers as bridges to academic uses of technology. Beyond the role interest driven texts may play as a bridge, the review of studies on digital literacy also revealed the important role teachers play in helping students bridge informal and formal uses of technology (Jong & Shang, 2015; Nowell, 2014; Steinberg & McCray, 2012).

Jong & Shang's (2015) case study, exploring the use of online gaming for academic purposes, supported the importance of the teacher as facilitator. Surveys, interviews, and observations were used to examine the interaction of a geography teacher and four students as they engaged in an online simulation in class. Although the study was an investigation of the use of online academic gaming as a mode for formal instruction, the authors noted that the teacher's role as facilitator was crucial in

overcoming impeding elements of the game. The researchers concluded that the facilitation of the teacher was most important in blending online game-based learning into formal education.

The role of teachers as facilitators in bridging personal and academic applications of digital literacy was evident in a study of social media use (Nowell, 2014). Making use of interviews and online participation, urban secondary teachers were studied as they sought to encourage students to make use of personal media, such as mobile phones, for academic purposes. Contrary to assumptions regarding the innate digital abilities of the younger generation (Prensky, 2001), Nowell's findings showed that, due to student difficulties in applying personal media in formal academic contexts, teachers were vital in helping students bridge their use of technology, using social media as a means of extending student learning beyond the classroom.

Resonant with the context of the study, Steinberg & McCray (2012) explored the ways teachers bridge digital literacy among rural, urban, and suburban middle school students. Using a series of focus group interviews, the study sought to determine if the level of personal care from the teacher had any influence on the students' engagement with technology. Findings from the student focus groups indicated that, although the students' preferred use of technology influenced their attitudes about learning, it was the relationship with the teacher that mattered most. As with earlier findings, the teacher's role as a bridge between informal and formal contexts was found to be more important than the technology alone.

The analysis of the literature on digital literacy highlights several significant points. First, strong instructional design is essential to the successful implementation of one-to-one computer initiatives. Secondly, drawing on students' out of school digital practices is important in helping them bridge into more formal academic applications. Finally, teachers themselves are the most important bridge between personal and academic uses of digital technology, as they nurture relationships with their students. While technology is a powerful tool, it is the teacher's job to facilitate connections between personal uses and academic applications.

Blended Learning

In reviewing recent studies on the application of blended learning pedagogies, three trends emerged as the most salient. Strong instructional design and well-planned coordination between online and face-to-face elements were seen as vital to the success of blended learning programs in several studies (Carbonell, Dailey-Hebert, & Gijselaers, 2012; Cargile & Harkness, 2015; Strayer, 2012). Secondly, studies of student attitudes on the value of the flipped model of blended learning were found to be generally positive (Forsey, Low, & Glance, 2013; McLaughlin, Griffin, Esserman, Davidson, & Glatt, 2013; Michael, 2012; Pan et al., 2012; Wanner & Palmer, 2015). Third, although less well researched, the perceived value of blended practices among teachers was generally negative (Carbonell, Dailey-Hebert, & Gijselaers, 2012; Hao & Lee, 2016; Michael, 2012; Owens, 2012). Beyond the necessity of strong design and coordination, then, findings regarding the value of blended learning indicate a schism between the attitudes of students and teachers regarding blended learning.

Coordination in the design of blended learning. The importance of strong coordination in the designing of blended learning programs was emphasized in three studies (Carbonell, Dailey-Hebert, & Gijselaers, 2012; Cargile & Harkness, 2015; Strayer, 2012). A study on faculty development of blended learning programs emphasized the importance of coordination in the design of online instructional programs (Carbonell, Dailey-Hebert, & Gijselaers, 2012). The researchers conducting this multiple case study interviewed five administrators, one student council member, and 13 college faculty members involved in an initiative to move from a traditional instructional model to a blended learning model. Interviews revealed that faculty collaboration supported the development of more contextually compatible blended learning programs. The authors contended that such designs not only fulfill the needs of both faculty and student, but also provide incentives for greater collaboration, and provided contextually appropriate new knowledge, as well.

Cargile & Harkness (2015) examined the implications of weak coordination in blended learning initiatives through their study of the Khan Academy. Since 2006, the Khan Academy website has offered free practice exercises, instructional videos, and personalized learning dashboards

with the espoused intention of allowing students to learn anywhere and at their own pace. As a result, many schools have incorporated the resource into instruction. Using a case study format, the authors examined the experiences of five adolescent students in a flipped classroom, where Khan Academy video lessons were to be viewed after school, opening up classroom time for facilitated practice. Student interviews revealed that, in their class, there was little coordination between the Khan Academy resources and facilitated class work. The authors suggested that this lack of coordination stemmed from a weakness in the instructional design, resulting in a misalignment with the goals of the Khan academy. Cargile & Harkness further stated that these problems were exacerbated by a lack of professional development and limited access to internet access among the students.

The importance of planning and coordination in instituting flipped instructional designs was also explored in the context of higher education (Strayer, 2012). In this mixed methods comparison of undergraduate experiences in both traditional lecture based classrooms and flipped formats, students reported that they found the blended learning structure to be less professional. Analysis revealed that coordination between the online and face-to-face aspects of blended learning must be well designed if they are to achieve their potential.

Student conceptions of blended learning. Although Michael's (2012) study reported a somewhat negative view, findings from most of the studies in this category reported positive student assessments of online learning, (Forsey, Low, & Glance, 2013; McLaughlin, Griffin, Esserman, Davidson, & Glatt, 2013; Pan et al., 2012; Wanner & Palmer, 2015). In his study, Michael found that students expressed doubts about the quality of exclusively online learning in one multiple case study of university students and professors. A 12-month review of online discussion board transcripts from students and staff reflected widespread resistance to the incorporation of online learning. Student resistance revolved around conceptions of quality and equity, noting that students felt they would be educationally disadvantaged if instruction went to a purely online format.

In the majority of the studies reviewed, students' positive conceptions of blended learning were more prevalent (Forsey, Low, & Glance, 2013; McLaughlin, Griffin, Esserman, Davidson, &

Glatt, 2013; Pan et al., 2012; Wanner & Palmer, 2015). Exploring the opinions of college sociology students through surveys and focus groups, the authors found largely positive responses to the flipped format (Forsey, Low, & Glance, 2013). Students reported increases in actual learning time, citing the benefits of clearly organized instructional structures and set class tasks. These were seen as influential in increasing students' sense of achievement.

Similar support for the flipped format was found in a pre- and post-course survey of pharmacy students (McLaughlin, Griffin, Esserman, Davidson, & Glatt, 2013). A survey of 22 students from two satellite campuses was conducted to determine improvements in academic performance and engagement, as well as attitudes regarding flipped learning. After completing the course, survey results revealed significantly positive student support for the flipped format (89.5%), citing the effectiveness of learning foundational concepts before applying the learning during class time. This was a significant change from the 34.6% positive support reported in the pre-course survey.

A similar study conducted by Pan et al (2012) resulted in similar findings. Using a Likert scale format with one open ended question, 32 students from flipped business, math, and chemistry courses completed a survey on the value of using instructor made videos (IMVs) as a scaffolding tool. Results from the study reported highly positive opinions on the use of IMVs, noting not only improved scaffolding of knowledge but also better instructor facilitation during class time.

Wanner & Palmer's (2015) study echoed claims of student support for flipped learning in higher education. Similar to Forsey, Low, and Glance's (2013) sociology study, researchers made use of surveys and focus groups to explore attitudes regarding flipped learning on engagement with 109 students in a college governance course. Findings from the study revealed that students felt more engaged in flipped learning classrooms, preferring this model to traditional or fully online courses. Students reported the need for clear structures and guidelines in the design of flipped courses and strongly valued choice and flexibility in course assessments. Overall, the group supported the use of personalized learning through the flipped format.

Teacher conceptions of blended learning. As mentioned previously in the context of

instructional design, interviews with university faculty in one multiple case study did see value in the incorporation of blended learning (Carbonell, Dailey-Hebert, & Gijselaers, 2012), emphasizing the benefits of collaborative construction. However, most of the research on teacher attitudes reflected negative viewpoints regarding the incorporation of blended learning, even among pre-service teachers (Hao & Lee, 2016; Kist & Pytash, 2015; Michael, 2012; Owens, 2012). This research presents a significant contrast to the positive student feedback reflected in the recent studies on blended learning discussed above (Forsey, Low, & Glance, 2013; McLaughlin, Griffin, Esserman, Davidson, & Glatt, 2013; Pan et al., 2012; Wanner & Palmer, 2015).

A Taiwanese survey focused on the concerns of 470 pre-service teachers regarding the use of flipped learning in their classrooms (Hao & Lee, 2016). Results from the survey indicated that pre-service teachers were worried about their own ability to plan for and implement flipped instruction. Pre-service teachers were also doubtful that their own students would have sufficient digital skills to work successfully in a flipped classroom. Other concerns included a lack of administrative support and fear of negative opinions from parents.

The viewpoints of pre-service teachers were also explored in a U.S. context, revealing surprisingly negative opinions on blended learning (Kist & Pytash, 2015). An examination of interviews, blog posts, and survey responses among 28 pre-service teachers in an urban field experience contradicted assumptions about digital affinity among so-called “digital natives” (Prensky, 2001). Rather than expressing optimism, the authors encountered resistance to the idea of incorporating digital literacy into the classroom. In fact, the majority of the pre-service teachers were intensely critical of the incorporation of digital technology, expressing traditional views about their preference for print texts and practices. The authors suggested that strong preexisting conceptions of English teaching, formed by the pre-service teachers own early school experiences, may have been more forceful in shaping future teaching practices among the pre-service teachers than the benefits of blended learning.

Michael (2012) found negative assessments of online learning among university faculty, as well. Mentioned previously in the context of student attitudes, this multiple case study also investigated staff attitudes on the incorporation of online learning. The author reported widespread resistance, reflecting a preference for traditional teacher centered practices and an innate skepticism regarding the potential of digital learning.

This skepticism was also evident in Owen's (2012) study of university faculty conducted in the same year. Making use of a survey format, 529 university instructors in the U.K. were asked about their beliefs regarding digital pedagogy and blended learning practices. Specifically, the researcher sought to identify possible gaps between the beliefs of instructors and their actual classroom practice. The findings revealed a schism between beliefs and practice, noting that, although instructors said they supported the use of online learning, they also reported a lack of technological expertise in incorporating online innovations in the classroom, as well as a lack of foundational knowledge regarding the pedagogical designs needed to coordinate and align digital pedagogies with technology. Without these understandings, the author expressed doubt that digital learning would reach its potential on the college level.

In comparing studies of student and faculty attitudes regarding blended learning, several observations were relevant to the current study. First, there is very little research regarding the attitudes of K-12 students and teachers on the use of blended learning. In fact, in reviewing studies from the past six years, only one focused on public schooling (Cargile & Harkness, 2015). Studies also expressed both agreement and division among teachers and students regarding blended learning. Students and teachers both recognized the importance of coordinating academic uses of technology with strong instructional design, along with the need for more extensive professional development. The literature indicated a schism, however, between student and teacher attitudes regarding the value of blended learning, as students seemed to favor it while instructors did not. Further, the literature on pre-service teacher attitudes seemed to reflect that they are unprepared to embrace digital resources in

the classroom. These conclusions are relevant to the current study, although the attitudes of students and teachers in the current study were more complex.

Academic Identity

The relevance of research on online identities was strong, as eight studies in the past seven years explored student and teacher identities in digital contexts (Bridges, Chang, Chu, & Gardner, 2014; Hines & Kersulov, 2015; Honeyford, 2013; Okas, van der Schaaf, & Krull, 2014; Pandya, Pagdilao, Kim, & Marquez, 2015; Rust, 2015; Schwartz, 2014; Seglem & Garcia, 2015). Although not focused on digital identity, two other studies were also relevant, as they considered agency in student construction of academic identities (Skerrett, 2012) as well as the influence of teachers' personal values, attitudes, and beliefs on their conceptualizations of literacy (Kendall & McGrath, 2014).

Two significant trends were revealed in comparing studies on student and teacher identity in digital contexts. First, studies highlighted the importance of out of school student identities within academic contexts (Bridges, Chang, Chu, & Gardner, 2014; Hines, & Kersulov, 2015; Honeyford, 2013; Pandya, Pagdilao, Kim, & Marquez, 2015; Rust, 2015; Schwartz, 2014; Skerrett, 2012). Secondly, studies highlighted personal experience and affinity for digital learning as influential factors in the construction of teacher identities (Kendall & McGrath, 2014; Okas, van der Schaaf, & Krull, 2014; Seglem & Garcia, 2015).

Personal identities in digital academic contexts. The importance of personal identity in digital academic contexts was addressed in a mixed methods study of second year dental surgery students (Bridges, Chang, Chu, & Gardner, 2014). The study sought to determine the influence of blended learning on the development of professional identities. Using a mixture of focus groups and annual surveys, thematic analysis of the transcripts revealed that blended learning did aid in the development of professional identities coupled with the establishment of online student learning communities.

The relevance of personal identities in academic contexts was also evident in Hines and Kersulov's (2015) case study of an at-risk student navigating twenty first century literacies. In this study, researchers explored the student's resistance to digital literacy in an English classroom at Last Chance High. Accessing what the authors called her "dark funds of knowledge," Terrin constructed online identities that allowed her to blend her resistant identity with her academic identity. The study highlights the potential of digital engagement to bridge personal and academic articulations of identity, as Terrin used digital classroom tools as a means of both engaging with and resisting learning opportunities.

Honeyford (2013) also focused on the bridging of personal and academic identities, examining a digital student narrative pulled from a larger ethnographic case study. Written by Gabriel, a seventh grade Latino student, the digital story took inspiration from Cisnero's book*, The House on Mango Street*, and is an example of how a student's culturally situated identity can be used to open up new digital identities. Honeyford argued that teachers must understand the diverse identities students bring to the classroom and draw on them as sources for digital production.

The multiple multimodal identities of transnational children were explored in a qualitative study of transnational students working on a video production project (Pandya, Pagdilao, Kim, & Marquez, 2015). Here, student immigration narratives were employed as part of a digital storybook with school children ranging from eight to ten years old. The study cited the students' ability to switch between personal and online identities, including and excluding descriptions of life events in developing a uniquely school affiliated identity. Again, the authors called on teachers to draw from the socially situated identities of their students as a means of bridging personal and academic uses of technology.

The importance of teachers as bridge builders was once again addressed in an action research study conducted with public school sophomores (Rust, 2015). Acting as a participant researcher, Rust spent several hours at the school each week to co-teach, co-plan, and observe classes. Data was gathered from interviews, focus groups, observations, online discussions, and teacher reflections. In

exploring the intersection of personal identities with school-sanctioned identities, the author found students represented themselves online in a tactical, intentional manner, carefully crafting online identities that were both agentic and socially defined. In response, the author called for more intentionally tactical teaching in digital contexts, emphasizing the co-construction of online learning spaces with students within academic frameworks as a means of drawing on students' out of school identities.

Schwartz (2014) addressed the multiplicity of online personal and academic identities among Latino students in the U.S.-Mexico borderland. The blending of formal and informal identities was again emphasized in the exploration of what the author perceived as the contradictory aims of standardization and development of digital literacy. An examination of student multimodal essays highlighted the hybridity of personal and academic identities, promoting the creation of personally grounded online student writing. Schwartz contends that intentionally drawing on the personal identities of students enriched their academic identities online.

Skerrett's (2012) case study of a struggling Latina student employed Critical Positioning Theory to look at how individuals contest the identities imposed on them by others. Although not digitally situated, the study explored how academic identities are formed in schools. Resonant with the tenets of literacy sponsorship, the study examined the personal agency and significant influences in and out of school that helped Angelica contest her positioning as a struggling reader. Findings pointed to the need for a critical approach to identity construction in schools, positioning students as the key decision makers in determining the shape of their academic identities.

Influential factors on teacher identity. Findings from the few studies that addressed teacher identity (Kendall & McGrath, 2014; Okas, van der Schaaf, & Krull, 2014; Seglem & Garcia, A., 2015) indicated that differences in conceptions of teacher identity were based on the values and beliefs gleaned from personal experience (Kendall & McGrath, 2014) and the varying levels of affinity for digital learning among novice and veteran teachers. Findings from these studies inform

understandings regarding the performance of identity in the study, as students and teachers interact with ever evolving forms of digital learning.

Kendall and McGrath (2014) examined the significance of personal values, beliefs, and attitudes on conceptualizations of literacy in a multiple case study of literacy instructors. Semi-structured interviews with eight literacy instructors from the West Midland region of the U.K. were interpreted using Gee's (2011) approach to critical discourse analysis. Findings revealed that, although the literacy teachers aligned themselves with dominant curricular policy, their deep conceptualizations of literacy were more influenced by their own personal beliefs and biases. Kendall and McGrath concluded that teacher identities are based less on theory and scholarship and more on personal experience, implying that teachers may have a tenuous understanding of school literacy initiatives. The authors also warned that such a circumstance could lead to potentially harmful outcomes for students.

The degree of affinity teachers had for digital learning was seen as influential in identity formation. In an Estonian study (Okas, van der Schaaf, & Krull, 2014), reflective teaching portfolios from ten novice and ten veteran teachers were examined to better understand the knowledge, beliefs and behaviors that make up a teacher's sense of identity. The author's found that the key differences between novice and veteran teachers revolved around their attitudes regarding the use of technology. Novices viewed their teacher identity as more facilitative, focused on helping independent learners navigate online instruction. Veteran teachers questioned the use of technology altogether, articulating their teaching identity as disciplinary expert. This difference in the conception of teacher identity is salient to the study, as well, as veteran teachers are being asked to shift their identities to meet digital age models of instruction.

Finally, a case study of three pre-service teachers involved in an online reflection project suggested that shifts in teacher identity can be facilitated through online interactions (Seglem & Garcia, 2015). Situated in a field experience at a Los Angeles high school, the study provided the participants access to online student profiles. Using online reflections, the authors asserted that virtual

access to the figured worlds of urban 10th graders cultivated culturally responsive identities among pre-service teachers, increasing their cultural understanding and encouraging them to help bridge personal and academic identities among the students.

Regarding student conceptualizations of identity, the studies reviewed emphasized the importance of drawing from students' personal funds of knowledge to help them bridge between informal and formal academic contexts. Regarding teacher identities, it was clear that more studies need to be conducted, as teachers are increasingly pressured to shift into facilitative roles in blended learning initiatives. The use of digital reflection was endorsed as a means of helping teachers make this shift. Further, the studies called for more robust professional development in helping teachers make these shifts in professional identity.

Although this literature review is not comprehensive, it does provide a recent picture of the scholarship being conducted in the field regarding the topics of literacy sponsorship, digital literacy, blended learning, and academic identity formation in digital contexts. As the study will examine student and teacher attitudes at the intersection of these topics, analysis of the data will be informed by the findings and gaps identified in this literature review.

Chapter 3

Methods

Overview

This study employed a multiple case study approach, as the examination of replicated patterns in multiple case studies produces stronger research findings (Yin, 1984). This approach was appropriate for the study, given the socioeconomic diversity of the various research sites. The case studies were conducted with middle level students and teachers from rural, suburban, and urban schools. Using online questionnaires, class observations, student focus group discussions, and semi-structured teacher interviews, the study collected and analyzed qualitative data from seventh and eighth grade students and their teachers in three geographically and socioeconomically diverse settings.

Interviews and focus groups for the study were resonant with guidelines established in Seidman's phenomenological structure of interviewing (2006), using three phases of open-ended questioning to reconstruct the participants' experiences within a topic of study. Incorporating this method, three phases of interviews and focus groups were conducted, in which participants described their background regarding the use of print and digital resources, the details of their current experiences with print and digital tools, and their predictions on the future of print and digital tools in the classroom. Put simply, these questions addressed the participants' past, present, and future conceptions regarding their experiences with digital and print resources and instruction (Seidman, 2006). The interviews and focus groups were audio and video recorded, then transcribed for data analysis.

Data from the online questionnaire, focus groups, and interviews were analyzed using a form of metaphor analysis (Lakoff & Johnson, 1980) to examine explicit and tacit *metaphoric linguistic expressions* (MLEs) within the transcripts to reveal the participants' underlying conceptualizations of print and digital literacies. Survey responses and transcriptions of audio recordings from the interviews and focus groups were examined for evidence of metaphoric expressions. These MLEs

were then broken down into *source and target domains*, which detail the attributes of both the metaphor and the concept that is understood by the metaphoric comparison. After identifying the relationships between the domains, entailments were considered. Following this analysis, *conceptual metaphors* (CMs) were identified based on similarities in the MLEs. Subsequently, these CMs were categorized into broader themes, based on emergent patterns in the data. A fuller description of metaphor analysis follows, after a description of the study design.

Data gathered from middle level students and teachers from the varied school sites provided rich comparisons that informed understandings of not only the conceptualizations that influence the teaching and learning transaction, but also understandings of the perceived value and utility of print and digital literacies in varied socioeconomic settings.

Study Design

This study was designed to include four phases for data collection, making use of an online questionnaire in Phase I and three separate student focus groups and teacher interviews in Phases II through IV. These phases were designed to align with the research questions at the heart of the study:

1) How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital resources?

2) How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital pedagogies?

3) How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize their school-affiliated identities within print-based and digital learning environments?

The design for the Phase I online questionnaire component was adapted from a prior study (Bauer, 2012), which also focused on metaphoric conceptualizations of students and instructors regarding technology use. The design for Phases II through IV were in conversation with guidelines established in Seidman's phenomenological structure of interviewing (2006), which emphasizes the importance of contextual factors in informing the meaning of experience (Patton, 1989).

In Phase I, twenty-one consented students took an online questionnaire. The questionnaire was created using the SurveyMonkey program and housed on separate Weebly websites for each school. The survey asked students about their levels of engagement with both digital and print literacy practices, their level of home access to online resources, and their metaphorical conceptualizations regarding personal and academic uses of digital technology (see Appendix A). In addition to providing a range of data on student attitudes regarding the value and utility of digital technology, the Phase I questionnaire was also used to identify the twelve student focus group participants for Phases II through IV. Focus group participation was based on the students' reported access to computers and levels of technology use, as well as their elicited metaphoric comparisons.

The Phase I data aligned with research question one of the study: How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital resources? Views on utility and value were addressed in section two of the questionnaire, asking students to rank their level of usage with common print and digital practices, and to consider the value and utility they attached to their most frequently used resources. Further, section two of the questionnaire elicited MLEs from students, asking them to make comparisons regarding their personal and academic uses of technology and to explain their choices.

Data collected through student focus groups and teacher interviews in Phases II through IV aligned with research questions two and three of the study: How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital pedagogies; How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize their school-affiliated identities within print-based and digital learning environments? It should be noted, however, that the research questions were not confined to these phases, as the identification of relevant data was more fluid.

Resonant with the tenets of the phenomenology (Seidman, 2006), Phase II questions asked students and teachers about their early experiences with print and digital resources, both at home and at school. Phase III asked students and teachers about their present academic uses of print and digital

resources, and Phase IV asked them to consider the potential value of using print and digital resources for academic purposes in the future. Warm-up questions were used before each student focus group to prime thinking on past, present, and possible future uses of print and digital resources. Warm-up questions were asked at the beginning of each teacher interview to elicit MLEs on past, present, and possible future uses of print and digital resources. (See Appendix B and Appendix C). The progression of data collection and analysis is represented graphically below.

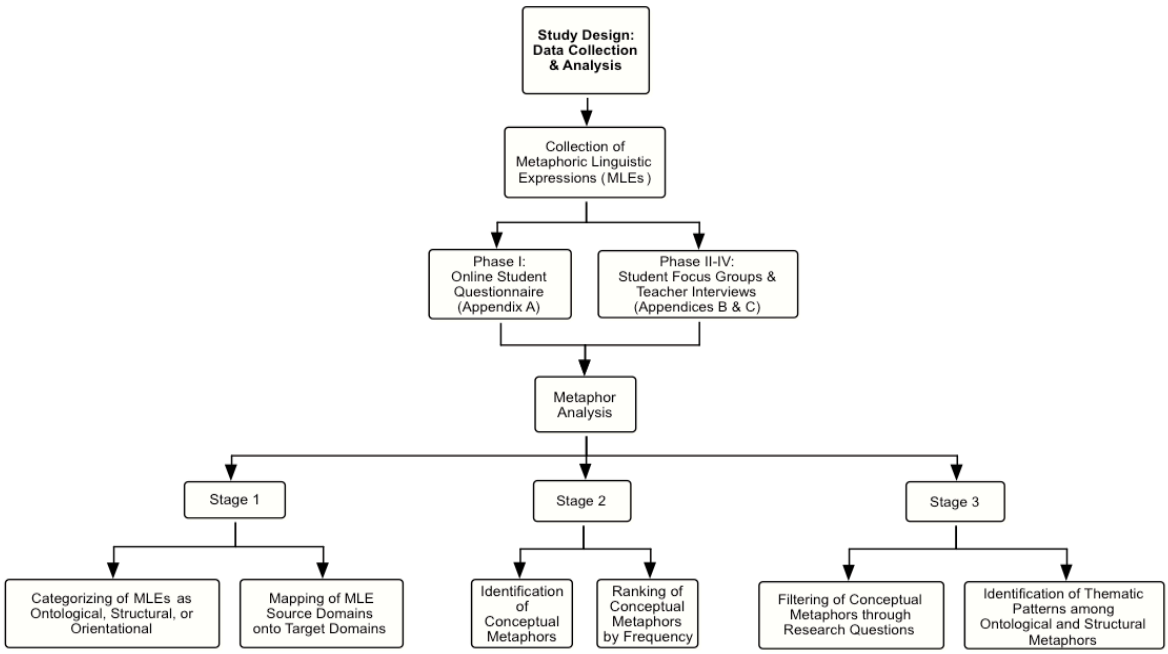

Figure 3.1: Study Design

Research Sites

The educational experience of middle level students and teachers is strongly influenced by the geographic and socioeconomic makeup of their communities, responding to population density, distance to an urban center, and the commuting behavior of their residents (Champion & Hugo, 2004). These factors have real influence on a community's access to resources, its economic characteristics, and its "collective human, social, and cultural capital" (Evans, 2006), and, as such, were considered in identifying the research sites. To ensure confidentiality, pseudonyms were used for all research sites and participants in the study.

Research sites were chosen to represent diverse educational settings, including East Valley Middle School, a rural school in the Mountain View Local School District, Pierce Middle School, a suburban school in the Sylvan School District, and the Nova Schola School, a publicly funded urban charter school under the supervision of the urban center's public school district. Although broadly categorized as urban, suburban, and rural, unique circumstances complicate assumptions regarding each community's status.

East Valley Middle School. One of two middle schools in the Mountain View Local School District, East Valley Middle School was located approximately thirty minutes east of a medium sized city in the Midwest. Though self-described as a suburban school district, Mountain View has historically served families from rural and urban Appalachian settings. This demographic has shifted in the past several years due in part to gentrification of many of the city's downtown neighborhoods. The exodus of city residents from their homes due to skyrocketing rent has resulted in a dramatic population increase in less expensive areas peripheral to the city, such as those found in the villages and townships served by East Valley's school district.

Fueled by this migration, child poverty levels in the district have risen dramatically, from 14.1% in 2010 (Ohio Department of Job and Family Services, 2012) to 49.6 in 2016 (Early Childhood Advisory Council, 2016). This percentage exceeds the child poverty rate of the nearby metropolitan area, which stands at 45.3% (National Center for Childhood Poverty, 2016).

Though not a wealthy school district, the most recent quality profile contended that digital technology was a priority, as they have invested in a new STEM Center to serve gifted students in grades 4 and 5 and introduced code writing to the curriculum. Further, the district instituted a virtual academy, boasting an 85% graduation rate. The district also claimed to "take personalized education seriously," having redistributed technology around the district to improve access, although classroom observations did not reveal any significant personalization.

Pierce Middle School. Located less than 20 minutes from downtown, Pierce served as the only middle school for the Sylvan School District. Fed by six elementary schools, the school was

large, serving over 1,000 students. Pierce's school district benefited from a strong tax base drawn from its upper middle class residents. Although occasional tax levies have failed in the past, the district enjoyed strong community support, creating a fiscally sound base for the school. District demographics The two high schools in the district boasted high graduation rates and produced several National Merit scholars each year. Pierce Middle School was considered a school of excellence, having been voted both a state and national School to Watch. This distinction was based on its high academic achievement, as well as its developmentally responsive and socially equitable environment.

Pierce's school district invested heavily in technology over the past several years, laying the foundation for personalized and blended learning across the district. Their Digital Age Learning initiative instituted a one to one computing environment for grades three through eight, and the district was testing flipped models of blended learning in the high schools. Plans for the district's future embraced blended learning, though initiatives on the high school level were more contentious.

Of all schools in the district, Pierce Middle School was the most technologically progressive, a goal established at the school's inception. Since then, Pierce school leadership continued to drive technological innovation. At the time of the study, teachers were experimenting with personalized learning and adaptive technologies, while maintaining a strong social learning base (WCET, 2015).

The Nova Schola School. The Nova Schola School, established in 2013, was a distinctly different educational setting than either East Valley or Pierce Middle School. Located on the west side of the city, Nova Schola was a public charter school in an urban neighborhood, with 80% of their students coming from economically disadvantaged families. Based on a proprietary model, the school was one of several national flex academies (Horn & Staker, 2014) claiming to blend digital curriculum with personalized instruction and high expectations. Nova Schola students ranged from 12 to 18 years of age, working through a curriculum that spanned grades 7 through 12.

Rather than using technology within existing classrooms, the Nova Schola model employed adaptive computer technology to customize a personalized learning program for each student. A large room on the second floor, the learning commons, contained over 300 cubicles, each outfitted with a

networked computer running the school's proprietary software. Along with several online teachers who monitored student activity, several adult facilitators were stationed around the learning commons to help students, although these facilitators were not licensed teachers (Case, 2016).

Working individually, students spent 50% of their day working through a personalized series of mini-units in the curriculum. Student placement within the curriculum was based on an entrance exam. Although students were placed in a grade level based on age, they had the ability to move into other grade levels depending on the speed with which they learned the curriculum.

For each mini-unit, students watched a brief teacher video, read texts on the learning objective, and answered questions using an online quiz. Summative tests were given when students reached the end of a unit: they were allowed to advance in the curriculum when they had demonstrated mastery of the content, reflected by a score of at least 80% on the unit tests. A failing score required students to go back to the computer-based instruction to relearn the content (WCET, 2015). The adaptive program was designed to be customizable, including opportunities for writing. At the time of this study, however, administration had removed this option from the program due to a lack of qualified personnel to review written submissions. All computer-based progress was then determined by individual multiple choice testing.

For the other 50% of their day, students received face-to-face instruction. One master teacher in each subject conducted classes on the first floor for all grade levels. To facilitate this arrangement, classes were only held two times a week for any given subject.

It should be noted that, by the end of this study, the Nova Schola School had been slated for closure by the urban school district under which it operated. This decision not to renew the school's contract, although ostensibly based on a recent ruling by the state board of education, was the decision of the urban school district's governing body.

Participants

Prior to recruitment activities, consent had to obtained from both the administrators at the focal schools and district representatives. Gaining these approvals required the scheduling of several

meetings, in which the study was outlined and questions answered. Following the gathering of district and administrator permissions, teacher and student recruitment began.

Teacher participants for the study were chosen purposefully (Hatch, 2002), based on their experience with language arts and social studies. In the cases of Pierce and East Valley, two specific teachers were sought out, based on prior work experiences. At Nova Schola, given no prior experience with the faculty, teachers were chosen based on their literacy focus. In each case, emails were sent out to determine interest and meetings were scheduled to outline study activities, answer questions, and secure consent. Teachers at each school site agreed to participate, including one teacher from East Valley, one from Pierce, and two from Nova Schola. However, one teacher from Nova Schola was excluded from the data analysis for the study, due to the irrelevance of their interview responses.

Recruitment in each of the teacher participant's classrooms yielded 21 total students for the initial online questionnaire, a method that has proliferated in research due to low costs and improved data collection speed (Couper, 2009). From these surveys, four students from each school were chosen to participate in the focus groups for Phases II through IV. The rationale for choosing four students from each school to participate in the study is based on the qualitative practice of limiting numbers of participants to make room for equal input (Hatch, 2002).

Recruitment efforts did not result in equal participation across school settings. Presentations at East Valley Middle School yielded ten student participants, while the Pierce Middle School presentation produced seven. Presentations at the Nova Schola School only yielded four participants. This difference may have been due to my existing relationship with the teachers at East Valley and Pierce, resulting in more initial trust among the students. Regardless, students had no prior knowledge of me at any of the three research sites.

Student participants were initially selected for the study based on their completion and return of signed informed consent and parent permission forms. Following the collection of the required consent forms, students at each site took an online questionnaire, using the online SurveyMonkey

program, which explored their preferred digital and print literacy practices, their level of home access to online resources, and their conceptualizations regarding personal and academic uses of digital technology (see Appendix A). From this initial questionnaire, four students at each school were selected for participation in focus groups, based on the length and depth of their responses.

Student participant subsets. The overall number of student participation across all three sites was twenty-one. This includes students who participated in the Phase I online survey, but were not chosen to participate in the focus groups. In Phases II through IV of the study, participation remained largely consistent. The sole exception occurred in the East Valley subset, as one student withdrew after Phase I of the study due to family relocation. Over half of the participants were 13 years in age, reported by twelve of the twenty-one students. There were also five 12 year olds and four 14 year olds. This ratio was also reflected in the focus group discussions, as six of the twelve participants were 13. Twelve and 14 year-old participants were equally split three and three.

Although one goal of recruitment was to establish relatively equal gender representation, the majority of student participants were female. This was the case in all but the Nova Schola setting, where gender representation was equal. In Phase I, there were sixteen female participants, while in Phases II through IV, there were eight females and four males. As participation in the study was voluntary and required the return of informed consent and parent permission, equal gender representation could not be guaranteed.

The tables below detail general information and participation among the focal students, followed by more in-depth profiles of the focus group participants. To protect the confidentiality of the students, pseudonyms were used to identify participants from each school.

Number	Participant Pseudonym	Age at Time of Survey	Grade Level	Phase I Question-naire	Phase II Focus Group	Phase III Focus Group	Phase IV Focus Group
1	Emme	13	8	X			
2	Margie	14	8	X	X	X	X
3	Jayna	13	8	X	X		

4	Colleen	13	8	X			
5	Rachel	13	8	X			
6	Ryan	13	8	X			
7	Lance	13	8	X	X	X	X
8	Audrey	13	8	X			
9	Amy	13	8	X	X	X	X
10	Angel	14	8	X			

Table 3.1: East Valley Participants

Number	Participant Pseudonym	Age at Time of Survey	Grade Level	Phase I Question-naire	Phase II Focus Group	Phase III Focus Group	Phase IV Focus Group
1	Serena	13	7	X			
2	Kayla	12	7	X	X	X	X
3	Gloria	13	7	X	X	X	X
4	Olivia	12	7	X			
5	Noelle	12	7	X			
6	Aaron	13	7	X	X	X	X
7	Macy	13	7	X	X	X	X

Table 3.2: Pierce Student Participants

Number	Participant Pseudonym	Age at Time of Survey	Grade Level	Phase I Question-naire	Phase II Focus Group	Phase III Focus Group	Phase IV Focus Group
1	Isaac	14	8	X	X	X	X
2	Anthony	14	8	X	X	X	X
3	Cindy	12	7	X	X	X	X
4	Annie	12	7	X	X	X	X

Table 3.3: Nova Schola Student Participants

East Valley Middle School focus group participants. Of the four participants in the East Valley focus group, Margie was by far the most vocal about her learning. Having transferred to the

district after elementary school, Margie reported no academic interaction with computers until the sixth grade, where she was introduced to Chromebooks. Margie's current use of academic technology revolved around basic digital tasks, such as emailing, taking tests, writing essays, and completing webquests, an internet based research activity. She also believed that the Schoology© learning management system was helpful as an organizational support. Although she shared a home computer as a child, she received her own computer as she entered middle school and reported a fast internet connection. However, at school, Margie tended to favor paper and pencil activities, especially with regard to standardized testing. She felt the state department of education was responsible for the surge in digital technology use, focused on improving state test scores.

Lance attended schools in the district since elementary school. Lance's participation in the focus group was much more selective, answering only direct questions and, then, as succinctly as possible. The only male in the group, Lance reported a limited personal use of computers as a child. His first formal introduction to academic computing was in the fourth grade, focused primarily on learning keyboarding skills. Lance reported easy access to computers at home, along with a fast internet connection. While recognizing the value of online technology in the classroom, he viewed print materials as easier and more reliable for reading long texts, taking notes, class organization, and standardized testing. Lance felt the local school board was responsible for the incorporation of laptops to prepare for state testing.

A transfer student from an urban school district, Jayna moved back to the city after our first focus group session. Jayna was quiet, sharing insights only when asked directly. She reported no access to computers until her sixth grade year when she came to East Valley, where her academic computer use focused on using Chromebooks to type essays. Although she saw value in the use of online computing for her class organization and homework completion, Jayna did not see any value in using computers for personal use.

Amy attended school in the district since kindergarten. Like Jayna, Amy was exceptionally soft spoken, speaking only when asked direct questions. As a child, Amy recalled more extensive use

of computers for personal use, noting that her early experience involved using the family laptop for gaming. She moved on to more academic uses of computers when she was given her own laptop for middle school. She reported robust internet speeds at home. Like her classmates, Amy believed that reading print books was more pleasurable than reading online. Amy also believed that state standardized testing drove computer use at school.

Pierce Middle School focus group participants. Macy was the oldest child in her family and attended school in the district since kindergarten. Although she reported easy access to digital devices and high speed internet at home, her personal use was generally limited to social media and YouTube. One of the most assertive voices in the Pierce group, Macy's affinity for print was clear, although her feelings on the use of digital resources in the classroom were conflicted. While disliking digital reading for book length texts, she liked the convenience of keyboard shortcuts and keyword searches in digital texts for research. Macy felt that the pressure to use computers in the classroom was likely driven by state testing, citing warnings from her elementary teachers to prepare for digital tests in the future. Macy was most vocal on the impact of classroom lighting, noting that it had a major influence on her ability to pay attention.

The only male in the Pierce focus group, Aaron was an enthusiastic participant, eager to share his insights and opinions. A student in the district since kindergarten, Aaron did not have any exposure to classroom technology until the fourth grade. A fan of computer strategy games since childhood, Aaron valued academic uses of technology, but preferred reading hard copies of historical fiction, as he believed print was "more accessible." Further, Aaron valued print texts more deeply, noting that print texts were historically important and should be preserved. Aaron claimed to enjoy digital testing and agreed with his classmates that school administration was behind the technology push as a way to save on costs.

The oldest of a set of triplets, Gloria also attended schools in the district since childhood. Gloria's opinions were very specific regarding what she liked and valued in her learning. Gloria favored the use of print texts, paper, and pencil, although she admitted, "sadly," that the future of

education would likely be digital. Gloria's earliest contact with digital devices came from dueling her siblings on networked handheld games. At home, she reported easy access to computers and high speed internet. However, Gloria did not enjoy using technology for academic purposes or state testing, noting that paper-based materials helped her concentrate whereas computers were a distraction. She believed the surge in academic computing stemmed from greater convenience and lower costs for the school.

Kayla was the most taciturn of the Pierce participants, although this may have been due to the dominance of other students in the discussion. A student in the district since kindergarten, she reported her earliest experience with technology was a smart phone. Her early experience with academic computing began in fourth grade with daily computer lab practice, but beyond that, she did not encounter computers in her core classes. As in the other cases, she reported easy access to computers at home and a robust internet connection, where she accessed social media, audio and video streaming, and messaging sites. She also made use of online school sites, which she jokingly claimed were meant to "torture' students. However, like her classmates, she preferred print texts, due to their accessibility and portability. She also favored print versions of state testing to digital, although she admitted enjoying computers for short quizzes.

Nova Schola focus group participants. Currently in seventh grade, Annie attended several different elementary schools in the district before deciding to attend Nova Schola. Annie was always cheerful in the focus group, although she rarely spoke unless spoken to. Her first contact with computers was with TV game consoles. Her current personal use of technology was primarily reserved for audio and video streaming, noting that music calmed her down. Although she reported a strong internet connection at home, her access to technology was weak, as she reported using smartphones or social media no more than once a week. She claimed that her earliest exposure to computers in the classroom was game based. Although she spent 50% of her school day on computers, she favored print resources, especially for book length reading. Annie felt that the emphasis on technology use at her school was based on a real world need for digital literacy.

Having attended several different elementary schools, Cindy was a seventh grader at Nova Schola. Her personal introduction to technology came from taking pictures on her mother's smartphone, but Cindy reported her current use of technology was reserved for games and social media. Although her internet connection was slow, she reported easy access, as she did not have to compete for computer time. Her academic use of computers began in sixth grade, using laptops for essay writing. However, Cindy did not value the use of digital devices for learning, noting that her daily personalized learning sessions were not pleasurable. She did prefer to use word processing, due to her poor penmanship. As with Annie, she preferred reading physical copies of books, noting that the light of the computer hurt her eyes.

An eighth grader at Nova Schola, Isaac was the least responsive of the participants across all research settings, as most of Isaac's responses were no more than three words in length. Isaac attended a single school throughout his elementary years and favored digital tools and print books in the classroom. Isaac reported very little access to online tools and stated that his family's internet connection was very slow. When available, he liked to listen to music online. Isaac wrote very little in his online survey responses, as his keyboarding was quite weak. In speaking with Isaac's teachers, they shared that he should be on an individualized educational plan, but that the school did not offer supports for special needs students.

Anthony, also an eighth grader, was by far the most vocal of the Nova Schola participants, openly sharing his opinions and criticisms regarded his school's approach to education. Anthony came to Nova Schola in the seventh grade after attending an elementary school in another district. His first memory of using technology was playing Mario Brothers on his Nintendo 64 system when he was six years old. His current personal use of digital tools was rich, making everyday use of online gaming, smartphones, audio and video streaming, Photoshop, and social media. This usage was facilitated by easy access to digital tools and high speed internet at home. He reported his first academic experience with computers was in the second grade, interacting with typing games. He did not enjoy using technology for academic purposes, citing that he spent more than half of each school

day on the computer, which he disliked. In contrast, Anthony preferred to read physical copies of books and had great respect for them. Anthony's respect for books prevented him from writing in the margins, highlighting, or bending pages, as he felt this, "kind of ruins the book."

Teacher participant subsets. Four teachers participated in the study, including one from both Pierce and East Valley and two from Nova Schola. Again, the majority of participants were female with only one male participant from Nova Schola taking part in the three phases of teacher interviews. Although the male teacher took part in the three interviews, little relevant data was identified. As a result, the data analysis focused on the three female participants. Ages among the female participants were quite close, ranging from early to mid-thirties.

East Valley teacher interview participant. Frances was an eighth grade middle school language arts teacher with additional certification in social studies. Frances viewed her experience with technology as "on the brink," having had some interaction with computers in public school, using the school's computers for word games and role-playing games, like the Oregon Trail. She highlighted her high school English teacher as influential in allowing her to choose her own reading materials, which she found liberating. Still, she was most inspired by her college literacy professor, who introduced Frances to a wide range of discipline specific texts and young adult literature. Frances's teaching philosophy focused on engagement and class discussion, relying on a print-based, "book in hand" approach. Although Frances reported occasional use of laptops in class, student submissions were always printed out and Frances's comments and grades were always hand written for the students, as she did not trust the online alternative.

Pierce teacher interview participant. Leslie was a seventh grade middle school instructor with over a decade's experience teaching social studies and language arts. She defined her teaching style as blended, although she sometimes doubted she was doing it correctly. Leslie's views on teaching were influenced by her college experience. Having attended parochial schools where computers were not a priority, she encountered academic computing as a college freshman. She cited her professors' use of digital resources, online videos, and class PowerPoints as critical to her college

success. However, Leslie's views on technology were tempered by her belief in the value of relationship, attributing her decision to become a teacher to two of her instructors in the seventh grade. Although they relied on direct instruction and print texts, her teachers' passion for their subject and deep commitment to their students made a lasting impression. Leslie was conflicted about the balance between technology and relationship but saw the incorporation of technology in learning as a non-negotiable. She felt students must use technology to be prepared for jobs in the future, even though she feared advances in educational technology might make teachers obsolete.

Nova Schola teacher interview participant. Alisa taught language arts and English for all students in grades 7 through 12. She viewed her experience with digital technology as a "coming of age." She noted that her access to computers was somewhat limited as a child, although this was not due to poverty in the family. She credited her high school English teacher as the person responsible for her decision to teach. Alisa noted that her teacher's emphasis on choice in academic reading inspired her to read 20 print novels in one semester. This experience influenced Alisa to incorporate reading choice into her own teaching, using an adaptive digital reading program. Alisa recalled little interaction with academic computing until her freshman year in college. She recalled a fairly narrow use of computer technology in the English curriculum, focused primarily on the writing of research papers. Alisa expressed a deep love of print books and resources and felt the current emphasis on technology was more of a barrier than a path to learning, generating distractions that make it hard to teach.

Positionality. I had no previous interaction with the majority of the students and teachers in the study, save the two teachers at Pierce and East Valley, who I knew from my past experience as a middle level instructor. However, it is important to note that my professional relationship with these teachers may have biased my interpretation of the data. To address this possible bias, member checking (Hatch, 2002) was used within the interview process to strengthen the validity of my interpretations. Further, metaphor checking (Armstrong, Davis, & Paulson, 2011) was used following the data analysis to confirm interpretations of metaphors among teachers and students.

Data Sources and Collection Methods

Qualitative data collection began after student and teacher participants were selected and all informed consents and parent permission forms were collected. To initiate data collection, an initial class questionnaire (see Appendix A) was given in each of the three research sites to determine the types of print and digital resources students use, as well as their level of usage. Further, the questionnaire assessed student outlooks on digital affinity and levels of online access, as well as their conceptualizations of both personal and academic uses of technology. The questionnaire was distributed electronically in each research site and was completed in a small group setting, to minimize the influence of power structures. Questionnaire responses were also used to choose the student focus group participants from each site. Teacher participants were purposefully selected (Hatch, 2002), based on their literacy focus, their instructional level, and their classroom experience with digital integration.

Qualitative data collection took place on rotating weeks from late September, 2016, through early January, 2017. Each week was devoted to one of the three research sites until all three Phases of the research were completed (see Appendix B). Informed by phenomenology (Seidman, 2006), semi-structured focus group sessions and teacher interviews were conducted using a three phase, contextually grounded structure of interviewing. This was used to explore the contextual factors that inform the meaning of student and teacher experiences with print and digital resources (Patton, 1989). Focus group and interview questions elicited input regarding past, present, and potential future engagements with print and digital resources, as well as conceptualizations of school affiliated identities. All focus groups and interviews were audio and video recorded to insure redundancy in data collection. The flow of data collection is represented in the flow chart below.

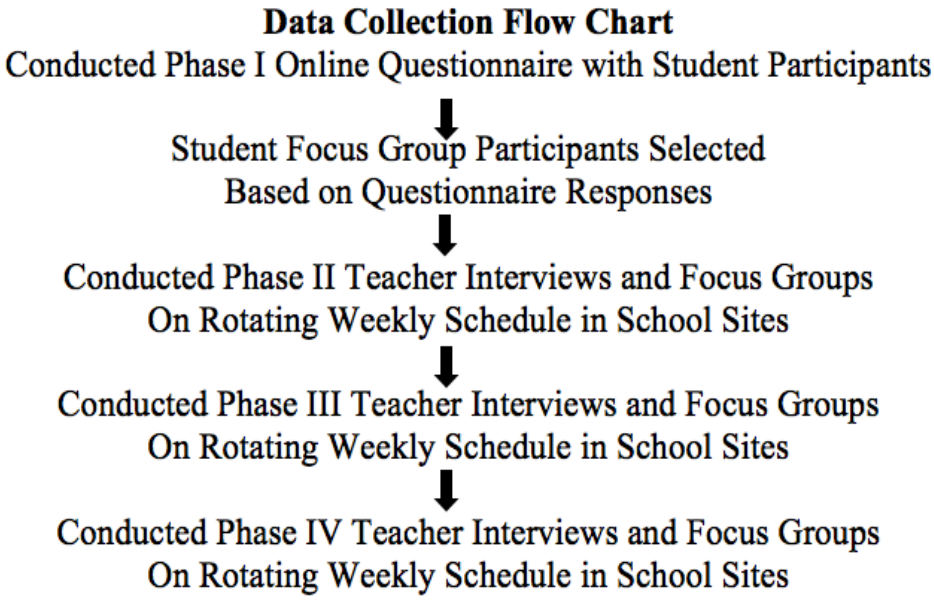

Figure 3.2: Flow Chart of Data Collection

The online student questionnaire. Online questionnaires provide an inexpensive and convenient means of collecting representative data from groups of participants (Berinsky, Huber, & Lenz, 2012). Given their effectiveness, the current study used an initial online questionnaire to initiate student data collection among the 21 consented students from the three research sites. The format of the online questionnaire used in the current research was based on a questionnaire from an earlier metaphor analysis study (Bauer, 2012).

At each site, consented students were released from their class and taken to a separate room for completion of the questionnaire. Each student had access to individual computers, although students at Pierce and East Valley used school supplied laptops while Nova Schola students used desktop computers in a lab setting. Before starting, students were assured that there were no right answers on the questionnaire and to simply answer as honestly and completely as possible. Students were informed that they were not required to complete any question that made them uncomfortable and that there would be no negative consequence. Once logged in, the students were given the appropriate questionnaire website and allowed to begin.

The online questionnaire was created using the Survey Monkey program and maintained on three private Weebly websites, one for each school. The questionnaire had ten sections, the first

asking for the student's name, school, teacher, gender, date of birth, and email address. This information was needed for focus group selection. Section two focused on student usage of eleven possible resources, ten digital and one print-based. Using radio buttons, the students rated their usage for each resource as Never, I've Tried It Once or Twice, Once a Month, Once a Week, or Everyday. This data provided a means of comparing student usage with classmates. Sections three through six asked students to identify their most frequently used resources and to explain why they were so important to them, as well as to identify and support the resource they felt would be most valuable to them long-term. In sections seven through nine, students used a five-star rating scale to indicate their access to technology and the internet at home, focusing on family use, access to digital devices, and internet speed. This data was collected to inform understandings of digital equity among the three settings.

Section ten asked students to generate comparisons regarding their use of digital devices for personal and school purposes. In order to reveal the underlying conceptualizations students held about the use of digital devices, two sentence stems were used to elicit metaphoric linguistic expressions from students. These stems provided scaffolding for their comparisons by supplying the first half of two related sentences:

- Using digital devices for my own use is like…
- Using digital devices for my schoolwork is like…

In metaphor analysis, the use of such elicited metaphors has been found to raise reflection and consciousness among students and teachers by exposing underlying conceptualizations about teaching and learning (Wan & Low, 2015).

Each comparison was followed by the short answer response question, "Why did you choose this comparison?" After completing the questionnaire and submitting their responses, students were given an overview of the questionnaire's role in the selection process for the focus groups.

Classroom observations. For each of the three phases, a classroom observation was performed at each research site. Drawn from traditional ethnographic research, participant

observation is commonly used in qualitative studies as a way to compare participants' more subjective responses regarding their attitudes regarding utility and value (Hatch, 2002).

Focus groups. Although all data from the questionnaire were considered in choosing focus group participants, the data regarding student conceptualizations of technology use in and out of the classroom were particularly helpful, as the sophistication of the comparison and the depth of the rationale were seen as indicative of more potentially robust participation in the focus groups. Questionnaire responses were reviewed and four students were selected from each site. Students were subsequently contacted through email to inform them of their selection for the three-phase student focus group. Their classroom teachers were also informed of their selection to facilitate communication. It should be noted that, in the case of Nova Schola, only four participants provided the required informed consent forms and all were therefore asked to participate in the focus group.

The focus group selections were intended to reflect diversity in age and gender. At Nova Schola, the focus group consisted of two male and two female participants from seventh and eighth grade. The East Valley focus group consisted of eighth graders, while the Pierce focus group was comprised of seventh graders. Although a range was reflected in the selected participants, few male participants from Pierce and East Valley provided informed consent, resulting in only one male participant per focus group.

Weekly half hour focus groups rotated from Pierce, to East Valley, to Nova Schola. Phase II focus groups explored the background of students with print and digital resources, taking place from October 18, 2016, to November 3, 2016. Phase III focus groups took place from November 9, 2016, to November 28, 2016, examining the present details of students' experience with print and digital tools. Phase IV focus groups explored student reflections on the potential of blended learning in the future, running from December 6, 2016, to January 11, 2017.

Although the time and place for the focus groups varied, the focus group format did not. Focus groups at Pierce and Nova Schola were scheduled during their lunch period. Students at East Valley met during their second encore period. Pierce students met in a separate conference room for

focus group sessions, while students at East Valley and Nova Schola met in their teachers' classrooms. The structure of the focus groups at each site echoed phenomenological tenets (Seidman, 2006). Each Phase began with a warm-up that elicited a metaphoric response, followed by six questions of increasing depth. As these focus groups were semi-structured, questions were open-ended, spurring follow up questions to deeper probe participant responses (Seidman, 2006).

Teacher Interviews. Teacher interviews generally occurred on Thursdays, but occasionally had to be changed, due to schedule conflicts. In all nine sessions, interviews were scheduled for 30 minutes and held after school in the teacher's classroom. As with the student focus groups, teacher interviews explored their attitudes regarding past, present, and future uses of academic technology. As with the focus groups, the three interviews began with a metaphorical warm-up, followed by six questions of increasing depth. Although teacher interview questions were not identical to student questions, they were similar in order to facilitate comparison between student and teacher responses. For example, in Phase I, students were asked, "In elementary school, what sort of digital devices did you use? For what purpose?" while teachers were asked, "What sorts of print and/or digital materials did the teacher or teachers use in their lessons?" However, some teacher interview questions were unique, such as, "Do you feel your own approach to teaching is influenced by the teachers you had? If yes, how?" Questions of this nature were intended to explore teacher attitudes regarding print and digital pedagogy.

Data Analysis

Analysis of the collected data began after the administration of the Phase I online questionnaire and continued following the transcription of Phases II through IV. Taking place over several months, data analysis was far more cyclical than step by step, as multiple readings of the data concentrated the significance of some interpretations while diminishing the importance of others. As a result, the description of data analysis for this study will address each Phase of analysis as a whole, rather than in a stage by stage format.

The data analysis method chosen for this study was metaphor analysis. As it is important to understand the process before describing its application with the current data, the approach is first described below.

Metaphor Analysis. In order to better understand the conceptualizations students and teachers from diverse settings have regarding the utility and value of blended learning, this study employed metaphor analysis as a research tool. While metaphor analysis has been widely used as a means of understanding school-affiliated conceptualizations of literacy education (Kendall Theado, 2013; Armstrong, Smith Davis, & Paulson, 2011), the study extends the method to explore the conceptualizations of both students and teachers. Such a study may address a gap in the current research on blended learning.

For this study, it is helpful to establish a key for the identification of conceptualizations. Individual metaphoric linguistic expressions (MLEs) are identified in the data examples using bold face print to draw attention to the language in use. Conceptual metaphors (CMs) will be identified using upper and lower case capitalizations, which is standard for metaphor analysis studies.

The concept of metaphor is commonly defined as the form of figurative language used to draw direct comparisons without using the indicators of "like" or "as." For example, on a hot day, rather than signaling a comparison by saying, "It is like a sauna outside," the direct comparison would be worded, "It is a sauna outside." To most, then, a metaphor is little more than a figure of speech (Kövesces, 2002). However, a metaphor represents much more than an expression of linguistic style. As viewed through the filter of metaphor analysis, our uses of metaphor are understood as representative of our deeply, and sometimes tacitly, held conceptualizations about the world we live in and the people in it (Lakoff and Johnson, 1980).

Lakoff and Johnson articulated the conception of metaphor as a representation of an individual's perceived social reality in their foundational study, *Metaphors We Live By* (1980). It was their contention that, far from being a frivolous and disposable figure of speech, metaphors express conceptual understandings. The purpose of metaphor analysis in a linguistic context is to understand

the underlying conceptualizations of a speaker or writer in a given text by exploring the linguistic metaphors they use in discussing certain topics. When isolated, these metaphors reflect the speaker's views of social reality (Lakoff and Johnson, 1980).

This use of metaphor is not always obvious, as metaphors are seldom stated explicitly. Rather, they can appear within the foundational grammar of an utterance. For example, in discussing the importance of direct instruction at the beginning of a lesson, the teacher at Pierce Middle School noted, "I have to tell you these ten things first. I'm just going to tell you, otherwise you're going to be lost." Although not explicitly stated, this expression can be interpreted to express the metaphorical conception LEARNING IS A JOURNEY.

Data collection and metaphor analysis for this study used an eight step procedural model, outlined by Armstrong, Davis, and Paulson (2011, p. 60) in order to collect, examine, and interpret the data from interviews and focus groups. Following the analysis of the sample above illustrates this process:

(1) Gather metaphorical linguistic expressions from participants: *I'm just going to tell you, otherwise* ***you're going to be lost.***

(2) Identify source and target domains of the metaphor: *Source= JOURNEY; Target= LEARNING*

(3) Identify source features of the metaphor: *a journey is a long path requiring specific directions.*

(4) Map source features onto target: *a long path is similar to learning as both require one to follow steps and directions.*

(5) Develop conceptual metaphors based on the resulting mappings: *LEARNING IS A JOURNEY*

(6) Identify entailments of the conceptual metaphor source: *the logical entailment "learning defines a path" is derived from the premise "a journey defines a path."*

(7) Identify hidden features of the conceptual metaphor source: *not knowing the directions on a journey can result in getting lost.*

(8) Identify themes in patterns of conceptual metaphors: *The LEARNING IS A JOURNEY CM is established as a theme by its high frequency in the data.*

In following this model (Paulson & Kendall Theado, 2015), there are some terms and procedures that require clarification. *Domains* can best be defined as the concepts being compared by a temporal metaphor, as in TEACHING IS A JOURNEY. Although the two domains of TEACHING and JOURNEY are separate concepts, the conceptual metaphor frames them as having common attributes. The source domain is the JOURNEY, a long path that one follows, while the target domain reflects the past, present, and future experiences of a career in teaching. This conceptual metaphor is evident in the current study, as teaching and learning are often presented as a journey. As the teacher at Pierce explained, "I also remember sort of being in a panic **right before I started** teaching here… if it weren't for people like Jeremy or John or Debbie, I think I would have gone **in such a rut**… I still think that **I still have very far to go."** As with a journey, her grasp of teaching starts at a given point and proceeds to its end point, avoiding ruts in the road. The characteristics of the domains of TEACHING and JOURNEY are separate, but are presented metaphorically as TEACHING IS A JOURNEY.

There are two types of domain. The concept from which we draw attributes to understand another is called the *source domain*; the concept that is understood by these comparative attributes is known as the *target domain*. For example, in Phase IV of the student focus group, *Phase IV,* a student applied the attributes of a race, the source domain, to his experience in the face-to-face component of a blended classroom, which is the target domain.

> You can either b**e ahead or on pace…** they **don't want you behind…** And **if you're ahead,** you won't be learning with the teacher, because **they have to teach on pace…if we get too far ahead**, they can't really teach it to you in the class, because they have to teach the rest of the students **that are on pace.**

The process of identifying the relationship between the source and target domains is known as *mapping* (Lakoff & Johnson, 1980), in this case mapping the aspects of a race onto the experience of coordinating face-to-face instruction with a personalized online curriculum. From this mapping, the CM BLENDED LEARNING IS A RACE is produced.

Metaphors types are not interchangeable, as the context and purpose of metaphors can differ. This is evident in the current study, where orientational, structural, and ontological metaphors were used to express conceptualizations of social reality among participants. These metaphor types require definition. Orientational metaphors use spatial relationships to compare conceptualizations of reality. For example, Madi, a Pierce Middle School student, uses an orientational metaphor in describing the convenience of computers for research. She notes, "you could like do Control+F and **look up** … about the person … you needed to know..." In this instance, the spatial orientation metaphor "look up" reflects the conceptualization that NOT KNOWING IS UP. This is balanced by Jayna's assertion that research is best when "we would …**write it down**." Here, the conceptualization KNOWING IS DOWN is expressed. This relationship between abstract concepts and direction is common in orientational metaphors, often revealing understandings of power or importance.

Ontological metaphors, on the other hand, explore conceptualizations of reality by comparing an abstraction or concept to something more concrete, such as an object, container, or person. Where personification is used, an idea, activity, or emotion is compared to a living entity. This occurred often in the data, as computer programs were given human characteristics, as in Madi's description of her mother using Google Maps: "her **Google Maps lady wouldn't like talk to her**…" In this instance, as the target digital application is given human characteristics, the ontological metaphor TECHNOLOGY IS AN ENTITY is mapped.

Finally, structural metaphors describe an abstract concept in to another concept. This is evident in Frances's elicited comparison, "**Technology is like air** 'cause you kind of have to have it." In this case, the necessary physical requirement of air is mapped onto the more abstract target domain of technology. This mapping led to the CM, TECHNOLOGY IS A PHYSICAL NEED. As these three types of metaphor were most evident in the data, understanding their features should be helpful in understanding how they support particular themes.

Entailments must also be identified in the data. Metaphorical entailment refers to the relationship between a source domain characteristic and the target domain by means of logical

association, drawing together a common metaphor and a known assumption. For example, the metaphoric linguistic expression, "he strayed from his argument" is based on the conceptualization, "an argument defines a path." This is derived by combining the logical premise that "a journey defines a path" with the argument-as-journey metaphor, "an argument is a journey" (Lakoff & Johnson, 1980).

Entailments were evident in the current data. An example of this can be found in the East Valley teacher's description of her use of Google Docs in the classroom. Frances conveyed her frustration, stating, "Google and I are getting a divorce." This entailment is derived from a combination of a well-known premise and a metaphor: The metaphor, MIND IS A MACHINE entails that the human brain and technology work in much the same way, established here as "a computer is an entity." Combined with the metaphor, "technology is a relationship," the use of the computer program is compared to a bad marriage, where the computer program is an unsuitable spouse. This is not a direct metaphoric relationship but one that relies on an understanding of another metaphor for meaning.

Having identified the individual MLEs in the data and examined their source to target domain mappings, the resulting CMs can be categorized into broader thematic patterns. In this way, the themes of the data can be traced back to the specific linguistic expressions and conceptualizations of social reality found in the data.

Triangulation. Metaphor analysis, although well established as an investigational and analytical approach (Armstrong, Davis, & Paulson, 2011; Paulson & Kendall Theado, 2015), has been critiqued for the potential subjectivity of its findings (Ritchie, 2003; Schmitt, 2005; Semino, Haywood, & Short, 2004). For example, using the foundational metaphor ARGUMENT IS WAR, Ritchie (2003) asserted that Lakoff and Johnson (1980) drew too narrowly from a broad range of more nuanced metaphors, overlooking levels of conflict in the concept of argument. Further, Schmitt (2005) contended that Lakoff and Johnson's (1980) method provided no workable system to use metaphor analysis in qualitative research. Along with a number of other critiques, the decontextualized nature

of Lakoff and Johnson's lists of CMs was addressed, as such lists limit possible interpretations of data (Semino, Haywood, & Short, 2004). To reconcile this critique, this study used three separate triangulation methods to enhance the integrity of the metaphor analysis. During the data analysis process, *thematic triangulation* was used to continually revisit the data sources to confirm or refute the mapping of source and target metaphors and to validate the identification of CMs and dominant themes (Paulson & Kendall Theado, 2015). Additionally, *member checking* (Hatch, 2002, Lincoln & Guba, 1985) was used to verify researcher understandings during the focus groups and interviews. This practice is evidenced in the example below. In referring to the engagement she felt with her favorite teachers, Leslie, the teacher participant at Pierce, said:

Leslie: They just both had a passion for education and learning, and the way they presented information even though it was like… it was just like… you felt like you were at like a play or you know a movie… And I loved them for just how their class was run and how… I felt like it was always fun and I felt like I was always learning. And that's I think what kind of inspired me to be a teacher. …

Researcher: So, and I'm just— you know tell me if I'm not getting this right. But you're saying that the personalities so impressed you about how important it is to be entertaining?

Leslie: Exactly. Yes.

Member checking was accomplished within the three phases of the interviews, as the semi-structured nature of the focus groups and teacher interviews allowed for questioning, clarification, and restatement of researcher conceptualizations. This approach to member checking resonates with more formal approaches to qualitative interviewing, as participants are given a chance to react in real time to the researcher's developing findings (Hatch, 2002).

Metaphor checking (Armstrong, Davis, & Paulson, 2011) was used to verify the researcher's interpretations of the teacher participants' linguistic metaphors. Using this technique, teachers from the three research sites were contacted at the end of the data analysis process. CMs were shared and teacher participants asked to confirm or refute researcher interpretations. Although metaphor

checking was planned for student participants, movement from middle school to high school interfered with attempts at electronic contact. Therefore, metaphor checking was reserved for teacher participants.

Finally, classroom observations were used as an informal means of triangulation, documenting classroom activities before Phases II through IV of the study and checking for alignment with CMs from the metaphor analysis.

Metaphor analysis in the current study. Following the completion of the online questionnaires and the transcription of each Phase of the student focus groups and teacher interviews, the metaphor analysis of the data became increasingly more focused and selective over time. In the initial attempts at metaphor analysis, all potentially comparative data, whether elicited or spontaneous, were collected and categorized, based on its structural, orientational, or ontological nature. In the later readings of the data, each identified metaphoric linguistic expression, or MLE, was analyzed by mapping the source of comparison in the expression onto the target of the comparison. Next, similarities were identified in the use of MLEs, and the frequency of their use was noted and ranked. During this stage, a number of CMs emerged. In the final stage of analysis, the CMs were scrutinized for their relevance to the research questions, resulting in a focus on ontological and structural metaphors. From this more limited grouping of relevant CMs, thematic patterns were identified.

Metaphor analysis: Phase I. The analysis of data began with the initial online questionnaire regarding the utility and value middle level students placed on a variety of print and digital resources. The online questionnaire was given in each school site at varied times of the day. In the suburban site, the questionnaire was administered during class time. In the rural setting, the questionnaire was given after core instruction during encore classes. In the urban site, the questionnaire was given during their personalized curriculum time.

As opposed to the interview and focus group data, data from the questionnaire were analyzed to determine access and frequency of literacy practices, as well as the utility and value assigned to

them. Further, students' metaphoric expressions of personal and academic digital usage were elicited, used primarily as a means of focus group selection.

Metaphors for personal and academic uses of technology among the middle level student participants were elicited using two sentence stems. First, they were asked to complete a sentence comparing their personal use of technology: Using online digital technologies for my own personal use is like… This comparison was elicited to understand how students conceptualized their use of technology for personal, non-academic purposes. Participants' responses were collected and categorized under common themes for each school. Following this response, student metaphors were also elicited regarding their use of technology for school related purposes: Using online digital technologies for my schoolwork is like… As with the previous sentence stem, students provided a metaphor and explanation of their chosen comparison.

Using the *Metaphors We Live By* (Lakoff and Johnson, 1980) and the Kövesces (2002) texts to cross check the data, elicited student metaphors were analyzed by categorizing their responses into metaphoric types, examining the mapping of source metaphors onto their targets, and interpreting their expressions into CMs.

Phase II metaphor analysis: Phase II initiated student focus group discussions and teacher interviews. These discussions focused on the student and teacher participants' earliest memories regarding their academic uses of print and digital resources. In the focus groups, students activated their prior knowledge by taking two minutes to write down their earliest memories of using technology for personal or academic use.

Following this warm up, students discussed their memories, answering a sequence of six questions that explored their experiences using print and digital resources for academic purposes. These questions gradually increased in depth and intensity. Focus group questions investigated their elementary classroom experiences, their teacher's use of resources, and their social learning experiences. In addition, each question provided an opportunity for follow up, probing why students felt these print and digital resources and pedagogies were employed.

Teacher interviews in Phase II followed a similar pattern, with the addition of an elicited metaphor. Teachers were asked to complete a sentence stem: Using digital devices as a student was like… This was included to balance the conceptualizations of students and their teachers, as teachers were not required to complete the online survey. The following questions addressed the perceived value and importance of their teachers' use of resources and pedagogies and whether they were influential on their own teaching.

Following the transcription of the student focus groups and teacher interviews, the Phase II transcripts were analyzed by completing multiple readings of the data, looking for evidence of comparative language. Early readings identified all potential evidence of metaphor use, including orientational metaphors, ontological metaphors, and structural metaphors.

Using the Lakoff and Johnson (1980) and Kövesces (2002) texts to cross check the data, language use in Phase II was analyzed by highlighting comparisons in the MLEs, categorizing them into metaphoric types, examining the mapping of the metaphor onto its source, and identifying CMs from the MLEs. In this early Phase, multiple CMs were often generated, moving from general to specific references. These were later condensed into more focused CMs. Frequencies of CMs were then noted, highlighting primary and secondary trends in the data.

Phase III metaphor analysis. The second round of student focus groups and teacher interviews addressed current practices with regard to print and digital resources. As in Phase II, the student discussion began with a warm-up: List the ways you use digital devices to do your schoolwork today. Following the warm up and discussion, students were questioned regarding their expressions of utility in the use of print and digital resources, as well as social learning opportunities. Further, students were asked for their views regarding why their teachers were heightening the use of digital devices in their classrooms. Finally, students were questioned regarding the value of digital devices in their learning.

Teacher interviews in Phase III were primarily focused on their own current use of digital resources and blended learning in the classroom. As in Phase II, teacher interviews began with a

sentence stem completion: Using digital devices for my teaching is like… After explaining the rationale for their comparisons, teachers were asked to identify the materials and pedagogies they most valued. Questioning intensified, exploring their instructional practices, their understanding of blended learning in their classrooms, and, finally, their own preparedness to incorporate blended learning into their teaching.

Again, data analysis followed transcription. Following multiple readings of the data, the Lakoff and Johnson (1980) and Kövesces (2002) texts were once again used to cross check language use in Phase III, identifying metaphor types and categorizing them, examining their mappings, and generating and assessing the frequency of CMs, which helped identify primary and secondary thematic patterns. The identification of metaphors became more selective in Phase III. As orientational metaphors provided little insight into the research questions, the data analysis concentrated on ontological metaphors and structural metaphors.

Metaphor analysis: Phase IV. The final round of focus groups and teacher interviews addressed the potential academic value and utility of print and digital resources in the future. In student focus groups, blended learning was defined as a means of activating prior knowledge, noting, "Blended learning combines face-to-face teaching with online learning. This type of teaching is supposed to better meet the needs of each student." Based on this understanding, students were given two minutes to brainstorm any potentially blended lessons in their current classes. To assess their views on the future value of digital learning, discussions explored student views on the need for blended learning, as well as the future need for digital and print-based instruction.

Teacher interviews once again asked the participants to complete and reflect on a sentence stem: Incorporating blended learning into classroom instruction is like… As with the students, the initial focus on the present scaffolded discussions about the future. Teachers were also asked to consider their academic identities, reflecting on their own identification as facilitator or instructor. Further questions probed their predictions on what teaching would look like in the future. Building on this understanding, teachers were then asked to consider the future value of print and digital literacy

for their students, as well as their opinions regarding the future relevance of social learning. Finally, teachers were asked to consider the future impact of blended learning on academic instruction.

By this Phase of the analysis, repeated readings of the data had become much more targeted, identifying only salient structural and ontological metaphors in the student and teacher data. The process of identification, categorization, mapping, cross checking, conceptual metaphor development, frequency assessment, and thematic pattern identification followed the same general method as described in other Phases, but was much quicker, based on the practices established in the earlier data analysis.

Summary. Although numerous metaphors were found in the data, it is important to note that, on the whole, discussions with teachers generated many more structural and ontological metaphors than those found in the student data. This may relate to the students' maturity and their ability to use abstraction in their spoken language. Still, CMs identified in the student data were adequate for the purposes of metaphor analysis.

Having undergone multiple readings and continuous reexamination of the data, a number of CMs were discarded, based on either their limited occurrence or their lack of connection to the research questions. As mentioned previously, orientational metaphors were also discarded as their use either did not relate to the research questions or was used in a context that limited other possible utterances. Remaining structural and ontological metaphors underwent thematic triangulation (Paulson & Kendall Theado, 2015) to validate or refute the mappings of source and target metaphors, as well as confirm the identification of CMs and themes. Distilled from the metaphor analysis, a close examination of the data supporting these primary themes is presented in the findings in Chapter 4.

Chapter 4

Research Findings

In this chapter, the three research questions at the heart of my study were used to structure findings from the research sites. Data analysis focused on dominant patterns in metaphor use at the three research sites to explain what the data revealed about the conceptualizations middle level students and faculty hold regarding a) the utility and value of print and digital resources in the classroom, b) the utility and value of print and digital pedagogies, and c) school-affiliated identities within print-based and digital learning environments. Relevant findings for each research question are presented below, beginning with an analysis of the Phase I student questionnaires, followed by analysis of classroom observations, student focus groups, and teacher interviews. CMs from each research site were examined within the context of one of the three guiding research questions, beginning with the rural East Valley Middle School, followed by the suburban Pierce Middle School, and ending with findings from the urban Nova Schola charter school. As outlined in Chapter 3, there were four phases to the study. However, as the focus of the Phase I student questionnaire was confined to student conceptions of utility and value of print and digital resources, Phase I findings were only addressed in relation to research question one at each site.

It should be noted that metaphor use among students was far less frequent than with teacher participants. Data supporting the CMs in the findings below are therefore presented as representative rather than cumulative, sharing only the strongest iterations of student and teacher MLEs. Charts of CMs are presented at the end of each research question discussion. Further, although APA guidelines suggest that quotes under 40 words be incorporated into the text and set off using quotation marks (American Psychological Association, 2010), quotes from this data set are presented below in block format for ease of viewing.

Research Question One

Research question one asked the following: How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital

resources? Student attitudes regarding the use of digital texts were quite similar across school sites. While students appreciated the utility of digital resources for research and personal use, they were not viewed as valuable over the long-term. Print texts, however, were given greater value, based on their dependability, ease of use, and significance as artifacts. Analysis of the data revealed diverse stances among the teachers in the study. Frances, the East Valley teacher, overwhelmingly valued print texts over digital. Leslie, the instructor at Pierce Middle School, valued digital resources more. Alisa, the Nova Schola instructor, while asserting the importance of digital technology, valued print.

East Valley findings. Analysis of the online questionnaire, classroom observations, student focus groups, and teacher interviews reflected a deeper value for print over digital resources at East Valley. However, students recognized that digital resources had greater utility, citing their importance in communication and research, as well as their overall convenience.

Phase I online student questionnaire. Initial student viewpoints regarding the utility and value of print and digital resources were obtained using an online questionnaire. This questionnaire employed usage rankings for both print and digital resources, short answer questions that explored student beliefs regarding the current utility and long-term value of their preferred resources, and sentence stems to elicit metaphors on their personal and academic use of digital devices (Appendix A).

Usage ranking. The first section of the survey asked students to rank their usage of a number of print and digital resources, from never to everyday. High usage was defined in the survey as everyday or weekly. In the more rural East Valley Middle School, SmartPhones were reported as most used by every student in the rural setting (100%), as were school websites. Preferences for audio and video streaming services, such as YouTube, were slightly less popular (90%), as were social media sites (80%). Although the data reflected a strong preference for the personal use of digital devices, usage of print resources was highly ranked, as well. Print resources were used every day or weekly by 70% of East Valley respondents. Least used among the East Valley students included

online publishing (30%) eReaders (20%), FanFiction Sites (10%), and presentation tools (0%). The data for section 1 is represented below (Table 4.1)

	Everyday	Once a week or less	Once a month or less	I've tried it once or twice	Never
Online Audio or Video Streaming Services: (Spotify, YouTube, Netflix, Hulu, etc.)	7	1	0	1	1
Social Media: Facebook, Twitter, Instagram, Snapchat, etc.	7	0	0	2	1
Smartphone Applications: (Instant Message, Texting, Email)	10	0	0	0	0
Online Gaming: (Playstation, Xbox, Candy Crush, Mobile Strike, etc.)	1	5	2	0	2
School-based websites/ programs: (Blackboard, Schoology©, etc.)	8	2	0	0	0
Internet Research Tools (Wikipedia, etc.)	3	4	3	0	0
Online Presentation Tools (Prezi, PowerPoint, etc.)	0	0	6	4	0
Online Publishing or (video, audio, images)	1	2	2	5	0
eReaders (Kindle, Nook, etc.)	1	1	1	3	4
Writing Fanfiction	0	1	1	2	6
Print Texts : (novels, textbooks, comics, etc.)	3	4	1	2	0

Table 4.1: East Valley Student Conceptions of Utility and Value in Literacy Practices

Rationale for usage. Reasons for the high use of digital resources among East Valley students focused on the matter of convenience in communicating with friends and family, as well as accessing entertainment. Students stated:

> Its ways for me to either communicate with friends and family or to just see what they are doing... Netflix is where I watch all of my shows, so, I use Netflix basically everyday.

Students were next asked to report on the resources they felt would be of most value to them over the long-term. While internet research ranked first, noting the future importance of research in the workplace, the value of print books was also evident:

> They can teach me things that I have never learned about before…These things will be valuable to me later in life because technology won't stop upgrading.

Elicited metaphors for personal use of digital devices. MLEs regarding personal and academic uses of digital devices were elicited from students, first asking them to complete the comparative sentence stem, "Using digital devices for my own personal use is like…" By categorizing student responses based on similarity, trends at East Valley emerged, reflecting conceptualizations of consumption, personal exploration, and play with regard to the use of digital resources.

Several East Valley students compared the use of digital devices to eating or drinking, identified conceptually as PERSONAL USE OF DIGITAL DEVICES IS CONSUMPTION. This conceptualization focused on battery life:

> When you are on your device it drains battery and when you eat a piece of pie you have a little pie left….When your drinking a drink it gets lower and lower just like your battery on your phone.

The CM PERSONAL USE OF DIGITAL DEVICES IS PLAY was also evident, based on the students' affinity for physical activity. One student compared their use to "playing a sport," reporting that they enjoyed both equally. Another compared their personal use to playing outside, noting that they "play outside a good amount."

A representative set of sentence stem responses from East Valley on personal use of digital devices is represented below verbatim (Table 4.2).

Sentence Stem: *Using online digital technologies for my own personal use is like…*	MLE	CM
Taking a drink	When your drinking a drink it gets lower and lower just like your battery on your phone	PERSONAL USE OF DIGITAL DEVICES IS CONSUMPTION
Sentence Stem: *Using online digital technologies for my own personal use is like…*	MLE	CM
Eating pie	When you are on your device it drains battery and when eat a piece of pie you have a little pie left.	PERSONAL USE OF DIGITAL DEVICES IS CONSUMPTION
Going on a quest	No matter what topic or what it is for you are able to use it to find more about it.	PERSONAL USE OF DIGITAL DEVICES IS EXPLORATION
Getting sidetracked	When I use the internet I sometimes get sidetracked and discover new things	PERSONAL USE OF DIGITAL DEVICES IS EXPLORATION
Playing outside	I play outside a good amount	PERSONAL USE OF DIGITAL DEVICES IS PLAY
Playing a sport	I enjoy using devices and I enjoy playing sports	PERSONAL USE OF DIGITAL DEVICES IS PLAY
Turning on a light bulb	You can come up with new techniques and ideas!!!!!	PERSONAL USE OF DIGITAL DEVICES IS ILLUMINATION

Table 4.2: East Valley Elicited Metaphors on Personal Use of Digital Devices

Elicited metaphors for academic uses of digital devices. Metaphors were also elicited with regard to academic uses of technology, using the sentence stem, "Using digital devices for my schoolwork is like…" As with the personal use metaphors, categorizing similarities led to metaphoric trends, including homework and fatigue.

The necessity of using digital devices for academic purposes produced more pragmatic conceptualizations, including ACADEMIC USE OF DIGITAL DEVICES IS HOMEWORK. Seeing academic computing as a school requirement, students explained:

> When you do school work on a computer you have to type a lot so like a summary… I chose this because I have to use these devices to keep my grade up and I have to my homework to keep my grade up.

The source of the CM ACADEMIC USE OF DIGITAL DEVICES IS FATIGUE came from student complaints about the physical effect of being on the computer for extended periods of time:

> I chose this because as you keep looking at the screen your eyes hurt and you get more tired while you look… As i look at the screen it makes me tired.

This complaint was echoed in every research site, by students and teachers alike. A representative set of sentence stem responses from East Valley on the academic use of digital devices is represented below verbatim (Table 4.3).

Sentence Stem: *Using online digital technologies for my schoolwork is like…*	MLEs	CMs
Homework	It is similar but not because I can show my work on my math homework with paper but with online classwork/homework I cant do that I chose this because I have to use these devices to keep my grade up and I have to my homework to keep my grade up. because always have to help them (brothers) with there homework	ACADEMIC USE OF DIGITAL DEVICES IS HOMEWORK
Sleeping	As I look at the screen it makes me tired. i chose this because as you keep looking at the screen your eyes hurt and you get more tired while you look.	ACADEMIC USE OF DIGITAL DEVICES IS FATIGUE
A family reunion	its boring to just sit at one but you know you have too	ACADEMIC USE OF DIGITAL DEVICES IS OBLIGATION

Table 4.3: East Valley Elicited Metaphors on Academic Use of Digital Device

East Valley classroom observations. A classroom observation was conducted at each site followed by a student focus group and teacher interview. As with the Phase I questionnaire data, the observations are presented in correlation with the first research question: How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital resources? Frances's instructional practices reflected a valuation of print texts over digital resources. This was evident in her emphasis on textbooks and paper/pencil activities.

In the first class observation, Frances did a read aloud of the short story, "The Elevator," as students followed along in their textbooks. While the Smartboard was used to review the elements of suspense at the beginning of class, students took notes using pencil and paper. Having completed the textbook reading, students used their laptops to write an extension for the short story. This was to be completed by the next day for homework. In the second observation, Frances used print text to explore Edgar Allen Poe's short story, "The Tell-Tale Heart." Vocabulary from the story was first reviewed using a printed worksheet. Next, while a recording of the story was played from a CD, students were again instructed to read along in their textbooks. In observation three, Frances again emphasized print texts, this time having students partner read from the short story, "Flowers for Algernon," rather than follow along with a recording or read aloud. As one student read aloud, the other read silently, following the text and alerting them to miscues. These observations support the stance that Frances valued print texts over digital resources for instruction.

East Valley student focus groups. Correlated with research question one, metaphor analysis of the data revealed weak support among students regarding the value of academic technology, perceiving print resources as more useful and valuable for classroom learning.

Phase II. Aligned with the phenomenological model (Seidman, 2006), focus group questions in this Phase explored past experiences with print and digital resources. Analysis of the East Valley Phase II student focus group produced two significant metaphors related to the utility and value of print and digital resources: READING PRINT IS A JOURNEY and DIGITAL READING IS GETTING LOST. In

discussing her early experiences with school literacy, Amy described her progress with print, moving from early readers to chapter books:

> **In the beginning** of elementary school, I obviously read like Dr Seuss' books. And then **I kept moving.** ..I **moved to** like picture books to chapter books, like, **pretty fast.**

Amy mapped the concept of a journey's beginning onto her early reading experience, using print copies of Dr. Seuss early readers. She extended the metaphor to address her reading progress as she moved "pretty fast" to chapter books. Amy's MLEs compared her early experience with print to a mapped out journey with a distinct trajectory and pace.

Student MLEs also critiqued the utility of digital texts conceptualized as DIGITAL READING IS GETTING LOST. While similar to the CM regarding the reading of print resources, in this case, the journey was not mapped out. Rather, she expressed a sense of being lost in the digital text:

> If I'm reading a story and I'm taking notes, if I look down to write and I look back up, I automatically **lose my place** on **where I am at on my computer…**

This spatial confusion was not reported with print texts, as she continued, "…but when I'm in a book, I can, like, **tell where I am**."

Phase III. Analysis of the Phase III student focus group, which focused on current academic experiences with print and digital resources, revealed two CMs related to the utility and value of print and digital resources. Most dominant was the metaphor PRINT TEXT IS COMFORT, followed by the metaphor TECHNOLOGY IS AN ADVERSARY.

The CM PRINT TEXT IS COMFORT was used to describe student affinity for books, connecting emotionally with the tactile nature of print. In Margie's case, she conceptualized print text as a both a tactile pleasure and a plaything:

> I like reading paper books; I just like the **feeling of** it… Yeah, I **play with the pages**.

MLEs related to technology supported the CM TECHNOLOGY IS AN ADVERSARY. In contrast to seeing technology as comfort, Amy noted its negative physical effect:

When I'm staring at a screen for long periods of time, I usually get like really tired, or I get, a headache, because, like, the screen- it's like bright and **it hurts my eyes.**

Amy personified the prolonged used of technology, portraying it as an antagonist. It is worth noting that this observation was common across the three school sites.

Phase IV. Looking to the future, few student metaphors at East Valley focused on the utility and/or value of print and digital resources, as the discussions were more focused on pedagogy. Still, Margie did express MLEs that supported the CM PRINT IS A TEACHER. Here, she personified print as a teacher:

I just feel like **it helps me learn** how to do it better and I understand it more that way.

The source domain of print text personified as teacher is mapped here onto the target domain of her experience reading print.

East Valley teacher interviews. In each Phase of the teacher interviews, participants were asked to complete a sentence stem as a warm-up, conceptualizing their use of computers and blended learning over time. Responses to these prompts are presented below before addressing the salient CMs identified through data analysis.

Responding to research question one, the metaphor analysis revealed that, while acknowledging the early utility of technology, the East Valley teacher valued print texts and resources over digital resources in her classroom.

Phase II: The first warm-up asked Frances to respond to the sentence stem, "Using digital devices as a student was like…" Frances explained it was like "being on the brink," finding the shift from print to computer use in her high school classroom both exciting and scary.

Frances's description of her early experiences with print and digital resources focused on her high school and college years. Analysis of her MLEs identified the CMs TECHNOLOGY IS A MONSTER and PRINT IS A POSSESSION in her early use of print and digital resources.

While Frances's nicknames for her first personal computer support the CM TECHNOLOGY IS A MONSTER, her relationship with personal computing was more nuanced, reflecting the utility of her personal computer in completing academic work:

> When I went to college, I had to tell my dad that he'd need to get me, for Christmas my freshman year, a better computer, because **My Little Monster, My Destruction,** was just so ancient.

Although these names hint at her earlier struggles with her first computer, in context, it was evident Frances appreciated her father's support and what it was able to do for her.

Analysis of MLEs emerging from Frances's discussion about print resources highlighted the importance she placed on having hard copies of texts, expressed in the CM, PRINT IS A POSSESSION:

> Oh. I still prefer **book in hand**… I would go online and I would find it and I would print it out because **I wanted that copy.**

While touched on in Phase II, this possessive tone was more evident in Phases III and IV.

Phase III. The second interview began with a warm-up focused on Frances's current use of technology in the classroom. Frances stated that using digital devices for her teaching was "like air," acknowledging the necessity of computer literacy, while at the same time expressing regret:

> This is going to sound bad… It's **like air** 'cause you kind of have to have it, nowadays. It just seems like it shouldn't be this way, but it is.

References to her preference for print and her conflicted relationship with technology expanded in this interview, expressed in the CMs PRINT IS A POSSESSION and TECHNOLOGY IS AN ADVERSARY. Frances was direct in establishing a possessive affinity for her current use of print resources:

> There's just something about **having a pen in your hand**… I **didn't want to get rid** of the paper and pencil.

Her personification of technology also continued in Phase III, identified in the metaphor TECHNOLOGY IS AN ADVERSARY. In her current use, she referred to technology as hateful spouse:

> **Google hates me.** Like, we were doing narratives and they were all gone… Like, so, I told the

kids, like, **Google and I are getting a divorce.**

Frances's direct personification of the Google Docs program established the confrontational nature of her relationship with digital technology.

Phase IV. Exploring the potential for using blended learning in her future instruction, Frances completed the final sentence stem: "Incorporating blended learning into classroom instruction is like… learning how to ride a bike." While earlier CMs conveyed a negative conceptualization regarding technology, Frances acknowledged the utility of academic technology, as well as the pain that comes with it:

> You know, you might trip up a little bit; **you might fall down**. But, once **get back up** and you learn, it'll be like an old habit, and it'll be something that you won't forget and that you'll use.

While her affinity for print had been well established, this metaphor seemed to recognize the utility of incorporating technology into her instruction.

Frances's subsequent MLEs, however, established an even stronger value for print than before, moving from possession to personification. The CM PRINT IS A NEGLECTED FRIEND emerged from Frances's MLEs regarding the future of print in education:

> I think as long as we keep the importance of having like a paper copy, if we keep it relevant, then **it won't go away…** But if we make it so that it's obsolete, **it's just going to go far, far away.**

Frances's personification portrayed print as a neglected friend who, lacking attention, might abandon us all.

The conceptualization TECHNOLOGY IS AN ADVERSARY was solidified in Phase IV, based on negative MLEs regarding technology use. While recognizing the utility of technology to make teaching easier, she still maintained that she would "like to see it stay print." In looking to the future, her MLEs addressing her relationship with technology took on a more hostile tone:

> "**Google and I are going through a divorce...**I'm not going to let **it ruin me**. I'm not going

to let **it define me**."

Her MLEs personified technology as a bad spouse, emphasizing her resistance to its power over her.

Pierce Middle School findings. Findings from Pierce revealed some conflict between the viewpoints of students and their teacher regarding the value of print and digital resources. As evidenced in observations of her teaching practice and analysis of her MLEs, Leslie strongly supported digital resources in her teaching. Her students, however, were conflicted on the value of digital technologies, valuing their use for learning but resisting their use in reading. Print texts, however, were perceived as more valuable overall.

Phase I online student questionnaire. As with East Valley, student stances on utility and value were obtained using usage rankings of print and digital resources, short answer questions, and sentence stems to elicit metaphors on personal and academic use of technology (Appendix A).

Usage ranking. In the suburban Pierce Middle School, reported usage of print and digital resources revealed student support for both print and digital resources, while indicating a dislike of digital texts for extended reading. School websites, print texts, and internet research were ranked highest (100%). SmartPhones and social media ranked slightly lower in use, both at 86%. Streaming services were significantly less used (71%). Least used among the Pierce students included eReaders (0%), FanFiction Sites (0%), and online publishing tools (0%). The data for section 1 is represented below (Table 4.4)

	Everyday	Once a week or less	Once a month or less	I've tried it once or twice	Never
Online Audio or Video Streaming Services: (Spotify, YouTube, Netflix, Hulu, etc.)	3	2	2	0	0
Social Media: Facebook, Twitter, Instagram, Snapchat, etc.	6	0	0	0	1
Smartphone Applications: (Instant Message, Texting, Email)	6	0	0	0	1

Online Gaming: (Playstation, Xbox, Candy Crush, Mobile Strike, etc.)	0	2	4	1	0
School-based websites/ programs: (Blackboard, Schoology©, etc.)	7	0	0	0	0
Internet Research Tools (Wikipedia, etc.)	3	4	0	0	0
Online Presentation Tools (Prezi, PowerPoint, etc.)	0	2	5	0	0
Online Publishing or (video, audio, images)	0	0	1	5	1
eReaders (Kindle, Nook, etc.)	0	0	1	3	3
Writing Fanfiction	0	0	0	3	4
Print Texts : (novels, textbooks, comics, etc.)	4	3	0	0	0

Table 4.4: Pierce Student Conceptions of Utility and Value in Literacy Practices

Rationale for usage. Pierce students conveyed that digital devices were currently most useful in their personal lives, citing their importance in communicating with friends and family:

> I like that I get to see my friends that I don't have classes with and so we can talk to each other… I use these particular devices so often because I can talk and communicate with my friends… I use my phone often because I use it to communicate with friends that are long distance or I am at practice and need to call or text my parents to pick me up.

Regarding the resources they felt would be of the most value in the future, Smartphones, print texts, and internet research were chosen, based on their perceived importance in college and in the workplace:

> I think that phones are becoming more high tech and they will be more important to everyone in the future... I will most likely be using a lot of school programs and websites in high school and college, and when I am an adult, I may need to read different types of text because of my job and I will use my smartphone to communicate with people and pass along information.

While less so in their current use, Pierce students foresaw a significant need for digital resources in the future.

Elicited metaphors for personal use of digital devices. Most of the Pierce students viewed the personal use of technology positively, conceptualized as TECHNOLOGY IS ANOTHER WORLD. Several explanations supported the use of this metaphor:

> It seems like when I am using my personal digital devices, and **the world** seems so different…. because I like all the tech stuff in **this world**… because **the world** is becoming very high tech.

A representative set of sentence stem responses from the Pierce students is presented in the chart below verbatim (Table 4.5).

Sentence Stem: *Using online digital technologies for my own personal use is like…*	MLEs	CMs
Living in another world	I choose this comparison because I do so many different things it seems like when I am using my personal digital devices, and the world seems so different. because the world is becoming very high tech. Why I chose this is because I like all the tech stuff in this world.	TECHNOLOGY IS ANOTHER WORLD
A roller coaster	Because sometimes its fun but other times its stressful because theirs so much and it's everywhere, it drives me nuts!	DIGITAL TECHNOLOGY IS A ROLLER COASTER
Playing a sport	I love running and with great technology, you have so much freedom, like you do when you run in a big open field.	DIGITAL TECHNOLOGY IS FREEDOM

Table 4.5: Pierce Middle School Elicited Metaphors on Personal Use of Digital Devices

Elicited metaphors for academic uses of digital devices. Pierce students were far less supportive of the use of digital devices for classroom learning. The most common CM for this stem

was TECHNOLOGY FOR ACADEMIC USE IS AVERSION, based on comparisons of activities students did not enjoy:

> I **don't like taking family pictures** and I **don't like having to use the computers**… I **don't like to cook** and I **don't like using computers**… I **don't like to play soccer** and I **don't like to do homework**.

One student was more specific regarding her aversion she felt when using academic technology:

> I chose this because it **makes me worry** about if im not able to complete or turn something in. If something happens to the internet … it can be very stressful.

A representative set of sentence stem responses from the Pierce students is presented in the chart below verbatim (Table 4.6).

Sentence Stem: *Using online digital technologies for my schoolwork is like…*	MLEs	CMs
Cooking my own dinner.	I don't like cooking like I don't like using computers.	TECHNOLOGY FOR ACADEMIC USE IS AVERSION
Soccer	because I don't like to play soccer and I don't like to do home work its alot of hastel we dont really get good wifi back into our rooms so when every I try and enter a website its so slow to load and that makes me stay up later.	TECHNOLOGY FOR ACADEMIC USE IS AVERSION
Taking family photos	I don't like taking family pictures because I just very dislike taking pictures	TECHNOLOGY FOR ACADEMIC USE IS AVERSION
Stepping into the future, only to find you're in prison.	You are in the future and that's cool, but you're in prison so you can't do what you want and you have restrictions.	TECHNOLOGY FOR ACADEMIC USE IS INCARCERATION
Cleaning my room	When I clean my room, I organize all my stuff and put everything into place, which is similar to what I do everyday when I look at all my schoolwork and everything and let it help me.	TECHNOLOGY FOR ACADEMIC USE IS ORGANIZATION

Table 4.6: Pierce Middle School Elicited Metaphors on Academic Use of Digital Devices

Pierce classroom observations. In the suburban setting, observations of a seventh grade social studies class reflected a greater use and valuation of digital resources, as Leslie used print texts only occasionally. In the first observation, students viewed a short online video on Ancient Greece, comparing Sparta and Athens. Students took notes digitally, using laptops and sharing information through the Google Docs program. This was followed by a mini-research project focused on answering the driving question, "Was Ancient Athens a true democracy?" Research was scaffolded by the Schoology© learning management system, which provided digital resources. In the second observation, digital resources were used extensively. Sparked by the driving question, "Alexander the Great: Hero or Villain?", students traveled in groups, using their laptops and Google Docs to generate research questions. Information was gleaned from a variety of sources stationed around the room: an audio podcast, a short video, printed primary source documents, a social studies textbook, and a small group discussion. In the third observation, students created a digitally composed study guide to review for their test over Ancient Greece. Online resources, collected on the class Schoology© page, were used as references and a computer projector was used to model the paraphrasing of research data. Downloaded images harvested from websites were then used as a visual reference for test preparation. Although print texts were used as a learning option during the station rotation in observation two, the use of digital texts and multimodal resources dominated instruction in the suburban setting, reflecting a greater valuation of the digital over print.

Pierce student focus groups. As with the focus groups at East Valley, questions explored the past, present, and potential future experiences of the student participants. Metaphor analysis of the focus group data revealed students valued print resources for learning, seeing the use of digital resources in the classroom as convenient but sometimes oppressive.

Phase II. Discussing their past experiences with print and digital resources, students conveyed that they valued print books, due to their historical significance and collectible nature:

(Books) are **important to history**…they're really old and I think **we should preserve**

them.

Conceptualized as PRINT TEXTS ARE VALUABLE OBJECTS, students compared print texts to antiques or collectables, forecasting their replacement by digital texts.

The utility of digital technology was personified in discussions of past uses, highlighting its advantages as a teaching tool. Some MLEs on this topic were conceptualized as TECHNOLOGY IS A TEACHER:

> You can like do a game that, like**, teaches you how to learn…** I like to do that online because **it tells you the exact answer.**

This was one of the first uses of personification to assign the identity of teacher to digital programs.

Phase III. Discussion of current uses of print and digital technology generated several MLEs in support of the TECHNOLOGY IS A TEACHER CM. Referring to their use of digital resources on Schoology©, students emphasized the role of technology on assessment:

> And then, and **that, like, quizzes you** and stuff… It's **like a form of teaching**.

As in Phase I, however, the personification was at times negative. Reports of eye-strain and digital unreliability among students supported the CM TECHNOLOGY IS AN ADVERSARY:

> Sometimes, it's like **the lighting hurts my head**... You don't know how **it's going to be**…**it's unpredictable**.

Unexpectedly, MLEs related to current uses of print at Pierce reflected a greater sense of utility, identified in the CM PRINT IS CONVENIENCE:

> So print, **it's just easier to access** sort of…. You just take out the book, turn the page, **you're there** … And with the book **it's just much easier**… the print stuff being like **more accessible**... there is **never a problem with paper.**

While noting some advantages of computer use, however, student affinity for the accessibility and reliability of print outweighed the utility of digital technology at Pierce.

Phase IV. In discussing potential future experiences with print and digital resources, the conceptualization PRINT TEXTS ARE VALUABLE OBJECTS was again identified, focusing on the value of print, especially for book length texts and note taking. Macy was direct in her preference for print:

> When I'm actually sitting down to read like an actual book, then I'd rather **have it on paper.** Like I would way rather **have it in writing**.

Macy's preference for print was also noted by the majority of her classmates.

The personification of digital devices was heightened in Phase IV, identified as TECHNOLOGY IS AN ADVERSARY. However, MLEs focused more on family experiences with artificial intelligence than class experiences. Gloria shared a story of her mother's frustration with her phone's digital assistant:

> …the **Google Maps lady wouldn't, like, talk to her,** so she started banging it on the steering wheel.

Macy also personified artificially intelligent digital devices in her home:

> Have you ever seen those like Alexa things on Amazon? **Ours is so stupid**. **I would always ask her** who won the Notre Dame game, and then **she'll be like,** "sorry, we don't have any information for that."

Student MLEs related to artificial intelligence were coupled with negative personality traits to personify artificial intelligence programs as resistant and unintelligent. This highlighted student views on the diminished utility and value of digital devices.

Pierce teacher interviews. MLEs collected from the three phases of teacher interviews with Leslie produced more nuanced CMs, reflecting a stronger sense of utility and value for digital tools.

Phase II. As at East Valley, Leslie's interview began with an elicited metaphor, revealing the conceptualization that her use of digital devices as a student was "like a day off." She explained that her first real contact with technology was in college, which saved her hours of research time.

Leslie's preference for digital devices was quite evident, as the collection of MLEs yielded only a few related to the utility and value of print, while there were numerous MLEs related to the

utility and value of technology. Leslie's discussion of digital devices was far more robust, producing a number of MLEs that conceptualized her support of technology use, expressed in the CM TECHNOLOGY IS A TEACHER. Leslie noted how she found digital devices much better for learning:

> It's so much easier for me to **learn something from a video or a podcast** than it is for me to read.

Although Leslie later clarified that she did not feel technology was the "be all, end all," her preference for digital resources was clear.

Phase III. Responding to the warm up sentence stem, "Using digital devices for my teaching is like…," Leslie responded "a necessity." This metaphor and her accompanying rationale resonated with MLEs in her Phase II interview. However, analysis of Leslie's Phase III MLEs revealed a more nuanced view regarding the utility of print and digital resources, perceiving digital tools as more utilitarian while valuing the depth of print texts, which she felt required more critical habits of mind. The value of print reading was conceptualized as UNDERSTANDING IS SEEING:

> You have to like analyze it a little bit more and **look at** the information around it to be able to understand it…. **I see** a benefit in print sources in that regard to make stronger readers.

This was a rare acknowledgement of the benefit of reading print texts.

Still, her support for the utility of technology was strong, personified in the CM TECHNOLOGY IS A TEACHER:

> Just because, from everything as little as engagement factor to like transforming learning, you know, **it happens,** I feel like, **with technology…** So, the **digital tools allow things to be easy**… I've tried to dabble in, like, podcasts or a video, and **technology makes that** so easy.

Beyond simple utility, Leslie valued technology much more for its ability to engage.

Phase IV. In response to the warm up sentence stem, "Incorporating blended learning into classroom instruction is like…," Leslie produced the metaphor, "a 10K run," emphasizing the importance of planning ahead to achieve the best result. As in previous interviews, Leslie's focus was primarily on digital resources in Phase IV. In fact, print texts were not mentioned at all in discussing

the future of teaching. However, Leslie's MLEs addressed the value of digital resources, supporting the TECHNOLOGY IS A TEACHER metaphor:

> 3D printing, virtual reality, like, the Google thing…**they can definitely, like, transform learning.**

The scarcity of MLEs related to research question one in Leslie's Phase IV interview may have been related to the pedagogical nature of the question, but was the first time the subject of print texts was completely ignored. This is in sharp contrast to the East Valley Phase IV teacher interview, where print references dominated the discussion.

Nova Schola findings. Given its emphasis on digital learning, findings at Nova Schola were somewhat surprising. While appreciative of the convenience and potential of digital technologies for entertainment and personal advancement, a number of responses questioned the use of digital devices for learning. Observations of Alisa's classroom revealed a reliance on the utility of digital devices for reading and classroom activity. However, the metaphor analysis of Alisa's teacher interviews revealed a deep personal sense of value regarding print texts that contradicted her position that digital technology provided more opportunities for learning.

Phase I online student questionnaire. Responses to the online questionnaire highlighted student support of the academic value of digital resources in the long-term, while reflecting little current value in their use at Nova Schola. While the data reflected a much higher use of digital texts, student rationales critiqued the way digital devices were being used in the classroom.

Usage ranking. Usage rankings at Nova Schola reflected a balanced use of digital and print texts. Only two resources were used daily or weekly by 100% of the students: school websites and audio and video streaming services. Ereaders saw significant use in the urban setting (75%), but print texts were used equally (75%). Social media and online gaming also reflected 75% usage. SmartPhone use, however, ranked significantly lower at Nova Schola (50%). In fact, half the participants at Nova Schola had never used a Smartphone. Least used among Nova Schola students

included online publishing tools (25%), presentation tools (25%), and FanFiction Sites (0%). As with the other school sites, the data for Phase I is represented below (Table 4.7)

	Everyday	Once a week or less	Once a month or less	I've tried it once or twice	Never
Online Audio or Video Streaming Services: (Spotify, YouTube, Netflix, Hulu, etc.)	4	0	0	0	0
	Everyday	Once a week or less	Once a month or less	I've tried it once or twice	Never
Social Media: Facebook, Twitter, Instagram, Snapchat, etc.	1	2	1	0	0
Smartphone Applications: (Instant Message, Texting, Email)	1	1	0	1	1
Online Gaming: (Playstation, Xbox, Candy Crush, Mobile Strike, etc.)	1	2	0	0	1
School-based websites/ programs: (Blackboard, Schoology©, etc.)	4	0	0	0	0
Internet Research Tools (Wikipedia, etc.)	0	2	2	0	0
Online Presentation Tools (Prezi, PowerPoint, etc.)	0	1	2	0	1
Online Publishing or (video, audio, images)	0	1	1	1	1
eReaders (Kindle, Nook, etc.)	2	1	1	0	0
Writing Fanfiction	0	0	2	0	2
Print Texts : (novels, textbooks, comics, etc.)	1	2	0	0	1

Table 4.7: Nova Schola Student Conceptions of Utility and Value in Literacy Practices

Rationale for usage. For personal use, students at Nova Schola conveyed that digital devices were primarily for the consumption of entertainment:

I use them so often because music it calms me so i use it to do my chores and school work also… i use these particular devices often because sometimes i be bored or i just use them for fun.

In contrast, student responses regarding what would be valuable over the long-term reflected a shift from entertainment to a focus on preparation for college and the workplace:

The school websites will help me get into college because im learning…I think it will help me get into a good college one day… i don`t think none of them will be valuable to me in the long-term, because im going to be more focus on my job or my college work and im not going to have time for them.

Elicited metaphors for personal use of digital devices. The majority of the responses to the sentence stem, Using digital devices for my own personal use is like… could be expressed conceptually as PERSONAL USE OF DIGITAL DEVICES IS ENTERTAINMENT. Three of the four students compared the personal use of technology to a radio, noting that they liked to listen to music on their digital devices.

A notable exception to the entertainment metaphor came from Anthony, the most outspoken member of the group. Support for the use of technology was conceptualized as PERSONAL USE OF DIGITAL DEVICES IS POWER:

Because there are **so many things you can do** on them that you cant do without it. Like photoshop for example, **i couldnt do that with something like a rock or hammer**.

This response was the first of many valuable insights provided by Anthony. The full responses of the Nova Schola students is represented in the chart below verbatim (Table 4.8).

Sentence Stem: *Using online digital technologies for my own personal use is like…*	MLEs	CMs
A radio	I like to hear music on it. I chose this because they both have music. i chose this comparison because	PERSONAL USE OF DIGITAL DEVICES IS ENTERTAINMENT

	thats all i really use my phone or my talbet for besides, contacting people.	
Having a super tool	Because there are so many things you can do on them that you can't do without it. like photoshop for example, i couldnt do that with something like a rock or hammer	PERSONAL USE OF DIGITAL DEVICES IS POWER

Table 4.8: Nova Schola Elicited Metaphors on Personal Use of Digital Devices

Elicited metaphors for academic uses of digital devices. Metaphors for academic uses of technology reflected a split between positive and negative conceptualizations surrounding academic computing. On the positive side, Annie and Cindy's comparisons expressed the potential for advancement and discovery. Cindy's MLEs were identified as ACADEMIC USE OF DIGITAL DEVICES IS ADVANCEMENT.

> because alot of kids dont usual use there phone or talbet for school work, so using it for your school work kinda means to me, is like **your trying to get ahead** or your trying your best to be the student you want to be or need to be.

The value of digital literacy was mentioned throughout the focus groups as a key to getting ahead in life.

On the other hand, Anthony expressed a more negative view of academic computing, identified in the conceptualization ACADEMIC USE OF TECHNOLOGY IS CONTROL:

> Because using a computer at school means **you have guide lines**, not being able to do whatever you want like i would be able to do with my phone.

The full responses of the Nova Schola students is represented in the chart below verbatim (Table 4.9).

Sentence Stem: *Using online digital technologies for my schoolwork is like…*	MLEs	CMs
Getting ahead	because alot of kids dont usual use there phone or talbet for school work ,so using it for your school work kinda means to me , is like your trying to get ahead or your trying your best to be the student you want to be or need to be.	ACADEMIC USE OF DIGITAL DEVICES IS ADVANCEMENT
Having limited power	because using a computer at school means you have guide lines, not being able to whatever you want like i would be able to do with my phone.	ACADEMIC USE OF TECHNOLOGY IS CONTROL
Reading a book	when i read a book sometimes it has things in there that i dont know.	DIGITAL TECHNOLOGY IS KNOWLEDGE
Math	Math is hard	DIGITAL TECHNOLOGY IS DIFFICULTY

Table 4.9: Nova Schola Elicited Metaphors on Academic Use of Digital Devices

Nova Schola observations. Observations of Alisa's classroom in the Nova Schola urban charter school reflected a reliance on digital resources for instruction. In the first observation, weekly vocabulary was reviewed, making use of a computer projector. However, students took notes using pencil and paper. Due to repeated classroom management issues, this activity took the entire period. In observation two, the lesson was to incorporate iPads into instruction using a digital reading platform known as LightSail©. Using this program, students would be able to choose from a list of electronic books based on their Lexile score. However, as the iPads had not yet been set up, students spent the period using laptops to work on their online curriculum. In the final observation, Alisa did make use of the digital reading application in LightSail©. Students read digital texts of their choosing

on iPads alone at their tables for the duration of the class, stopping occasionally to take built in quizzes. No other uses of texts or resources were incorporated.

In response to research question one, Alisa's classroom reflected an appreciation of the utility of digital resources, based on their convenience. However, evidence was lacking to confirm that digital resources were valued.

Nova Schola student focus groups. In considering the value and utility of print and digital resources, analysis of the focus group data from Nova Schola revealed conceptualizations of technology as both play and convenience, while print resources were viewed as more valuable in the long-term.

Phase II. The first focus group proved challenging with regard to the collection of MLEs. Students were generally quiet except when asked a direct question. With that said, a few MLEs emerged with regard to early uses of academic technology. Annie and Cindy's MLEs supported the conceptualization TECHNOLOGY IS PLAY:

> Like, when I was little at school, we always used to **play learning games**… We **would play those typing games** and things like that… I used to use tablets, at my old school; **It was fun.**

While students mentioned enjoying print books as early readers, no MLEs regarding print were identified in the Phase II data.

Phase III. The second focus group discussion yielded significant MLEs, but few regarding the utility and value of print and digital resources in their current classwork. The MLEs that did address print and digital resources resonated with the other research sites on the utility of technology. Cindy and Anthony agreed that the use of digital resources in the classroom was useful for typing and as a convenience. Anthony, however, in explaining why he did not mark up or dog-ear his print texts, expressed a greater value for print materials. This was conceptualized as PRINT IS A VALUABLE RESOURCE:

> **It kinda ruins the book** for me, 'cause I like the way it looks when it's, you know, **perfectly clean** and that's why I always get bookmarks instead of bending the page back.

Anthony's assessment of print texts as somewhat sacred stood in contrast to his view of academic technology, which he found largely unnecessary.

Phase IV. Few MLEs were used in reference to the future value and utility of print and digital resources. However, Cindy's personification of computers reflected a negative conceptualization, identified as TECHNOLOGY IS AN ADVERSARY:

> Because the screen, when you sit there and you look at it for a long time, **it hurts your eyes.**

It's worth noting that Cindy's complaint about the effects of long-term computer-based reading echoed student responses from both East Valley and Pierce.

Print resources were again identified as more valuable than digital. In considering future reading, Anthony hinted at the potential extinction of print:

> Well, if I want to read something like a book, I'll probably do it on print, **if they still have it on print.**

Seeing the potential for the disappearance of print texts in the future supports the CM PRINT IS A VALUABLE RESOURCE.

Nova Schola teacher interviews. In responding to the first sentence stem warm-up, Alisa stated that, for her, using digital devices was like "a coming of age." Although this suggests a shift regarding the value and utility of digital resources, analysis of the data from the Phase II interview suggested that Alisa still valued print over technology, viewing digital devices as a convenient utility. This assertion is based on three dominant metaphors identified in the data: PRINT IS A VALUABLE POSSESSION, TECHNOLOGY IS A STATUS SYMBOL, and TECHNOLOGY IS A TOOL.

Phase II. Throughout Alisa's interview, her deep love of print texts was asserted in her MLEs, conceptualized as PRINT IS A VALUABLE POSSESSION. In discussing her college experience, she emphasized the importance of possessing print texts, not just for class, but as a physical reminder of her reading:

> We still **had "book-books,"** like when I took a Jane Austen class. I still **had to get the actual books**… I remember every book that I read because **I own them** all.

Beyond their importance as objects, the value Alisa placed on print books was emotional, as well:

> and—**I loved**—I still wish… I mean **I loved books…** I just love **physically having books**… I just, it's **like a collection** kind of thing.

While Alisa deeply valued print as a possession, she also conveyed the importance of having technology as a youth, conceptualized in the data as TECHNOLOGY IS A STATUS SYMBOL. She often referred to her access to technology as a special privilege:

> People three years above me didn't have even **what I had**… we had a computer **before a lot of people**… I mean **not everyone had it**... I mean there were computers at the library but **not everyone had one**.

In her first experiences with technology, Alisa emphasized the exclusivity of her access, reflecting that it was indeed valued.

This sense of status was not reflected in her academic use of technology, as several MLEs emphasized the utility of technology in Alisa's college studies. These MLEs supported the metaphor TECHNOLOGY IS A TOOL:

> **Nobody used it** like in a fun way; they were on PowerPoints and we were taking notes.

Her description of her English professors' use of technology was pragmatic, as was her own use of technology in the program, which was limited to Microsoft Word:

> That's pretty much all I **used** it for. It was all typing papers.

Based on her MLEs, it seemed Alisa's "coming of age" solidified a deep value for print, while academic technology was diminished to a more functional level as a tool and a status symbol.

Phase III. Alisa's interview on her current use of technology produced MLEs that were consistent with her Phase II responses, emphasizing her preference for print over digital. This was evident in her completion of the second sentence stem warm-up, where she stated that using digital devices for her teaching was "like a minefield," identified in the CM TECHNOLOGY IS DANGER. She

explained her comparison, noting that she felt there was danger in letting students wander on the internet without close supervision.

Her preference for print was reflected several times in her use of MLEs, leading to the identification of the metaphor, PRINT IS ATTRACTION. Alisa repeatedly asserted her close relationship with print:

> I **tend towards** the print… I just **lean towards the print? I like print and it helps me**, I think, as a teacher.

Her description of print texts bordered on personification, establishing a close personal relationship and deep attraction.

Phase IV. Alisa's final sentence stem warm-up asked her to complete the sentence, "incorporating blended learning into your classroom instruction is like…" As in Phase III, she answered "a minefield." She explained, "There's just so many different ways that can go wrong… **you could step on something and then it just explodes in your face**." Again, Alisa's MLEs led to the identification of the CM TECHNOLOGY IS DANGER.

In discussing the future of education, Alisa once again showed a preference for print texts, but seemed resigned to losing print texts in the pursuit of blended learning. Still, even in her acknowledgement, her MLEs supported the metaphor TECHNOLOGY IS AN ADVERSARY:

> **I hate** that, you know, you have to move away from print…. **I hate** that they're staring at the computer screen so much.

While Alisa seemed to accept the dominance of digital tools in the context of the discussion, her CMs contradict this assertion, revealing a fear and dislike for digital tools.

To facilitate comparison, summary charts of the dominant student and teacher CMs surrounding research question one CMs are presented below (Table 4.10; 4.11)

School	Phase II	Phase III	Phase IV
East Valley	READING PRINT IS A JOURNEY and DIGITAL READING IS GETTING LOST	PRINT TEXT IS COMFORT; TECHNOLOGY IS AN ADVERSARY	PRINT IS A TEACHER
Pierce	Print TEXTS ARE VALUABLE OBJECTS; TECHNOLOGY IS A TEACHER	PRINT IS CONVENIENCE; TECHNOLOGY IS A TEACHER; TECHNOLOGY IS AN ADVERSARY	PRINT TEXTS ARE VALUABLE OBJECTS; TECHNOLOGY IS AN ADVERSARY
Nova Schola	TECHNOLOGY IS PLAY	PRINT IS A VALUABLE RESOURCE	TECHNOLOGY IS AN ADVERSARY ; PRINT IS A VALUABLE RESOURCE

Table 4.10: Research Question One: Dominant Student CMs

School	Phase II	Phase III	Phase IV
East Valley	TECHNOLOGY IS A MONSTER and PRINT IS A POSSESSION	TECHNOLOGY IS AN ADVERSARY AND PRINT IS A POSSESSION	PRINT IS A NEGLECTED FRIEND
Pierce	TECHNOLOGY IS A TEACHER	TECHNOLOGY IS A TEACHER	TECHNOLOGY IS A TEACHER
Nova Schola	PRINT IS A VALUABLE POSSESSION; TECHNOLOGY IS A STATUS SYMBOL; TECHNOLOGY IS A TOOL	TECHNOLOGY IS DANGER; PRINT IS ATTRACTION	TECHNOLOGY IS DANGER; TECHNOLOGY IS AN ADVERSARY

Table 4.11: Research Question One: Dominant Teacher CMs

Summary. Research question one asked, "How do students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital resources?" Analysis of the data from Phases I through IV and the classroom observations at each site supported the following dominant conceptualizations.

At the rural East Valley Middle School, student and teacher MLEs regarding the utility and value of print and digital resources were similar. Students responses to the questionnaire revealed that personal uses digital resources were seen as play, while academic uses were seen as tiring homework. Student MLEs most often identified print as a positive force, identified as a JOURNEY, a COMFORT, and a TEACHER. Digital resources were identified by the metaphors DIGITAL READING IS GETTING LOST and TECHNOLOGY IS AN ADVERSARY. It was evident their teacher shared this view, based on her

classroom reliance on print, reflected in the CMs, PRINT IS A VALUED POSSESSION, while TECHNOLOGY IS AN ADVERSARY.

At Pierce Middle School, the suburban research site, students favored print resources for academic learning over digital. Questionnaire results reflected this, reflecting conceptualizations of personal uses of digital devices as other-worldly, while academic uses were considered aversion. MLEs highlighted the value of print texts among students, conceptualized as PRINT TEXTS ARE VALUABLE OBJECTS. Student viewpoints on technology, however, clashed somewhat with those of their teacher. While agreeing with the value of technology as a learning tool, student MLEs also identified academic technology as an oppressor, evident in each Phase of the focus groups as TECHNOLOGY IS AN ADVERSARY. Their teacher, however, assigned far greater value to digital technology, which was evident in all of her classroom observations and her use of MLEs, consistently identified by the metaphor TECHNOLOGY IS A TEACHER.

At Nova Schola, students agreed with their teacher regarding the utility of digital devices and the value of print. Student MLEs supported the conceptualization PRINT IS A VALUABLE RESOURCE, which aligned with their teacher's deep regard for print texts, identified in the CMs PRINT IS A VALUABLE POSSESSION and PRINT IS ATTRACTION. However, perspectives regarding the value of digital devices were more complicated.

Responses to the Phase I questionnaire revealed differing views on the use of digital devices. While personal uses produced positive responses, the use of academic technology produced metaphors of both ADVANCEMENT and CONTROL. However, student MLEs supported the CMs TECHNOLOGY IS AN ADVERSARY and PRINT IS A VALUABLE RESOURCE in academic applications. While their teacher explicitly supported the academic use of digital devices, analysis of her MLEs revealed a contradiction. While her classroom practice reflected an acceptance of the dominance of technology, Alisa's MLEs supported the CMs TECHNOLOGY IS DANGER and TECHNOLOGY IS AN ADVERSARY, tacitly contradicting her stated support of digital devices.

Research Question Two

The second research question asked: How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital pedagogies? Findings from the metaphor analysis of both students and teachers regarding teaching methods revealed a strong sense of value for the use of digital and blended pedagogies in the suburban setting, while students and teachers in the rural and urban settings attached more value to print. CMs identified in the rural and urban student focus groups largely mirrored viewpoints from Phase I, valuing print-based teaching approaches while appreciating the utility of digital pedagogies in their current studies and future careers. Student CMs in the suburban setting, however, revealed a shift in perspective, preferring the potential for choice provided by multi-modal learning modes.

Classroom observations and teacher interviews provided more diverse understandings. The CMs identified in teacher interviews at East Valley revealed little perceived value in the use of digital pedagogies, but did acknowledge their utility as a convenience. Print-based pedagogies were perceived as much more valuable, which was evident in classroom observations. Observations and CMs identified in the teacher interviews at Pierce Middle School indicated a strong sense of value and utility in the use of digital pedagogies, although this support was accompanied by a sense of uncertainty; print pedagogies were largely ignored. Teacher interviews at Nova Schola explicitly supported the use of digital pedagogies, but classroom observations and metaphor analysis revealed that, while supportive of the convenience of blended pedagogies, teacher conceptualizations of control indicated a greater value for print-based pedagogies.

As the Phase I online questionnaire aligned specifically with research question one, subsequent findings discussions will focus on classroom observations, student focus groups, and teacher interviews.

East Valley findings. Classroom observations and metaphor analyses revealed that print-based pedagogies were perceived as more valuable and of greater utility than digital pedagogies in the rural East Valley school. This preference was consistent between the students and their teacher.

East Valley classroom observations. Frances clearly valued print pedagogies over digital in her teaching. In the first observation, Frances emphasized interactions with print, reading "The Elevator" aloud while students followed along in their textbooks. Although students were instructed to use their laptops to write story extensions, the assignment could have been completed using paper and pencil. In the second observation, Frances again emphasized print as a priority, using printed worksheets to direct a vocabulary study of terms drawn from the short story "The Tell Tale Heart." Frances again had students read along in their textbooks, listening to a recording of the narration on CD. In Frances's final observation, she again employed a print-based pedagogy having students partner read the short story, "Flowers for Algernon" from their textbooks. No digital pedagogies were used in this lesson. Although digital resources were used for the writing assignment in observation one, the majority of Frances's pedagogy reflected a deep value of print, using technology as a convenient utility for essay writing.

East Valley student focus groups. Analysis of the three East Valley student focus groups revealed a somewhat negative view of digital pedagogies, seeing them as teacher directed labor. Students emphasized that computer-based learning was something you "have to do."

Phase II. In the first focus group, student MLEs supported the conceptualization LEARNING IS A PHYSICAL TRANSACTION in relation to digital pedagogy. Jayna expressed this in remembering her first encounter with academic computing:

> Like, in 6th grade, **she would give us** the computers, and then we'd do half of the book report at school and then we would go home and write it down and then come back the next day.

Jayna's response suggested that technology was provided by the teacher in return for student writing at home.

Only one reference to print pedagogy emerged in the first focus group, identified in the CM READING IS A JOURNEY. Amy described her early classroom reading experiences:

> We would look at the book and **follow along** and they would play the audio on the

> Smartboard or whatever.

The sense of "following" the audio narration while reading suggests a need for guidance while traveling through the text.

Phase III. With regard to pedagogy, MLEs in the second student focus group supported the CM, DIGITAL INSTRUCTION IS CONTROL. Views on teacher control and student responsibility in digital pedagogy dominated the discussion, reflecting a sense of enforced obligation among the students. Lance addressed this perspective in describing online research assignments:

> Well, like, especially in anchoring ideas, we **have to take a bunch of notes** from websites based on our research topics.

Lance extended his appraisal of teacher control to the use of school laptops:

> **you have to like keep it like safe** at school and **you have to leave it at school** and stuff.

This stance on school laptop use was echoed by Margie, explaining the necessity of teacher oversight:

> that's why **they put our names on them,** so, like, if you drop it and they break, **they know who did it.**

It is interesting to note that, while digital and social pedagogies were discussed at length, there were no MLEs regarding print-based pedagogies in Phase III, although these were dominant in classroom observations.

Phase IV. The two conceptual metaphors most evident in the Phase IV data were DIGITAL LEARNING IS A JOURNEY and FACE TO FACE LEARNING IS APPRENTICESHIP. In considering the utility and value of digital pedagogies in the future, student MLEs supported the DIGITAL LEARNING IS A JOURNEY metaphor. In describing her use of the online Khan academy in her math class, Amy's MLEs reflected her sense of digital learning experiences as a defined path:

> Like, do one lesson on Khan Academy, and we would have to like **go through the video,** then do some practice problems and then things like that.

In explaining why she felt digital pedagogies would be of more value in her educational future,

Amy's MLEs supported the CM LEARNING IS A JOURNEY:

> I will most definitely use technology more and more, like **each step of the way**, because that's what I grew up with…well, obviously if I use it to **get to my goal,** I'm still going to use it.

The discussion of print-based pedagogies sparked MLEs that supported the CM FACE TO FACE LEARNING IS APPRENTICESHIP. Lance perceived face-to-face, print-based pedagogies as more valuable than digital interactions:

> He (the teacher) has a model there and **he shows you** how to do it, like the **teachers will show you** how to do it, instead of you just having to figure it out on your own.

Margie also preferred face-to-face, print-based instruction:

> I like the traditional way better… I just feel like **it helps me learn** how to do it better and I understand it more that way.

Student conceptualizations of the value of print-based pedagogies were consistent with the conceptualizations of their teacher, Frances.

East Valley teacher interviews. Over the course of the three interviews, it became clear that Frances favored face-to-face, print-based pedagogies, viewing digital pedagogies as a convenient, but dangerous, influence.

Phase II. Frances reported valuing print-based pedagogies early in her teacher training. The most significant influence on her pedagogy was her middle level literacy professor, who emphasized print-based teaching practices. Frances MLEs regarding her professor's pedagogy were conceptualized as TEACHING IS MECHANISTIC PRODUCTION:

> The literacy classes **geared** more towards the language arts literacy: reading, writing type of stuff… And so everyone took the literacy classes but she kind of **geared it** towards, like, "This is best practice for language arts"… You need to go and find these four books that **are geared** towards this curriculum.

Frances description of her professor's approach emphasized a CM focused on engineering literacy

instruction, similar to the engineering of a machine.

The CM IDEAS ARE OBJECTS seemed an extension of the CM TEACHING IS MECHANISTIC PRODUCTION, where instruction manufactures ideas. This conceptualization of IDEAS ARE OBJECTS extended to the use of technology:

> I had them do a bunch of **different stuff w**ith it though for like, for every section…That's how I use my Schoology©: **I put all the stuff on there.**

Building on the conception of teaching as manufacturing, the Schoology© learning management system was viewed as a storage shelf for inventory.

Phase III. The discussion of Frances's current pedagogies led to the identification of the dominant CM TECHNOLOGY IS CONTROL. This was particularly evident in Frances's discussion of administrative pressure in the introduction of the Schoology© learning management system:

> When they introduced Schoology© to us, it was like, "**You have to** do this… and it was **forced down our throats**.

Although Frances went on to acknowledge the utility of the Schoology© program as a storehouse for online resources, her MLEs point to an almost violent sense of control in being forced to use the program.

Phase IV. Frances's discussion of the future of digital pedagogy and blended learning produced two contradictory CMs: TECHNOLOGY IS AN AIDE and TECHNOLOGY IS A THREAT. Frances's personification of digital technology occasionally supported the use of digital pedagogy:

> I think **it makes things a little bit easier** than what we used to have… **Schoology© is like the mediator.** So, **it keeps Google under control**… **It puts everything in one place… it's going to help them** in the future, because look at all the jobs that are going on.

From this perspective, digital pedagogies were seen as a helpful entity, but primarily in utilitarian terms.

Frances support of digital learning did not extend to the use of artificial intelligence as teachers. She warned of the dangers of relying too much on computers for instruction:

> But **it's also perpetuating** an instant gratification type of society… if you just put your kid in front of a computer screen and **let a computer teach your kids**, how are you going to have that relationship with them?

In this instance, Frances's personification of technology warns of too much reliance on technology, perceiving it as a dangerous and isolating force.

Pierce Middle School findings. In response to research question two, analysis of the classroom observations, student focus groups, and teacher interviews at Pierce revealed strong support for the incorporation of digital pedagogies. Students valued the choice provided by blended learning, while their teacher, though supportive, expressed some uncertainty in their use.

Pierce classroom observations. Leslie's pedagogy in the first observation made use of digital resources and social learning to heighten student engagement. To compare ancient Athens and Sparta, students first watched a 10-minute video to build prior knowledge. This was followed by the collaborative use of a shared Google Doc to categorize the political, economic, geographic, and social distinctions of each city-state. This was done in small groups. Teacher questioning and discussion followed. The second observation also relied on digital pedagogy. A station rotation model was used to answer the question, "Alexander the Great: Hero or Villain?" Stations incorporated numerous digital resources, including video, audio, and collaborative Google Doc completion. This plan was also designed to allow for student choice in learning modes. The pedagogy in observation three also emphasized digital tools and social learning. To review for the students' upcoming test on Ancient Greece, individual student study guides were finalized using online resources and then peer reviewed in small groups before being submitted digitally through Dropbox. In response to research question two, it was clear that Leslie favored digital pedagogy in conjunction with social learning.

Pierce student focus groups. Viewing the data through research question two produced a contradiction in the Pierce students MLEs. While students conceptualized print texts as more valuable in research question one, it was evident that Pierce students currently valued the choice in learning modes provided by digital pedagogies.

Phase II. Reflecting on their early school experiences, student MLEs emphasized the emphasis on print-based pedagogies, identified in the metaphor TEXTBOOKS ARE POSSESSIONS. Macy reflected on the perceived value of having personal textbooks:

> **You had a textbook** but, like, you didn't use it as often as you do, like, now...**We had our own** but it was like, in social studies, **we had** a teacher one and we didn't **have our own**…the science book and math book are normally the only ones that **we have for our own.**

Student MLEs reflected value in having their own copies of textbooks in the past.

Phase III. Discussion of the students' current experiences with print and digital pedagogies highlighted their support of digital pedagogies when they provided choice in modes of learning. This awareness was identified in the metaphor DIGITAL PEDAGOGY IS CHOICE. As Aaron pointed out:

> I've notice that **you definitely have a lot more freedom** with how you learn this year than like in the past years. Because, you know, **you can choose** what you want to learn…

Aaron noted this was in contrast to the learning activities in elementary school, where only print options for learning were provided. No current print pedagogies were mentioned in the discussion.

Phase IV. Student support for digital pedagogies was re-emphasized in the Phase IV discussion. Again, DIGITAL PEDAGOGY IS CHOICE was the dominant metaphor. Macy expressed support for digital pedagogies when they incorporated student choice:

> Because **we got to pick** like **what we want** to do or **what we want** to work on and what websites **we want** to use, and **you can pick** like what style.

Discussing a recent language arts assignment, Aaron also voiced support for choice-based, multi-modal assignments. Aaron described how the lessons were structured:

> **We get to choose.** Yeah **you can choose whatever you want** because she says—basically what she says is show it in some way and **you can choose**… But we have a lot of **variety** in what we do, and that **leaves a lot of choice** for you.

Although students expressed value for print texts in the past, their MLEs expressed support for digital pedagogies both now and in the future, as long as the approach involves personal choice between a

variety of multimodal options.

Pierce teacher interviews. As evidenced in class observations, Leslie's interviews reflected a greater preference for digital pedagogies. However, the incorporation of blended learning into her teaching sometimes left her feeling uncertain and conflicted. Further, her support for blended learning was equaled by her support for the student/teacher relationship.

Phase II. While explicitly stating that she had always found digital resources more accessible and convenient, Leslie often addressed the value of collaboration and mentorship in her past experiences with digital pedagogies, conceptualized as TEACHING IS A JOURNEY:

> I also remember sort of being in a panic **right before I started** teaching here… In my third year of teaching, I co-taught lesson with Jeremy, and these kids were just **going in their own direction…** …if it weren't for people like Jeremy or John or Debbie, I think I would have gone **in such a rut** that I would have been bored… I still think that **I still have very far to go.**

Based on her use of MLEs, Leslie perceived her teaching experience as a JOURNEY, anchored in digital pedagogy, but intertwined with the value she placed on student choice and mentorship.

Phase III. While still expressing value in the use of digital pedagogies, Leslie's discussion of her current teaching practices frequently addressed her "struggle" in incorporating blended learning in her classroom. Seen as MLEs, these responses can be conceptualized as BLENDED LEARNING IS STRUGGLE.

> Like, this is where I think I s**truggle**…I think that my **struggle** is if I have to teach something quickly, like, how do I do that in a blended learning format?... that's why **I always struggle,** because I feel like I want you to do these huge projects and work together and collaborate.

Here, direct instruction and print pedagogies were viewed as having greater utility than the digital pedagogies at the core of blended learning, as they could be done more quickly and with less planning. However, Leslie felt guilty using them.

Phase IV. Considering the future of blended learning, Leslie explicitly expressed support for

the value of digital and blended instruction, citing that it was becoming, "the way of the world." However, her MLEs also reflected a view of technology as an entity that threatened her profession, expressed in the CM TECHNOLOGY IS A TEACHER:

> But I also worry that **technology is gonna' become so great** that there's no purpose for a teacher anymore… **they can definitely, like, transform learning.**

Her personification of technology as a threat to her profession again inferred some uncertainty regarding the promise of blended learning.

Leslie balanced the potential value of digital instruction with the value of the human touch. Several of her MLEs reflected the conceptualization LEARNING IS RELATIONSHIP:

> As a kid, like, **I cared about school because I cared about my teacher**… The potential for individual people when working with other people, I think, is just amplified **when you have somebody else.**

Although the analysis of Leslie's data revealed support for blended learning, it is important to note that this was balanced by her occasional uncertainty in its use and her endorsement of the student/ teacher relationship.

Nova Schola Findings. Identification of CMs regarding print and digital pedagogy at Nova Schola revealed deep dissatisfaction among students and an emphasis on the utility of digital pedagogies as a convenience for teaching.

Nova Schola classroom observations. Looking at Alisa's pedagogy through the filter of research question two, it was evident that, while digital devices were used in her classroom, Alisa assigned more value to teacher directed, print-based pedagogies. Although digital devices were used in each of the classroom observations, they were used for simple consumption tasks using digital representations of print. In observation one, Alisa's use of a digital projector to list weekly vocabulary words required students to record notes in print. In observation two, although students used laptops to work on their personalized Flipswitch© online learning program, their individual work was essentially textbook based, reading passages and answering questions. Only an occasional

instructional video interrupted the routine. In the third Nova Schola observation, Alisa used digital tablets, but only for the reading of digitized print novels. Such a use of digital devices bodes the question, does the use of digital devices for essentially print-based lessons qualify as blended or digital pedagogy? Based on the observations of Alisa's teaching and the MLEs generated in her interview, the findings reflect a greater value for print-based texts at Nova Schola.

Nova Schola student focus groups. Although Phase I yielded few relevant MLEs, student discussions of their current use of print and digital pedagogies revealed deep dissatisfaction with the approach used at Nova Schola.

Phase II. In discussing their early experience with pedagogy, Nova Schola students generated few MLEs, however the conceptualization SOCIAL LEARNING IS AN OBLIGATION appeared several times in relation to the description of group work in elementary school:

> We would like go to these stations and we **had to get in groups** to do it… For something like English, we'd **have to read a book together**… Sometimes, we'd get together, like two classes, and we **had to** do, like, we **had to do activities** and stuff.

Nova Schola students seemed to conceptualize their past experience with social learning pedagogies as a requirement, but not a preference. Beyond this basic description of early social learning, no other MLEs were used with regard to teacher pedagogy.

Phase III. The discussion of current print and digital pedagogies generated some of the most significant MLEs in any of the Nova Schola focus groups. In describing a learning session on the school's online learning program, Anthony's MLEs personified Flipswitch©, supporting the CM TECHNOLOGY IS A TEACHER:

> Uh well, normally, when we first get to the beginning of the lesson, **it gives us a little overview** of the lesson, like what we're gonna' do. And then, once we scroll past that, **it'll give us a thing to read** that explains it more in detail. And then, after we do that, **it might give us like a couple of questions**. Then, **it might have us** watching a video. Then, **it has the quiz at the end,** or if you're on Lesson 5, I think, **it'll give you the exam**, which

> tests you on all the five lessons you've just learned.

While detailed, it's important to note that Anthony's description of the online learning sequence does not go so far as to assign value to this digital pedagogy. Further in the discussion, Anthony made it clear that he did not see digital pedagogy as superior to print, conceptualized in the metaphor, PRINT IS NORMALCY:

> There's not really, like, a difference between doing it a **normal way** and doing it on the computer… You're working on the computers, which, I guess, you might not be able to do at a **normal school…**It's the same way you're learning if you're learning in a **normal way** by textbooks and stuff.

Anthony's comments came in the context of several sharp critiques of the digital pedagogy at the heart of Nova Schola, which he felt was ineffectual. However, he recognized the necessity, noting that without the computers, there would not be enough faculty to adequately teach the students.

Phase IV. In addressing the future value of blended learning, Anthony once again dominated the discussion. Explaining his assessment of the problems with the school's pedagogical approach, Anthony's MLEs resonated with the metaphor BLENDED LEARNING IS A RACE. In the passage below, Anthony described the incongruity of trying to match up progress on the Flipswitch© program with separate classroom instruction:

> You can either b**e ahead or on pace…** they **don't want you behind…** And **if you're ahead,** you won't be learning with the teacher, because **they have to teach on pace.** I think we could do the blended learning, but not in the way they're doing it here, because like I said, **if we get too far ahead**, they can't really teach it to you in the class, because they have to teach the rest of the students that are **on pace.**

Embedded in the BLENDED LEARNING IS A RACE metaphor, Anthony's comments on the digital pedagogy at Nova Schola express explicit dissatisfaction with the combination of digital and face-to-face instruction. Viewed in the context of research question two, it is arguable that Anthony did not value his school's approach to digital pedagogy.

Nova Schola teacher interview. In looking at teacher conceptualizations of the value and utility of print and digital pedagogies, it was evident that, although Alisa explicitly voiced support for the value of digital pedagogies, her MLEs reflected more appreciation of the utility of digital pedagogies, noting how it made her job easier.

Phase II. In the first interview, Alisa's discussion of pedagogy did not focus on the past, as she was looking forward to the incorporation of the LightSail© program in her classes. LightSail©, a tablet-based reading program, allowed students to digitally check out Lexile appropriate books of their choice, while assessing their comprehension along the way. Alisa's description of the program generated MLEs that supported TECHNOLOGY IS A TEACHER metaphor:

> First **it gives them like a Lexile level test**. They have a Lexile of their own and **then it gives them a digital library** to pick from, and **it assesses** as they go.

Alisa pointed out that she was excited to use the program because it would make her job easier, noting that the periodic "fill in the blank" comprehension questions were automatically scored by the program and sent to her grade book. As a result, she would not have to create, assign, or grade assessments. Based on her MLEs, the CM TECHNOLOGY IS A TEACHER is evident.

Phase III. Alisa's responses to questions about her current use of print and/or digital pedagogies revealed an overwhelming concern regarding classroom management in the blended learning environment, represented by the CM TEACHING IS CONTROL. The frequency of MLEs revolving around control issues in her classroom numbered thirty-four, which was higher than any other singular collection MLE identification. Alisa found it particularly daunting to monitor what students were doing when using digital pedagogies:

> I like print…I think that **it is easier for me to monitor,** because the problem with digital is that they Google so many things… I think as a teacher, I feel like **I have more of a handle on monitoring it**.

Alisa seemed most concerned with issues of control, though she expressed a greater sense of control when using print pedagogies.

The CM TEACHING IS CONTROL was also evident in Alisa's discussion of her frustration with the current student use of laptops in her class, although Alisa also expressed hope that the LightSail© reading program would give her better control:

> So, we can't see their screens **so I can't monitor them**. The one thing I hated about independent reading was that **it's hard to monitor.** So, this program (LightSail©) has built in assessments and **I can monitor** on my own iPad or on the computer.

While explicitly supporting the use of blended pedagogies, Alisa's MLEs revealed that her appreciation of the utility of digital instruction was outweighed by her concerns regarding control. Again, print pedagogies were more valued as she felt more confident monitoring print-based student activity.

Phase IV. The discussion of the future of blended pedagogies produced a high number of MLEs supporting the DIGITAL LEARNING IS A JOURNEY CM. Though clearly frustrated by the issues of classroom control, Alisa's MLEs reflected her belief that blended learning was the best path for learning in the future:

> So, it's kind of like, I'm letting them kind of **go off on their own** and hoping almost for the best… when you have so much technology in front of you, **you might stray** to listening to some music and put on a YouTube video, which I'm always fine with… People can **move at their own pace,** and they can, kind of, like I said, **be on their own,** with a facilitator teacher **who guides them** and helps them **along the way.**

While Alisa's Phase III interview recognized the challenges of blended learning and the inherent control issues, her Phase IV MLEs supported blended learning and personalized digital instruction as the correct path for students:

> There are still definitely challenges **as time goes on,** but I think the good outweighs the bad, and the more **technology catches up with education,** I feel like people can come up with ways to let them all be **on their own.**

It is interesting to note that, while Alisa's Phase IV MLEs supported the CM DIGITAL LEARNING IS A

JOURNEY, the journey was primarily described as individual, with students being "on their own."

To facilitate comparison, summary charts of the dominant student and teacher CMs surrounding research question two CMs are presented below (Table 4.12; 4.13).

School	Phase II	Phase III	Phase IV
East Valley	LEARNING IS A PHYSICAL TRANSACTION; READING IS A JOURNEY	DIGITAL INSTRUCTION IS CONTROL	DIGITAL LEARNING IS A JOURNEY; FACE TO FACE LEARNING IS APPRENTICESHIP
Pierce	TEXTBOOKS ARE POSSESSIONS	DIGITAL PEDAGOGY IS CHOICE.	DIGITAL PEDAGOGY IS CHOICE
Nova Schola	SOCIAL LEARNING IS AN OBLIGATION	TECHNOLOGY IS A TEACHER; PRINT IS NORMALCY	BLENDED LEARNING IS A RACE

Table 4.12: Research Question Two: Dominant Student CMs

School	Phase II	Phase III	Phase IV
East Valley	TEACHING IS MECHANISTIC PRODUCTION: IDEAS ARE PRODUCTS	TECHNOLOGY IS CONTROL	TECHNOLOGY IS AN AIDE and TECHNOLOGY IS A THREAT
Pierce	TEACHING IS A JOURNEY	BLENDED LEARNING IS STRUGGLE	TECHNOLOGY IS A TEACHER; LEARNING IS RELATIONSHIP
Nova Schola	TECHNOLOGY IS A TEACHER	TEACHING IS CONTROL	DIGITAL LEARNING IS A JOURNEY

Table 4.13: Research Question Two: Dominant Teacher CMs

Summary. Research question two asked, "How do students and teachers from focal urban, suburban, and rural schools conceptualize the utility and value of print and digital pedagogies?" Within the context of this question, classroom observations, student focus groups, and teacher interviews were analyzed, producing distinct but salient findings at each site.

Analysis of pedagogies at East Valley Middle School revealed a strong value for print-based pedagogies among both the students and their teacher, Frances. Regarding their past experiences with print, students expressed the conceptualization that READING IS A JOURNEY along a well-established path. Analysis of current and future perspectives on pedagogy identified a less positive value regarding blended pedagogies, reflected in the CMs DIGITAL INSTRUCTION IS CONTROL and FACE -TO-

FACE LEARNING IS APPRENTICESHIP. Analysis of Frances's MLEs revealed a mechanistic view of print pedagogy, conceptualized as TEACHING IS MECHANISTIC PRODUCTION and IDEAS ARE OBJECTS. While the utility of blended pedagogies was acknowledged in the CM TECHNOLOGY IS AN AIDE, analysis of Frances's perspective on digital and blended pedagogies revealed a lack of value, identified in the CMs TECHNOLOGY IS CONTROL and TECHNOLOGY IS A THREAT. This was made explicit by Frances's stance that blended pedagogies were not conducive to her instruction.

At the suburban Pierce Middle School, CMs identified a preference for digital and blended pedagogies for both the students and their teacher, reflected in the CMs DIGITAL PEDAGOGY IS CHOICE and TECHNOLOGY IS A TEACHER. Still, the CM BLENDED LEARNING IS STRUGGLE revealed doubt regarding the proper balance between digital and print pedagogies, as well as strong support for the student/teacher bond, identified as LEARNING IS RELATIONSHIP. These findings coincide with classroom observations, where blended pedagogies and social learning were integrated into each lesson.

At the Nova Schola School, analysis of the data surrounding teaching pedagogies revealed dissatisfaction among students and teacher passivity. CMs based on student MLEs were largely negative with regard to the value of blended learning approaches. The TECHNOLOGY IS A TEACHER metaphor personified the Flipswitch© program, conceptualizing it as the primary instructor and evaluator of student progress at the school. Further, in conceptualizing print-based pedagogies as PRINT IS NORMALCY, blended pedagogies were passively conceptualized as abnormal. Finally, the CM BLENDED LEARNING IS A RACE used the language of pacing to describe a face-to-face teaching approach that assures no student wins. Their classroom teacher, Alisa, perceived blended learning as a convenient digital utility rather than a valuable pedagogy. The LightSail© digital reading program was personified in the CM TECHNOLOGY IS A TEACHER, citing its ability to do all of the time-consuming work without any effort from Alisa. Alisa voiced a strong preference for print reading pedagogies, citing frustration with monitoring student computer use; this was identified as TEACHING IS CONTROL. Finally, Alisa's description of the future of blended learning as an isolated but

personalized inevitability was identified in the CM DIGITAL LEARNING IS A JOURNEY.

Research Question Three

In order to better understand how students and teachers from varied settings perceived their own academic roles in the blended classroom, the third research question asked: How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize their school-affiliated identities within print-based and digital learning environments? Framed by this question, MLEs addressing identity were collected, CMs identified, and perceived school-affiliated identities articulated.

Metaphor analysis uncovered diverse conceptualizations of academic identities among students and teachers at the three sites. Analysis of MLEs from the East Valley setting revealed that, while students formerly saw themselves as collaborators, they currently conceptualized their school-affiliated identities as laborers. Their teacher, Frances, viewed herself as a direct instructor. Analysis of MLEs at Pierce highlighted student identities as builders and beneficiaries; their teacher, Leslie, saw herself as a guide and facilitator. MLEs from the Nova Schola setting highlighted student identities as beneficiaries and runners. Alisa's academic identity was conflicted, seeing herself as an English major, a facilitator, and a direct instructor.

East Valley findings. Responding to research question three, classroom observations and metaphor analysis revealed that Frances viewed her primary academic identity as that of direct instructor. Analysis of student academic identities revealed their conception as laborers.

East Valley classroom observations. Seen in the context of research question three, Frances enacted the academic identity of direct instructor, while students enacted the role of passive consumers. In the first observation, Frances emphasized direct instruction, reading "The Elevator" aloud and questioning her students individually on elements of suspense. Instruction and extension activities emphasized independent work. In the second observation, a review of vocabulary homework at the beginning of class was entirely led by Frances, as she moved around the room questioning students on definitions and synonyms. This control continued in the reading of the "The

Tell-Tale Heart." Frances had students read along in their textbooks as she played a recording, periodically stopping to ask students comprehension questions. This activity continued until the end of class. In the third observation, Frances's lesson reflected some facilitation, as paired students were given a note-taking worksheet to use while they partner read "Flowers for Algernon." While they read aloud to each other, Frances walked around the room answering questions and redirecting students who were off-task. This activity continued for forty minutes. Near the end of the class, Frances finished the read aloud herself, ending class by reviewing plot points and asking questions about dialogue and point of view. While the partner activity provided students with some autonomy, there were no options for discussion. Further, it was clear throughout the lesson that Frances was in control of the activity and the student outcomes.

East Valley student focus groups. Although students in the rural setting were generally limited in their use of MLEs, it was evident that their academic identities were based on the completion of assigned work.

Phase II. Ongoing discussions of past experiences in elementary school produced MLEs in support of the metaphor IDEAS ARE OBJECTS. Ideas were conceptualized as physical pieces that could be brought together into a larger whole. Considered in the context of academic identity, the data also supports the finding that students viewed themselves as collaborators in the past, working with other students in social learning settings. Reflecting on his early experiences, Lance saw this collaboration as a way to bring pieces of understanding together:

> We did a lot of group work when I was younger…**you wouldn't know how to do something by yourself.** Like, you'd only know how to do **bits or pieces** and other people would know different **things**.

In the context of the discussion, this movement away from collaboration was seen as natural; social learning was considered juvenile, while working independently reflected a sense of maturity. Margie also expressed appreciation for collaboration, but dismissed it as an elementary practice:

> In my younger years in elementary school, **we did a lot of group work**, but I feel like, as we

got older, **we switched to individual a lot.**

Phase III. In discussing their current classroom experiences, the conceptualization of students as laborers was dominant. This was most evident in Lance's MLEs, identified by the CM LEARNING IS A PHYSICAL TRANSACTION:

> The **teacher assigns everything** … **They give information to us** and then we have a web quest… **we have to take** a bunch of notes from websites based on our research topics.

Lance's description of the learning transaction was one directional, initiated by teachers and focused on students completing assigned work. This "have to" perspective reflected the academic identity of the laborer, lacking choice or autonomy in their work.

Phase IV. In the final focus group, Lance extended his appraisal of the laborer identity. His use of MLEs led to the identification of the metaphor BLENDED LEARNING IS AN OBLIGATION:

> I mean **we had to do this**: he taught us, like, more of the Revolutionary War and then **we had to do this little, like, Google tour** of it... It had a bunch of information that **we had to write down** on the papers.

The conceptualization BLENDED LEARNING IS AN OBLIGATION fit naturally with the perceived academic identity of laborer, forced to do work by those in power. It is worth noting that these MLEs were directed at digital forms of learning.

East Valley teacher interviews. Although Frances's MLEs identified a variety of CMs expressing her academic identity, her role as a direct instructor was most prevalent. As a student, however, her academic identity was distinctly beneficiary.

Phase II. Discussing her early experience as a high school and college student, Frances often referred to the importance of instructors who gave her print books. The resulting MLEs supported the CM LEARNING IS A PHYSICAL TRANSACTION. Frances assigned great importance to a high school literature instructor who gave her a number of texts in her independent study of feminism:

> I picked feminist writing and **she gave me,** you know, **Gloria Steinem** and, like, all kinds of stuff.

The value of gifted print texts was also evident in her college experience, as she noted her deep appreciation for a professor who gave away books:

> Like, **she gave us,** like, she had this whole office full of books and, every single one of her students, **she would give them a children's book** or like a chapter book… **we took** the Stephanie Harvey books and the reading strategies, and **we would take those.**

LEARNING IS A PHYSICAL TRANSACTION is an accurate CM regarding expressions of the value of print. Frances's appreciation for receiving the print texts as gifts supported her academic identity of beneficiary.

Phase III. In discussing her current teaching practice, several MLEs touched on Frances's emphasis on direct instruction, identified conceptually as TEACHING IS CONTROL. Viewed in the context of academic identity, Frances seemed to see herself as an instructor. This was evident in both print and digital activities:

> **I very rarely have them just go on the Internet** and just search… It's just not cohesive with **what I'm doing** in the classroom… Like, **I make them** do the journals every week.

While establishing her identity as controller in her classroom, her MLEs also support earlier evidence of her preference for print.

Phase IV. In Frances's final interview, the discussion turned to the future of education and the influence that blended learning might have on teacher roles. While her MLEs supported the TEACHING IS A JOURNEY metaphor, she also solidified her assessment of her academic identity:

> Right now, I see myself as an instructor, because I think I'm still learning the process, and I feel as though, as soon as I learn it, I teach it to them and then **they go forth...** But I see that **coming down the pike,** as I'm more facilitator, I see more as, like, **you kind of guiding them**.

In conceptualizing TEACHING IS A JOURNEY, Frances explicitly stated her perceived academic identity as an instructor, but also admitted that her role may change in the future.

Pierce findings. Metaphor analysis of classroom observations, student focus groups, and teacher interviews at Pierce revealed that students' viewed their academic identities as laborers, builders, and beneficiaries in blended learning settings. Over Phases II through IV, Leslie's expression of her identity progressed from traveler, to learner, to guide.

Pierce classroom observations. Framed by research question three, Leslie's academic identity was primarily facilitator. In the first observation, Leslie provided student partners with a number of multi-modal resources to answer the question, "Was Athens a true democracy." Leslie walked around the room as students developed their responses, answering questions and recommending resources. The instruction was two directional, allowing students to choose resources, make observations, and share understandings. In the second observation, Leslie built on her facilitation, setting up a multi-modal station rotation model and joint Google Doc that allowed groups of students to research the driving question, "Alexander the Great: Hero or Villain?" Although Leslie did oversee a small group discussion as one of the choices, students employed critical thinking, choice, and collaboration to develop and share their responses. In the final observation, after taking ten minutes to prepare students, Leslie again relied on facilitation, social learning, and multi-modal resources in conducting a small group review for their unit tests on Ancient Greece. Students in small groups used a shared Google Doc and online resources to complete digital study guides. As students worked, Leslie walked around the room, stopping at tables to answer questions or guide research. It was clear that Leslie's approach favored facilitation over direct instruction, as she sought to guide students in developing their own answers rather than providing a list of facts for memorization. Further, her use of small groups supported social learning, developing collaborative skills in the process.

Pierce student focus groups. Evidence of academic identity was difficult to identify among students at Pierce. However, patterns found in the MLEs did aid in the interpretation of academic identity, indicating past roles as laborers and current identities as builders and beneficiaries.

Phase II. In looking back at their past classroom experiences, MLEs at Pierce often supported the metaphor LEARNING IS OBLIGATION. Students repeatedly brought up things they "had to" do in elementary school:

> In fifth grade, you just **had to read** like eight books… We would **have to go to the library** every week…if you **have to study** for a test, you could just take (a textbook) out and you wouldn't **have to like sign out a sheet**.

The CM LEARNING IS OBLIGATION corresponded with the academic identity of *laborer*. It was interesting to compare this with the East Valley focus group. While East Valley students expressed this identity in their discussion of current uses of digital pedagogy, students at Pierce expressed it in their past experience with print.

Phase III. Although MLEs related to student identity were few, the CM TECHNOLOGY IS A TOOL did provide an indication of how students viewed themselves in class. MLEs were generated from a discussion of the various things Pierce students could do with their laptops:

> I **use it for creative writing** and I'm writing there now…my laptop, because like, we check our grades and like **work on** papers and do research… I **use my computer to type** and edit.... **I also use it to access** websites and articles… we also **use it to talk** to teachers, peers… we **use it as a textbook,** as well.

Related to the metaphor TECHNOLOGY IS A TOOL, these MLEs reflect a builder identity, making use of digital tools to construct understanding.

Phase IV. In the final Pierce focus group, student MLEs led to the identification of the LEARNING IS A PHYSICAL TRANSACTION metaphor. Language used in discussions of class assignments reflected a more positive connotation:

> This year, they don't really **give you as many ideas** of like what you can do…Sometimes, she **gives us like an assignment**, and then we fill out stuff on a Google Doc or something… she **would give us a concept**.

The language-in-use of this description suggests a subtle difference in academic identity. If LEARNING IS A PHYSICAL TRANSACTION, than the student is a beneficiary. As opposed to the laborer identity, where the use of "have to" suggests a negative connotation, the language of the beneficiary has a more positive connotation, focused on receiving what the teacher "gives."

Pierce teacher interviews. Leslie's discussion of her past and present experiences in education provided several CMs that informed understandings of her progressive academic identities as a traveler, a guide, and facilitator.

Phase II. Discussion of Leslie's college experience produced several MLEs that supported the metaphor LEARNING IS A JOURNEY. Leslie described her exposure to academic technology at her university as the beginning of her journey:

> I just remember like **getting to (the University)** my first year, everything was technology based…I felt like **that is where** I became a better learner.

The CM LEARNING IS A JOURNEY corresponds with the academic identity of the traveler, as Leslie's college journey led her to her appreciation of digital technology.

Phase III. Discussion of Leslie's current teaching emphasized the benefits of blended learning, making use of digital technology, choice, and social learning. The CM BLENDED LEARNING IS A JOURNEY provided context for the interpretation of academic identity:

> Like, so, like **where am I leading you?**... So, **how could I get there?...** this is what I want to have **at the end,** or what needs to be accomplished…I don't really think there's very many **hindrances** to (blended learning).

Identified in the CM, BLENDED LEARNING IS A JOURNEY, the academic identity of guide seems appropriate, as Leslie saw herself as "leading" her students to accomplish their goals.

Phase IV. In discussing the future of blended learning, Leslie made it clear that she perceived of herself as a facilitator, not an instructor. The MLEs that support this identity were identified in the TEACHING IS A JOURNEY metaphor:

> The teacher as an instructor, I think, has to **kind of a go away**… Like, **taking a step further**

and thinking about the impacts, the causes, the effects, I feel, is more of a facilitator-type role.

Leslie had strong feelings about what kind of teacher she was and what the future of teaching required. Although she mentioned occasional "struggles" in balancing her pedagogy, she saw herself as a facilitator, emphasizing that reliance on the direct instructional style of the past needed to "go away."

Nova Schola findings. Identifying academic identities among the Nova Schola students was somewhat easier than at other sites, as their MLEs and CMs were clearly connected to their academic identities as gamers, beneficiaries, and runners. However, identifying academic identities was more difficult with their teacher Alisa, as her MLEs were often contradictory, expressing her identity at different times as an English major, a facilitator, a direct instructor, and a classroom monitor.

Nova Schola Observations. Identifying Alisa's academic identity through classroom observations was problematic. In the first observation, Alisa enacted a teacher centered direct instructor identity for the entire period, standing at the front of the room reviewing vocabulary with her students. Alisa asked questions of the large group and students responded. Students took notes individually. Due to behavioral issues, this took the entire class. The second observation was to be the first time tablet computers and the LightSail© program were to be incorporated for personalized reading, but Alisa had not yet prepared the devices. As a result, the class spent the period working independently on their online curriculum. Alisa spent the period at her desk, grading quizzes. In the third observation, Alisa did incorporate the LightSail© program on the tablet computers. Students spent the period reading and answering fill in the blank questions on their tablets. While this would seem an ideal opportunity for facilitation, Alisa remained at her desk for most of the period, responding to student questions when they came to her. Given the nature of these observations, it was difficult to pinpoint Alisa's academic identity. However, the teacher interviews provided useful conceptualizations.

Nova Schola student focus groups. Students generated MLEs in all three focus groups that led to identity based CMs. These identities emerged from conceptualizations related PLAY, PHYSICAL

TRANSACTION, and a RACE.

Phase II. In discussing their early classroom experiences at other schools, MLEs generated by Nova Schola students supported the TECHNOLOGY IS PLAY metaphor:

> I used to use tablets, at my old school- **it was fun**… Like when I was little at school, we always used to **play learning games**… We would **play those typing games** and things like that… Like, Apple computers, tablets, and laptops-they **do fun stuff**.

Derived from the TECHNOLOGY IS PLAY metaphor, Nova Schola students seemed to perceive their academic identity as gamers. Academic uses of technology were perceived as online games, rather than their curriculum.

Phase III. In discussing the use of blended learning, the CM LEARNING IS A PHYSICAL TRANSACTION was identified. As Anthony described his experience with his online curriculum, his language emphasized what the program provided:

> **It gives us a little overview** of the lesson like what we're gonna do… And then, once we scroll past that, **it'll give us, like, I think a thing to read** that explains it more in detail… And then, after we do that, **it might give us like a couple of questions.**

Beyond the personification of the program, Anthony's language use reflects the beneficiary identity, as his language use reflects a more positive connotation than the laborer, which is assigned to the digital online program.

Phase IV. As mentioned previously, discussions of the future of blended learning generated a number of MLEs identified by the CM BLENDED LEARNING IS A RACE. In describing the difficulty in coordinating digital and face-to-face learning at Nova Schola, Anthony established an academic identity of the runner to explain the dilemma:

> You can either **be ahead** or **on pace**… they **don't want you behind…** And **if you're ahead**, you won't be learning with the teacher… But you can **go ahead** on the computers… if we **get too far ahead**, they can't really teach it to you in the class.

Considering the conceptualization BLENDED LEARNING IS A RACE, it is important to remember that

races have winners and losers. This point was not lost on Anthony. Still as reflected in Anthony's MLEs, being ahead did not seem like an advantage.

Nova Schola teacher interviews. Alisa's understanding of her academic identity seemed conflicted, as she wanted to be seen as a relaxed facilitator, but also established a need to be in control of the classroom.

Phase II. In describing her experiences as a college student, Alisa's MLEs supported the metaphor IDENTITY IS ACADEMIC DISCIPLINE. Alisa felt strongly that her background studying English in college was a large part of her identity:

> Yeah, I mean, **being an English major**, it was all typing papers… So, it was kind of good in that respect that when we were making lessons, **it was only English people**… But, **as an English teacher**, I mean, **I loved books.**

The CM IDENTITY IS ACADEMIC DISCIPLINE was based on her MLEs about her identification with being an English major.

Later in the discussion, Alisa noted how an influential English teacher in her junior year sparked her love of English by allowing her choice in reading. Further, the teacher became a model for the sort of "laid back" teacher Alisa hoped to become. Discussion of his teaching style and her attempt to emulate it produced numerous MLEs supporting the CM TEACHING IS PASSIVITY:

> But yeah, I mean, **he was laid back** and made it relative and made it, you know, fun, and didn't make it like, history is so important… Like, he kind of just **sat back** and we talked…The kids probably don't think this, but **I try to be pretty laid back** as far as, like, my approach… **I try to be laid back**, like, "let's just get through this" kind of thing… **I'm much more laid back.** Like, **I sit in this chair** a whole lot.

Based on Alisa's emphasis on the TEACHING IS PASSIVITY metaphor, her academic identity most closely related to the facilitator identity, although the typical definition of this identity involves student-centered instruction and an emphasis on small group work.

Phase III. As mentioned in research question two, Alisa's interview responses regarding her current teaching practices produced 34 separate MLEs connected to the metaphor TEACHING IS CONTROL, which seemed to contradict her perceived facilitator identity from Phase II. This control was evident in a number of areas, beginning with the students' online curriculum:

> **I took all their writing projects out** of Flipswitch©, so **I make sure we emphasize writing** in class. **It was my choice… I can take out** lessons**; I can take out quizzes if I want.**

Alisa made it clear that she valued her authority as an instructor in adapting the online curriculum.

Primarily, however, Alisa's MLEs focused on the importance she placed on monitoring student computer use, conceptualized as TEACHING IS CONTROL:

> The problem with digital is that **they Google so many things**… So we can't see their screens **so I can't monitor them**… then some laptops aren't facing me all the time, so **I don't know …that they're following along** or what they're doing, plus **it's hard**, when you're trying to help people, **to monitor…** so it's **easier for me to monitor** than them actually reading.

Alisa felt the Lightsail© tablet reading program made monitoring student work easier:

> With print, **it's hard to monitor** and it's hard for me to assess individual books… (using Lightsail©) **I can monitor** on my own iPad or on the computer.

As the examples above reveal, the dominant concern expressed in Alisa's MLEs was captured in the CM TEACHING IS CONTROL. Given her concern regarding student computer use, however, her academic identity was closer to classroom monitor than direct instructor.

Phase IV. The TEACHING IS CONTROL metaphor was once again dominant in the discussion of the future of blended learning. Alisa occasionally contradicted herself, however, emphasizing the need to an instructor while also supporting the need for students to have more autonomy:

> Yeah, a **lot of trust** and **a lot of control**, and a lot of just, "Yeah, you're going to **do what you're supposed to do."** …They have to be responsible for their own education, so **I can't stay on top of them** 24-hours a day… So, it's kind of like, **do I let them just fall on their**

face, or **do I discipline them?**

Again, Alisa emphasized the need to monitor and control students. Findings from Alisa's interviews reflect that her need to monitor student behavior undercut her goal of being the laid back facilitator she hoped to be.

To facilitate comparison, summary charts of the dominant student and teacher CMs surrounding research question three CMs are presented below (Table 4.14; 4.15).

School	Phase II	Phase III	Phase IV
East Valley	IDEAS ARE OBJECTS	LEARNING IS A PHYSICAL TRANSACTION	BLENDED LEARNING IS AN OBLIGATION
Pierce	LEARNING IS AN OBLIGATION	TECHNOLOGY IS A TOOL	LEARNING IS A PHYSICAL TRANSACTION
Nova Schola	TECHNOLOGY IS PLAY	LEARNING IS A PHYSICAL TRANSACTION	BLENDED LEARNING IS A RACE

Table 4.14: Research Question Three: Dominant Student CMs

School	Phase II	Phase III	Phase IV
East Valley	LEARNING IS A PHYSICAL TRANSACTION	TEACHING IS CONTROL	TEACHING IS A JOURNEY
Pierce	LEARNING IS A JOURNEY	BLENDED LEARNING IS A JOURNEY	TEACHING IS A JOURNEY
Nova Schola	IDENTITY IS ACADEMIC DISCIPLINE; TEACHING IS PASSIVITY	TEACHING IS CONTROL	TEACHING IS CONTROL

Table 4.15: Research Question Three: Dominant Teacher CMs

Summary. Research question three asked: How do middle level students and teachers from focal urban, suburban, and rural schools conceptualize their school-affiliated identities within print-based and digital learning environments? Metaphor analysis revealed disparities in student conceptions of academic identity between the research sites, identifying more negative connotations of identity in the rural and urban sites and more positive connotations in the suburban site. Likewise, teachers in the rural and urban sites grounded their academic identities in the importance of direct

instruction and classroom control while the suburban teacher's identity focused on facilitation.

At East Valley Middle School, students primarily saw themselves as laborers, forced to work by the teacher's authority. This appraisal was based on their CMs LEARNING IS A PHYSICAL TRANSACTION and LEARNING IS AN OBLIGATION, particularly with regard to digital learning. Their teacher, Frances, perceived herself as a direct instructor, identified in the CMs TEACHING IS CONTROL and TEACHING IS A JOURNEY. This identity was also evident in observations of Frances's print-based instruction.

Students at Pierce Middle School had a more positive perspective of their current academic identities, seeing themselves as builders and beneficiaries who exercised autonomy in determining their modes of learning. Leslie saw herself as a guide and facilitator, which was reflected in her student-centered lesson designs.

At the Nova Schola School, students perceived themselves as beneficiaries when working with their digital curriculum, evident in the CM LEARNING IS A PHYSICAL TRANSACTION. However, students expressed dissatisfaction with their face-to-face instruction. Identified in the CM BLENDED LEARNING IS A RACE, Anthony in particular viewed Nova Schola students as runners, struggling to keep pace with classroom instruction while also pursuing an independent online curriculum. Their teacher, Alisa, expressed conflicting conceptions of her academic identity, at times expressing a desire to be a facilitator, but always returning to a need to control student activity, language, and behavior. This contradiction was evident in her MLEs, identified conceptually as TEACHING IS PASSIVITY and TEACHING IS CONTROL.

Chapter 5

Discussion and Conclusions

In this chapter, findings from the metaphor analysis described in Chapter 4 are discussed critically, informing the conclusions and implications uncovered by the study. First, findings from each site are discussed in relation to the research presented in the literature review. Next, each research site is discussed individually, situated within the distinct cultural norms and expectations of their school setting. The literacy sponsorship framework (Brandt, 2001) and the tenets of multiliteracies theory (New London Group, 1996) are applied as lenses through which to better understand what was valued as literacy at the three sites and how their articulations of blended learning aligned with existing theory. The three research questions at the center of the study are employed as organizational aides in this discussion.

Conclusions revealed by the metaphor analysis, previous research, and the application of critical sociocultural theories follow the discussion section, highlighting the lack of uniformity in the articulation of blended pedagogies and literacy sponsorship at the three schools. The conclusions also address how the administration of blended curricula can work to reinforce or challenge the conceptualizations students and teachers bring with them to the classroom, in either positive or negative ways. Pedagogical and research implications of the study are then discussed, highlighting opportunities to strengthen blended learning integration across geographically diverse settings. Finally, limitations of the study are addressed, addressing both research practices and the influence of my own positionality as a researcher.

Applying the Research Literature

Studies discussed in the literature review informed the findings presented in Chapter 4, as the current research related to the prior topics of research. The literature review examined studies exploring literacy sponsorship, applications of digital literacy, student and teacher perspectives on blended learning, and academic identity. Although the participants and contexts of these studies were quite diverse, their findings and conclusions informed the current study. By comparing the literature

to the finding from the current study, relevant connections were uncovered and differences between the research sites became more evident.

Literacy sponsorship. The review of literacy sponsorship studies yielded three relevant trends. First, marginalized students were more influenced by their families and communities than their schools with regard to the development of academic literacies (Jacobs, 2014; Meyers, 2012; Ruecker, 2012). Secondly, authors found that greater attention needed to be given to the transfer of literacies from teachers to students, or academic mediation, in educational contexts (MacDonald, 2015; Wooten, 2013). Finally, the sponsorship of literacy among government agencies was found to be inconsistent, creating inequities for the people they served (Lebduska, 2014; Tomlinson, 2011). Using the literature as a critical filter, findings from these studies informed understandings of the current research.

With regard to the first trend, findings from the current study did not reflect a greater value for the sponsorship of families and communities over school-based sponsorship. Whether print-based or digital, CMs in the rural, urban, and suburban sites focused on the importance of the teacher's sponsorship in suggesting which literacies were of most value (Brandt, 2001).

However, the need for more attention to academic mediation (MacDonald, 2015; Wooten, 2013) did emerge in the findings, found in the one-way and two-way flow of literacy in the classrooms. Drawing from literacy sponsorship theory (Brandt, 2001), the flow of literacy in academic mediation refers to the directionality of communication in the movement of literacies between sponsors and those they sponsor (Wooten, 2013). In the classroom, a one-way flow of literacy limits opportunities for student responses, focusing instead on teacher lecture in face-to-face formats or, in digital formats, consumption of information from an online curriculum. A two-way flow of academic mediation would incorporate student communication, either individually or in social learning formats. At both East Valley and Nova Schola, the flow of literacy was decidedly one directional. This was apparent in both the face-to-face instruction at East Valley and the personalized digital curriculum at Nova Schola. At East Valley, teacher-centered direct instruction and an

emphasis on individual student participation indicated a one directional flow of literacy, focused on consumption of print-based materials. At Nova Schola, Alisa's reliance on personalized modes of digital instruction, such as the Flipswitch© online curriculum and the Lightsail© independent reading program, emphasized a one-way flow of literacy in her classroom, focused on the individual consumption of digital forms of print text. At Pierce, however, teacher mediation was two-directional, incorporating social learning and facilitation to support student-centered production of critical interpretations.

The findings also corresponded with studies on inconsistency among government entities in sponsoring literacy (Lebduska, 2014; Tomlinson, 2011). While the literacy sponsorship at Pierce emphasized social learning, multimodality and two-way mediation in their approach to blended learning, findings at East Valley and Nova Schola were not consistent, highlighting differences in the literacy sponsorship behind their approaches to blended learning.

Digital literacy. Studies on the application of digital literacy in the classroom were closely related to the focus of research question one, which explored conceptualizations of value and utility with regard to the use of print and digital resources. Three trends were suggested. First, strong instructional design and adequate teacher training were considered vital in successfully implementing digital technology into classroom instruction (Simpson, & Walsh, 2014; Soobin, Warschauer, Zheng, & Lawrence, 2014; Vigdor, Ladd, & Martinez, 2014; Warschauer, Zheng, Niiya, Cotten, & Farkas, 2014). Secondly, potential connections between students' personal uses of digital devices and their classroom practices were highlighted (Buck, 2012; Bussert-Webb & Diaz, 2012; Steinkuehler, 2011). This trend was related to the importance of teacher facilitation in helping students bridge their personal and academic uses of technology (Greenhow & Lewin, 2016; Jong & Shang, 2015; Kist & Pytash, 2015; Nowell, 2014; Steinberg & McCray, 2012).

Findings from the current study coincided with the need for strong instructional design in the academic use of technology (Simpson, & Walsh, 2014; Soobin, Warschauer, Zheng, & Lawrence, 2014; Vigdor, Ladd, & Martinez, 2014; Warschauer, Zheng, Niiya, Cotten, & Farkas, 2014). In

classroom observations, Frances's emphasis on textbook use and curriculum-based print materials largely excluded the use of digital resources and pedagogies in her planning. Beyond her use of the Schoology© learning management system and Google Docs, Frances's instructional plans did not prioritize technology integration, noting it was "not conducive" to what she was trying to accomplish. Her view of digital technology as a hindrance was identified in the metaphor TECHNOLOGY IS AN ADVERSARY.

The authors of a study on collaborative digital writing concluded that stronger instructional design and in-depth teacher training in the use of classroom technology were necessary in successfully implementing digital literacy initiatives (Soobin, Warschauer, Zheng, & Lawrence, 2014). This conclusion points to the relevance of administration in determining what counts as literacy, as curriculum and teacher training are school-based decisions. In considering Frances's classroom, her planning reflected the priority of print-based activity in the curriculum. At Pierce, however, Leslie's instructional design, which was developed collaboratively, emphasized choice-based, multimodal lessons, acknowledged as important by both her and her students in the CM TECHNOLOGY IS A TEACHER. At Nova Schola, although digital devices were used a great deal, the focus group discussions revealed dissatisfaction with the coordination of face-to-face and digital instruction. This was identified in the CM BLENDED LEARNING IS A RACE, as the reality of student pace in the completion of the online curriculum was not correlated with the instructional design of face-to-face interactions. Alisa's MLEs reflected a negative conceptualization of technology in general, identified in the CMs TECHNOLOGY IS DANGER and TECHNOLOGY IS AN ADVERSARY. However, in her discussion of the Flipswitch© program, she saw technology as a curriculum unto itself. These findings suggest teacher perceptions were influenced by conceptions of curricular priority.

Findings on the potential connections between students' personal and academic uses of technology (Buck, 2012; Bussert-Webb & Diaz, 2012; Steinkuehler, 2011) were also reflected in the findings of the current study. However, the Bussert-Webb & Diaz (2012) study correlated most

closely. Seeking to understand the out-of-school digital literacy of children of poverty (Bussert-Webb & Diaz, 2012), the authors found that students of poverty focused primarily on consumption in their personal use of digital devices, interacting with online material for entertainment. Bussert-Webb and Diaz (2012) also found that the schools serving these economically disadvantaged students focused on simple consumption in their classroom interactions with academic technology, rather than on the production of digital artifacts. The authors perceived this as a social inequity, as the digital literacy skills required for the creation of online material were more valued, both in education and in the workplace (Bussert-Webb & Diaz, 2012).

These findings aligned with the findings from the current study, particularly with regard to Nova Schola. Based on classroom observations, digital devices were not used to produce or create content, instead relying on a consumption-based online curricula. This differed from the experience at Pierce, where multimodal resources were used to fuel small group discussion and create digital artifacts. Students at Pierce discussed the importance of choice not only in how they learned but how they showed their learning. This correlation was also supported by elicited metaphors from the Phase I questionnaire at East Valley, conceptualized as PERSONAL DIGITAL IS CONSUMPTION while ACADEMIC USE OF DIGITAL DEVICES IS FATIGUE These findings seem to support the findings from Bussert-Webb and Diaz (2012), indicating pedagogical differences in digital consumption and production activities at the three schools.

The need for teachers to help students bridge between their personal and academic uses of technology (Greenhow & Lewin, 2016; Jong & Shang, 2015; Kist & Pytash, 2015; Nowell, 2014; Steinberg & McCray, 2012) was also evident in the study. While the literature suggested that facilitation was vital in helping students bridge their personal uses of technology into the classroom (Greenhow & Lewin, 2016; Jong & Shang, 2015; Kist & Pytash, 2015; Nowell, 2014; Steinberg & McCray, 2012), Frances emphasized teacher-centered instruction, expressing a more mechanistic view of teaching. This was evident in the conceptualization TEACHING IS MECHANISTIC PRODUCTION and IDEAS ARE OBJECTS. This approach emphasized the importance of direct instruction over

facilitation. At Pierce, however, facilitation was integrated into the instructional design, helping students bridge personal and academic uses of technology. This was identified as TECHNOLOGY IS A TEACHER and LEARNING IS RELATIONSHIP. At Nova Schola, Alisa did not address facilitation or bridging, emphasizing instead the importance of direct instruction and classroom monitoring. This was conceptualized as TEACHING IS CONTROL. In each case, the teachers' approach to either direct instruction or facilitation coincided with the priorities of their curriculums, influencing opportunities to help students bridge their technology use.

Blended learning. Related to research question two, classroom observations and discussions of print and digital pedagogies were informed by prior research on blended pedagogies. Still, school sites differed in their alignment with recommendations. The incorporation of strong instructional design and teacher coordination of online and face-to-face elements in blended learning settings, cited as vital in the literature (Carbonell, Dailey-Hebert, & Gijselaers, 2012; Cargile & Harkness, 2015; Strayer, 2012), was evident in the suburban setting, but not in the rural or urban schools. At Pierce, blended instructional design was done collaboratively, coordinating face-to-face and online activities through school mandated departmental planning. The value of this coordination was clear to students, conceptualized as DIGITAL PEDAGOGY IS CHOICE. At East Valley, planning for the incorporation of blended learning was generally absent, emphasizing instead the importance of the Schoology© learning management system and the school approved language arts curriculum, which emphasized textbook-based activities. Frances's response to blended instruction was often conceptualized as TECHNOLOGY IS CONTROL and TECHNOLOGY IS A THREAT. These CMs were directed at the influence of administration, forcing teachers to incorporate Schoology© into their classrooms. Still, the need for better coordination of online and face-to-face instruction was most evident at Nova Schola, as the school curriculum required students to spend half their day progressing through a set online curriculum at their own pace. As a result, face-to-face instruction was never fully coordinated with online instruction. Conceptualized by students as BLENDED LEARNING IS A RACE, everyone proceeded

through the Flipswitch© curriculum at their own pace, resulting in face-to-face instruction that could not meet the needs of all students.

The assertion that students had a positive view of digital and online instruction found mixed support in the current data (Forsey, Low, & Glance, 2013; McLaughlin, Griffin, Esserman, Davidson, & Glatt, 2013; Michael, 2012; Pan et al., 2012; Wanner & Palmer, 2015). Findings from the suburban student focus groups aligned with the prior research, but students in the rural and urban sites viewed blended learning negatively.

Prior research also asserted teachers generally maintained a negative attitude regarding blended learning (Hao & Lee, 2016; Michael, 2012; Owens, 2012; Carbonell, Dailey-Hebert, & Gijselaers, 2012). This aligned with findings in the rural and urban school. Again, however, the suburban teacher's perspective on blended learning was generally positive. Taken together, the research on student and teacher attitudes seemed to indicate significant differences between the research sites, as positive perspectives of blended learning were common at Pierce, but not at East Valley or Nova Schola.

Identity in academic contexts. Related to research question three, the literature on the formation of academic identity among teachers was consistent with findings from the current study. Findings in the literature asserted that personal experience and an affinity for digital learning were influential in the construction of teacher identities (Kendall & McGrath, 2014; Okas, van der Schaaf, & Krull, 2014; Seglem & Garcia, 2015). These findings aligned with findings from the current study.

At the East Valley site, Frances's academic identity as a print-based instructor was evident in the conceptualizations PRINT IS A POSSESSION and TECHNOLOGY IS AN ADVERSARY. In her early academic experience, Frances repeatedly noted the importance of owning copies of books and other print resources, while her experience with digital learning was dominated by frustration and distrust, best expressed by her comment, "Google and I are getting a divorce." Frances's self-identification as a print-based instructor was conceptualized as PRINT IS A POSSESSION and TECHNOLOGY IS AN ADVERSARY.

At Pierce, the opposite was true. Leslie described her first experience with academic technology as an awakening, crediting her collaboration with mentors as influential in her affinity for digital literacy. Her affinity for digital learning and her ongoing value for digital forms of instruction were most frequently conceptualized as TECHNOLOGY IS A TEACHER. This was observable in the data, as she referenced digital learning frequently, but only mentioned print-based forms of instruction on occasion. Her personal experiences and affinity for blended forms of instruction supported her academic identity as a guide and facilitator in the classroom.

Reflected throughout her teacher interviews, Alisa's personal background as an English major and her strong affinity for print did not seem to fit her placement in a blended learning academy. This contradiction was evident in the conceptualizations PRINT IS A VALUABLE RESOURCE and TECHNOLOGY IS AN ADVERSARY. Informed by the literature, her background and affinity supported the use of print, although she perceived her instruction as blended.

Applying the Theory of Literacy Sponsorship

As described in the introduction, literacy sponsorship is a framework for understanding how outside agents, or sponsors, establish which type of literacy is valued by a particular group at a given point in time and what they stand to gain from it. Brandt describes these sponsors as, "…any agents, local or distant, concrete or abstract, who enable, support, teach, model, as well as recruit, regulate, suppress, or withhold literacy—and gain advantage by it in some way" (Brandt, 2001, p. 19). Further, Brandt's framework asserts that the social forces of family, schooling, government, and the workplace, within a specific temporal context, may influence which types of learning activities, as well as which language and symbol systems, are most valued.

Using Brandt's model of literacy sponsorship as a critical lens, it was apparent that, although the teachers in the three research sites served as local sponsors of literacy in their classrooms, what counted as literacy was based on the norms and routines established by the more distant agency of their schools' administration and blended learning curriculums. This assertion was supported by the fact that no teacher in the study had the autonomy to act alone in choosing their materials and

methods for instruction, as these were dictated by the curriculum established by their school administration.

In applying the lens of literacy sponsorship, each teacher's findings are discussed below, using two specific questions to shed light on how differences in the teachers' articulations of blended learning reflected the literacy sponsorship of the administration and the blended learning curriculum at each school. The first question asks: What types of literacies were sponsored at each of the three schools by virtue of the blended learning curriculum each school was ostensibly enacting? The second question asks: What messages about literacy learning and literacy education did students at each of the three schools take away from their school experiences with blended learning? Using these questions to frame the findings highlights the influence of administrative literacy sponsorship at each school, as reflected in their school's blended learning curriculum. Further, the discussion of each school considers the potential gains for each school's form of literacy sponsorship. A brief discussion of the schools' literacy sponsorship follows the discussion of the three separate schools.

Literacy sponsorship at East Valley. Considering the first question, although East Valley outwardly claimed to be using a blended curriculum, the types of literacies sponsored in Frances's classroom were essentially print-based. Emphasizing the use of an administration approved language arts curriculum, the print textbook was central to instruction. The emphasis on individual work during classroom observations suggested that what might be called a sociocultural perspective on literacy was not sponsored by the curriculum. Frances verified this explicitly, noting there was no time for small group work due to the density of the print-based curriculum. Sponsorship of digital literacy focused on the use of the Schoology© learning management system and Google Docs, technologies Frances claimed were "forced down our throats." Conceptualized as TECHNOLOGY IS CONTROL and TECHNOLOGY IS A THREAT, Frances's MLEs highlighted the agency of administration, forcing teachers to incorporate specific digital technologies into their classrooms while prioritizing a print-based curriculum.

Considering the second question, the messages students at East Valley seemed to take away from their school experiences with blended learning were that print-based literacy was valuable to their learning while digital literacy was an undependable threat. Students at East Valley valued print-based materials as important to their learning, suggested by the CM PRINT TEXT IS A TEACHER. Digital devices were seen negatively in academic contexts, conceptualized as TECHNOLOGY IS AN ADVERSARY. Whether these messages were delivered explicitly during instruction, as when Frances asserted to her students, "Google and I are getting a divorce," or more tacitly in the curricular emphasis on textbook use, the influence of the blended curriculum established print literacy as more valuable than digital.

Seen through the literacy sponsorship model, these observations also bring into focus what the administrative sponsors of literacy hoped to gain. At East Valley, the introduction of laptops, the forceful addition of Schoology,© and the emphasis on the use of Google Docs suggests keeping up with current educational trends is a curricular priority. By sponsoring an add on approach to digital literacy, the school stood to gain in reputation and credibility in their local and educational communities. Although their curriculum was essentially print-based, the addition of a learning management system, laptops, and Google Docs allowed them to claim they were using blended forms of learning.

Literacy sponsorship at Pierce. Considering the first question, Leslie's instruction reflected a curriculum that sponsored a sociocultural perspective on literacy, including print and digital literacies. Instruction consistently employed a variety of digital resources for students to choose from as they collaborated to develop evidence-based answers to driving questions. The conceptualizations identified in the findings reflected this stance, suggested by the CMs TECHNOLOGY IS A TEACHER and LEARNING IS RELATIONSHIP. Leslie noted that the blended instructional approach she used was developed in weekly departmental meetings. By providing collaborative planning time for the development of blended instruction that incorporated both digital integration and social learning, it

was clear that the administration at Pierce sponsored digital literacies that, in turn, fostered a sociocultural perspective on literacy.

In considering question two, the messages that students took away from their experiences at Pierce reflected their understanding that blended learning was valuable. Conceptualized as DIGITAL PEDAGOGY IS CHOICE, students at Pierce valued the choice provided by multimodal resources as well as the opportunity to personalize how they demonstrated their learning. Further, students understood that social learning was a valuable element of blended instruction as it promoted critical thinking. These conceptualizations reflected a tacit understanding of how the multimodal, choice-based curriculum at Pierce was valuable.

What the administrative sponsors of literacy at Pierce stood to gain from their incorporation of blended learning resonates somewhat with East Valley. The findings suggest that the approach to blended learning adopted in Pierce's curriculum may have promised to improve performance on standardized state tests, a point students discussed at length. As student performance on state tests is often used as proof of academic excellence when tax levies are proposed, there may have been an economic gain in implementing blended forms of instruction. Further, just as East Valley sought credibility and reputation in their communities, this may also have been the case at Pierce. Given the emphasis on preparing students for the digital future, the community's perception of Pierce as a leader in digital learning may have been a factor in the robust commitment to teacher collaboration and planning.

Literacy sponsorship at Nova Schola. In response to question one, the literacy sponsorship at Nova Schola was more complicated, as the administration's sponsorship of the online curriculum could not be adequately coordinated with face-to-face instruction. The large amount of time given to the completion of the Flipswitch© online curriculum certainly reflected the administration's dominant sponsorship of digital literacy. While students spent half of their day pursuing their prescribed online curriculum, they only met twice a week to engage in face-to face instruction. The school's emphasis on digital literacy was somewhat reflected in Alisa's classroom, reflected in the CM TECHNOLOGY IS

A TEACHER. However, she felt a greater sense of value for print literacy, reflected in the CMs PRINT IS A VALUABLE POSSESSION.

The messages the Nova Schola students took away from their experiences reflected their dissatisfaction with the lack of curricular coordination at their school. Based on the CMs identified in the student focus groups, including TECHNOLOGY IS AN ADVERSARY, PRINT IS NORMALCY, and BLENDED LEARNING IS A RACE, student interactions with Nova Schola's blended learning curriculum established the understanding that blended learning was not valuable to their education. This perspective was crystalized in Anthony's comment, "I think the blended learning could work, but not in the way they're doing it here." The mix of online and face-to-face activities led students to doubt the value of blended learning as it was embodied at Nova Schola.

Regarding the potential gains of literacy sponsorship at the Nova Schola school, it is possible that the school leadership sought increased enrollment and institutional viability. While the other schools in the study were public entities, the Nova Schola school was a public charter and, as such, depended on a growing student enrollment to justify their position within the district. Like East Valley and Pierce, their emphasis on a highly personalized digital curriculum promised to enhance their reputation and credibility within their district. What was at stake for them was the potential of being non-renewed by the district, a possibility that was realized at the end of the 2018 school year.

In summary, the lack of uniformity in the way the three schools interpreted and implemented blended learning reflected the outside agency of administration as sponsors of literacy. However, these differences were not neutral, as some interpretations of blended learning provided more diverse literacy sponsorship than others, which in turn expanded learning opportunities for students. However, the three schools were similar in that their literacy sponsorship was somewhat based on the potential gains of reputation and credibility in their communities. The following discussion of pedagogies further supports the influence of administration and curriculum on blended instruction.

Applying the Theory of Multiliteracies

As discussed in Chapter 2, digital literacy theory (Barton, 1994; Gee, 1996; Heath, 1984; Lankshear & Knobel, 2010; New London Group, 1996; Kress, 2000; Street, 1984; Warschauer, 2007) is an umbrella concept that covers a number of theoretical frameworks addressing the intersection of sociocultural literacy and digital integration. While articulations of digital literacy theory vary, all are related in their support of literacy as a sociocultural phenomenon (Kazakoff, 2014), including the earlier articulation of multiliteracies. Still, it is important to consider the limitations of multiliteracies, as the development of high speed internet connections, social media, online digital production, and blended learning were unknown to the original developers of multiliteracies. Further, the rise of mobile apps for learning (Beach, 2015) and Web 2.0 applications have influenced more contemporary theoretical articulations, such as new literacies (Beach, 2009; Lankshear & Knobel, 2010).

Given its relative distance from current academic applications of digital learning, the theory of multiliteracies was still appropriate as a digital literacy framework for this study, based on its student-centered digital integration foundation, its focus on the influence of social contexts on meaning (Cope & Kalantzis, 2000), and the utility of its four instructional stages as a rubric for comparative analysis (New London Group, 1996). As outlined in Chapter 2, the first of the four stages of multiliteracies is *situated practice*. As articulated by the New London Group (1996), this first stage of instruction is defined as "immersion in meaningful practices within a community of learners" (p. 84). At this stage, students are exposed to a variety of print and digital resources to stimulate interest and activate prior knowledge. Further, situated practice states that these practices must provide an arena where learners feel safe in taking risks, trusting the guidance of both peers and/or teachers (p. 85). Thus, this early stage establishes the importance of social contexts, noting that interaction among a community of learners is vital to developing critical understanding.

Based on the engagement of stage one, *overt instruction* follows in stage two, allowing the instructor to help students build on their prior knowledge through scaffolding. Facilitation is

suggested at this stage, as the individual student must choose from diverse resources, identifying modes of learning that match their own learning style before moving on to critically examine the content; this requires guidance. In stage three, students *critically frame* the knowledge they have gathered through immersion and scaffolding, stepping back to examine the facts in context, identifying potential biases and agendas in authorship and audiences, as well as in their chosen resources. Again, this suggests an application of social learning, as social and cultural contexts are vital to the critical thinking central to the theory. Finally, in the fourth stage, *transformed practice* applies this critical framing of new knowledge to other contexts, allowing students to apply their critical understanding to other topics or time periods (New London Group, 1996).

Using the pedagogy of multiliteracies as a comparative framework, two questions were used to frame how digital pedagogies were enacted at the three research sites. The first question asks: What kinds of digital literacy pedagogies were supported by the blended curriculum each school was ostensibly enacting? The second question asks: By virtue of the blended learning curriculum, what messages about literacy learning and literacy education did students at each of the three schools take away from their school experiences with blended learning pedagogies? Applying these questions to the findings revealed distinct differences related to the incorporation of blended learning, suggesting stronger and weaker affiliations with the accepted tenets of multiliteracies.

Applying multiliteracies theory to East Valley. In response to question one, the digital pedagogies supported by the curriculum at East Valley emphasized the use of Schoology© and Google Docs, although these were rarely used in instruction. The Schoology© program was often referenced as a digital resource for storing and downloading print-based materials. Although the use of Google Docs was presented as a digital pedagogy in the findings, Frances did not feel it was dependable. Therefore, it was rarely used. Instead, pedagogy revolved around the individual class consumption of print-based materials as outlined in the school's language arts curriculum. It should be noted, however, that Schoology© and Google Docs, while established as the programs at the heart of East Valley's blended curriculum, were resources, not pedagogies.

Considering question two, the message taken away by students was that print-based pedagogies were valuable to learning while blended pedagogies were strictly utilitarian. Student engagement with digital technology was limited to word processing on Google Docs and the downloading or submitting of documents using Schoology©. Further, students understood that learning was consumption at East Valley, focused on completing assignments from the print curriculum. As a result, no robust digital pedagogies were supported by the East Valley curriculum, leaving students to assume that blended learning was simply the addition of digital tools to complete print-based curricular goals.

The blended curriculum at East Valley was not strongly affiliated with the guiding pedagogies of multiliteracies. This was reflected in the conceptualizations PRINT IS A POSSESSION and TECHNOLOGY IS AN ADVERSARY, as these CMs did not align with the multimodality central to the initial immersion stage. The style of delivery also ran counter to the tenets of multiliteracies, as the conceptualizations TEACHING IS MECHANISTIC PRODUCTION and TEACHING IS CONTROL, did not align with the facilitative mediation emphasized by the theory. It was clear that, although the administration at East Valley claimed to embrace blended pedagogies, their articulation did not reflect a knowledge of the kind of literacies and pedagogies required for blended learning.

Although the blended curriculum at East Valley did not reflect the guiding pedagogies of multiliteracies, this does not necessarily mean Frances was unaware of this pedagogical framework. Other factors may have influenced her pedagogy, including curricular priorities from school leadership, budgetary constraints, or perceptions of limited time. Further, the context of the rural school district in which Frances taught could have influenced Frances's decision to pursue print-based instruction.

Applying multiliteracies theory to Pierce. In contrast to East Valley, the digital literacy pedagogies supported by the Pierce curriculum employed digital learning activities that involved both the consumption and production of knowledge. The instructional design of the lessons valued multimodal and student-centered learning activities, employing social learning and a facilitative

teacher identity to help students develop their critical thinking and produce diverse representations of their learning. The value of digital pedagogies was reflected in the CMs as well, as in the conceptualizations TECHNOLOGY IS A TEACHER and LEARNING IS RELATIONSHIP. While the social learning pedagogy implied by the CM LEARNING IS RELATIONSHIP is not digital, it is supported by digital literacy theories by establishing the importance of social context in critically thinking about multimodal knowledge. These pedagogies were central to the blended learning curriculum at Pierce, reflecting the importance of social, multimodal, choice-based activities.

Considering the broader messages students took away from their interaction with Pierce's blended learning curriculum, it was apparent that students appreciated the value of blended pedagogies. Their CMs were consistently identified as DIGITAL PEDAGOGY IS CHOICE, which corresponded with their identities as builders and beneficiaries. Although likely tacit, the emphasis on blended pedagogies in the Pierce curriculum provided students with a more positive impression of digital integration.

Viewed through the lens of multiliteracies, the blended curriculum at Pierce Middle School reflected many of the tenets of multiliteracies, as evidenced by the CMs identified in the findings. The conceptualization TECHNOLOGY IS A TEACHER emphasized the role of digital pedagogies as tools of instruction, while the CM LEARNING IS RELATIONSHIP emphasized the importance of social pedagogy and two-way academic mediation. Conceptualizations of Leslie's view of her academic identity were identified in the CM BLENDED LEARNING IS A JOURNEY and TEACHING IS A JOURNEY. The conceptualizations of being a guide and facilitator also resonated with multiliteracies, establishing the need for teacher facilitation. This evidence seems to support the assertion that the Pierce curriculum embraced many of the digital pedagogies supported by the digital literacy theory of multiliteracies.

Applying multiliteracies theory to Nova Schola. The digital literacy pedagogies supported by the curriculum at Nova Schola were primarily focused on engagements with Flipswitch©. Students spent 50% of their day in a cubicle where they individually consumed information, watching supplied

instructional videos, reading short passages, and answering multiple choice questions. However, beyond consumption, the online curriculum did not allow for the creation of diverse representations of knowledge. Further, although facilitators were available to answer questions, no other forms of pedagogy were employed, during these sessions, as the online program was also the curriculum. Face-to-face instruction also focused on the use of digital devices, employing the digital reading program Lightsail © to personalize reading instruction. However, other forms of pedagogy, such as social learning, were not emphasized in the language arts curriculum.

What students likely took away from their exposure to the blended learning curriculum at Nova Schola was the sense that blended pedagogies were less valuable than conventional print-based pedagogies, due to the inherent weakness in coordinating the online and face-to-face curriculum. This was reflected in the CM BLENDED LEARNING IS A RACE. The difficulty of coordinating classroom instruction with online pacing was consistent in the student MLEs, revealing a sense of frustration with a curriculum that could not be successfully coordinated. As a result, students likely came away with an understanding that the online curriculum was more important than face-to-face instruction.

Viewed through the lens of multiliteracies, the pedagogies embraced by the Nova Schola curriculum reflected a weak affiliation with the four stages, as reflected in the CMs. Although the blended curriculum was dependent on technology, the conceptualizations PRINT IS A VALUABLE POSSESSION, TECHNOLOGY IS DANGER, and TECHNOLOGY IS AN ADVERSARY seem to question the importance of digital pedagogies in face-to-face instruction.

As with East Valley, however, there may have been external influences on Alisa's instruction beyond her control. Given the proprietary nature of the Nova Schola school, prescribed forms of computer use, pedagogies, activities, and assessments may have limited opportunities for more social and digitally integrated pedagogies in Alisa's face-to-face classroom.

Summary

The discussion of relevant connections in the findings reinforced several trends identified in the literature review. First, strong instructional design and coordination of online and face-to-face

elements in the integration of blended learning were salient (Carbonell, Dailey-Hebert, & Gijselaers, 2012; Simpson, & Walsh, 2014; Soobin, Warschauer, Zheng, & Lawrence, 2014; Vigdor, Ladd, & Martinez, 2014; Warschauer, Zheng, Niiya, Cotten, & Farkas, 2014), as their importance was reflected in the suburban setting, but not in the rural or urban schools. Secondly, student and teacher views on blended learning varied, seen as significant in the suburban site but not valuable in the urban or rural settings (Forsey, Low, & Glance, 2013; Hao & Lee, 2016; McLaughlin, Griffin, Esserman, Davidson, & Glatt, 2013; Michael, 2012; Owens, 2012; Pan et al., 2012; Wanner & Palmer, 2015). Finally, as evidenced in all three school sites, personal experiences and affinities for digital learning were influential in the construction of teacher identities (Kendall & McGrath, 2014; Okas, van der Schaaf, & Krull, 2014; Seglem & Garcia, 2015).

In addition to establishing connections to the literature review, application of the theoretical frameworks provided broader insights on the influence of administration and curricula on blended learning implementation. The framework of literacy sponsorship was used to identify the influence of outside sponsorship by administrators and school curriculum on what counts as literacy. Using this lens, it was evident that, although all three schools claimed to incorporate blended learning in their curriculums, distinct differences were identified in the kinds of literacies sponsored by their administration. Application of the theory of multiliteracies (New London Group, 1996) revealed distinct differences in the pedagogies supported by the three school curriculums, as well. Using tenets of the four stages of the multiliteracies pedagogy for comparison, the Pierce curriculum most closely matched the recommendations of the authors, emphasizing multimodal immersion, choice, teacher facilitation, and social learning. In contrast, the East Valley blended curriculum lacked sufficient support for the integration of digital or social pedagogies, while Nova Schola dominantly supported the singular digital literacy pedagogy of online curriculum. However, these varied approaches to classroom pedagogy do not necessarily confirm or refute awareness of multiliteracies, as the concept was never broached in teacher interviews. The influence of academic context, as well as budgetary and time constraints may have played a part in the particular approaches to classroom instruction at

the three sites. Looking at the findings through the lenses of theory, it was also evident that administrative interpretations of what blended learning should look like were both reinforced and challenged by the students and teachers at the three sites.

Conclusions and Implications

Three research questions were employed to provide a structural framework for this study. First, the study sought to understand the conceptualizations of middle level students and teachers from different geographic settings regarding the utility and value they assigned to print and digital resources. Secondly, the study sought to understand their conceptualizations of the utility and value of print and digital pedagogies. Finally, the study sought to understand student and teacher conceptualizations of their school-affiliated identities in the use of blended learning. Using metaphor analysis, a data analysis method that reveals a participant's underlying conceptualizations, metaphoric linguistic expressions were collected from the three student focus groups and teacher interviews, and trends in their conceptual metaphors were analyzed. An initial student questionnaire and regular classroom observations were also analyzed to aid interpretations.

In critically examining the findings from the metaphor analysis through the theoretical lenses of literacy sponsorship and articulations of digital literacy theory, the analysis yielded two significant conclusions and several implications for pedagogy and research regarding the integration of blended learning in diverse educational settings.

Conclusion One

Inconsistency in the implementation of blended learning pedagogies at the three schools reflected a lack of sufficient understanding of blended learning by school leadership. Although all three schools in the study claimed to embrace a blended approach to learning, curricular differences in their sponsorship of literacies and integration of digital pedagogies reflected confusion regarding what blended learning should look like. At East Valley, blended learning was defined as the use of the Schoology© learning management system and the incorporation of Google Docs for word processing. Beyond this application of digital tools, however, the sponsorship of literacy was print-

based, emphasizing the consumption of a textbook-based language arts curriculum. At Pierce, however, blended learning was defined as a socially-based multimodal pedagogy focused on the development of critical thinking. The sponsorship of both digital and social literacies reflected an understanding of blended learning that viewed digital devices as a set of tools used to strengthen social learning and critical thinking. Consumption and production-based pedagogies provided students choice in how they learned, as well as how they represented their learning. At Nova Schola, blended learning was defined as interaction with digital programs and curricula. While digital devices were used, it is questionable whether true digital pedagogies were used, as digital literacy theory emphasizes the need for both digital consumption and production in the use of digital devices (Daley, 2003; Gee, 2011; Kress, 2003; New London Group, 1996; Warschauer, 2007). Pedagogies were all consumption-based, whether in completing on line curricula or engaging in face-to-face instruction.

Analysis of the findings suggests that school leadership at the rural and urban schools lack sufficient understanding with regard to blended learning. This was manifest in the blended curriculums at East Valley and Nova Schola, which did not offer their students the same level of opportunity supplied by the suburban Pierce Middle School. Using the pedagogy of multiliteracies for comparison, it was clear that only the suburban school incorporated the kind of blended experiences supported by research and theory. This difference suggests that conceptions of what blended learning should be, as evidenced by the differing curricula at the three schools, did not provide all students with the same opportunities, resulting in an inequity that may have inadvertently marginalized students at the rural and urban schools.

Conclusion Two

Differing blended learning curricula at the three schools worked to either reinforce or challenge the conceptualizations of students and teachers regarding print and digital literacies. As the findings demonstrate, the responses of students and teachers to the blended curriculum in the three schools were quite diverse. At East Valley, the student and teacher responses challenged the blended learning curriculum. Based on their experiences in elementary school, where social learning

and print-based reading were emphasized, students saw little value in blended instruction. Frances's background and affinity for print clashed with the curriculum, as well. Conceptualized as TECHNOLOGY IS CONTROL, Frances resisted the blended curriculum, perceiving it as unwanted administrative oversight. At Pierce, however, the backgrounds and affinities of Leslie and her students aligned with the school's conception of blended learning. Social learning and digital literacy experiences in elementary school reinforced student acceptance of the blended pedagogies at Pierce. Leslie's college experiences with digital technology, her affinity for social learning, and her prior use of digital pedagogies were also reinforced by Pierce's blended curriculum. At Nova Schola, the backgrounds and affinities of the students and their teacher did not align with the blended curriculum. Students' prior experiences with digital devices as entertainment clashed with their lengthy, consumption-based interactions with the online curriculum. Alisa's experience as an English major and language arts teacher created a strong connection with print books. This background was also out of alignment with the digital format of Flipswitch© and the demands of her face-to-face instruction.

Again, the differing definitions for blended instruction at each of the three schools was influential in how the students and teachers embraced or resisted the curriculum. Although it is easy to blame the teacher for the success or failure of instruction, this blame would be misplaced. Teachers do not get to choose what they teach. They are required to teach the curriculum established by their schools and districts. If the instructional design of the curriculum is sound, students and teachers will connect with instruction. If the instructional design is flawed, students and teachers will struggle to make it work. Regardless, the responsibility for ensuring a strong blended learning program lies with the administration, as the curriculum they create must take into account not only the diverse backgrounds of their teachers and students, but also the theoretically supported approaches to blended learning pedagogies.

Implications for pedagogy. In examining differences in the application of blended learning in rural, urban, and suburban schools, several implications emerged that may inform future blended learning initiatives. Using the three research questions at the heart of the current study as a guide,

these implications suggest necessary changes in planning for and training for the implementation of blended learning curricula.

Considering the value of digital resources and pedagogies from research questions one and two, findings suggest that blended learning programs need stronger instructional designs. Working collaboratively with teachers, school administration should focus on developing curricula that coordinate digital learning with robust face-to-face instruction, providing opportunities for social learning, multimodality, and choice. Basing blended instruction on theoretically supported approaches to digital pedagogy, such as multiliteracies, provides students and teachers with a proven model for strong instructional design.

Speaking specifically to research question two, findings suggest that blended learning pedagogies need to emphasize more facilitative two-way mediations of literacy through digitally integrated social learning experiences, an implication supported by sociocultural theory (Gee, 1996; Heath, 1983; Street, 1984; Scribner & Cole, 1981; Vygotsky, 1978) and the theory of multiliteracies (New London Group, 1996). The sponsorship of these literacies should be incorporated into blended learning curricula.

Finally, school districts must broaden their commitment to ongoing training in the development of blended learning pedagogies. This training should involve administrators as well as teachers. Given the diverse understandings supported by the blended curricula at the three schools, it is possible that school leadership have not been sufficiently trained to create the sort of blended programs supported by research (Cope and Kalantzis, 2000; Darling-Hammond, 2010; Gee, 1996; Kress, 2003; Lankshear and Knobel, 2010; New London Group, 1996; Warschauer, 2007). Incorporating blended learning training as an ongoing collaboration between teachers and administrators would establish a mutual understanding of the kind of literacies the schools should aim to sponsor, as well as highlight the curricular changes necessary to create fully realized blended learning.

The pedagogical implications above dovetail with one another, as the practices suggested above work in concert. Implications suggest that school administration must be committed to the development of strong instructional designs, facilitative academic mediation, and ongoing training for administrators and teachers in developing blended learning curricula.

Implications for research. There are several topics beyond the scope of this study that may prove fruitful for future research. First, the online questionnaire in Phase I revealed that students generally valued their digital devices for personal use but not for academics. Given the findings from the literature review on the importance of helping students bridge their out-of-school technology practices to academic applications (Buck, 2012; Bussert-Webb & Diaz, 2012; Greenhow & Lewin, 2016; Jong & Shang, 2015; Kist & Pytash, 2015; Nowell, 2014; Steinberg & McCray, 2012; Steinkuehler, 2011), a study examining specific pedagogies aimed at bridging personal and academic uses of technology would not only add to the extant literature, but might also critically evaluate and suggest pedagogies to facilitate such bridging.

With regard to future research on blended pedagogies, the literature review and findings from the current study noted an emphasis on digital consumption versus production in the academic use of digital technology at the rural and urban schools. As articulations of digital literacy theory promote student creation of digital online content (Daley, 2003; Gee, 2011; Kress, 2003; New London Group, 1996; Warschauer, 2007), future studies might examine classroom uses of digital consumption versus digital production in varied educational settings. Although this study did not directly address issues of equity implied by emphases on consumption and production, as examined by Bussert-Webb and Diaz (2012), future studies with such an emphasis may add to understandings of how to best use technology to "level the playing field" for marginalized students (Gee, 2011).

Finally, as Brandt (2001) points out, agency extends concentrically, as the social forces of family, schooling, government, and the workplace may influence what sorts of engagements with language and symbol systems are most valuable at any given time and place. Future research might consider an exploration of the influence of more distant outside agents on what counts as literacy.

Such a study might focus on the assumptions of administrators regarding the influential forces they feel dictate the current emphasis on blended learning, as well as their notions regarding what is gained.

Limitations. This study does not come without limitations and could be improved in several areas. First, interpretations of the MLEs in the transcripts was completed by a single researcher. Although my triangulation incorporated thematic triangulation (Paulson & Kendall Theado, 2015), member checking (Hatch, 2002, Lincoln & Guba, 1985), metaphor checking (Armstrong, Davis, & Paulson, 2011), and classroom observations to verify the validity of my interpretations, the study may still reflect personal bias or errors in the interpretation of conceptual metaphors. This may have influenced the accuracy of the conclusions and recommendations. Future metaphor analyses may want to incorporate a peer-checker as another means of triangulating the validity of findings. Such a method would strengthen assertions of conceptual metaphors in the data.

Secondly, the number of student participants in the study was restricted to those who completed informed consent. While this did not hinder recruitment in the rural or suburban site, it did limit student participation in the urban site, as only four students completed the consent paperwork. Future research may want to intensify recruitment efforts in urban areas to widen the field of prospective student participants. This would provide more data, enhancing the richness of the metaphor analysis.

Third, the structure for the interviews and focus groups limited data collection activities to three focus groups and three teacher interviews over a four-month period. This time frame may have limited the depth of findings, thus influencing the accuracy of the metaphor analysis. Future research on blended learning may want to incorporate a longer research time frame, as extended data collection activities will provide a deeper understanding of student and teacher conceptualizations. Further, an extended time frame would allow the researcher to more thoroughly check the validity of their interpretations.

Fourth, although the student data collection employed an online questionnaire, classroom observations, and student focus groups, no individual artifacts were examined, limiting the depth of data interpretation for students. As noted previously, student use of metaphor was much more limited than teacher use, which may have weakened the metaphor analysis. Future studies on blended learning may want to employ an ongoing literacy log, as well as other print or digital artifacts, in their data collection, as this would aid triangulation. Such print and digital products may add another dimension to the interpretation of student conceptualizations on the value and utility of print and digital resources and pedagogies, as well as their uses for consumption- and production-based activities.

Fifth, although the study began with a student questionnaire assessing student conceptions of utility and value regarding print and digital resources, no follow up questionnaire was provided. As the questionnaire was given at the beginning of the school year, student attitudes could have changed over time, based on their classroom activities. Future studies may want to incorporate a follow up questionnaire at the end of the school year addressing the same areas of utility and value assessed in the Fall. Such a follow up may inform understandings regarding the consistency or variability of student attitudes on blended learning.

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Appendix A
Initial Student Questionnaire

Name: _____ School: _____

Male or Female: _____ Teacher:_____

Date of Birth: _____ Email:_____

(Day/Month/Year)

Below is a list of some current literacy practices. Check the appropriate box which shows how often you use the following tools, applications, websites, or programs.

	Everyday	Once a week or less	Once a month or less	I've tried it once or twice	Never
Online Audio or Video Streaming Services: (Spotify, YouTube, Netflix, Hulu, etc.)					
Social Media: Facebook, Twitter, Instagram, Snapchat, etc.					
Smartphone Applications: (Instant Message, Texting, Email)					
Online Gaming: (Playstation, Xbox, Candy Crush, Mobile Strike, etc.)					
School-based websites and Apps: (Schoology©, vocabulary.com, writing/editing apps, Read 180, etc.)					
Internet Research Tools (Wikipedia, etc.)					
Online presentation tools (Prezi, PowerPoint, etc.)					
Online Publishing or (video, audio, images)					
eReaders (Kindle, Nook, etc.)					
Print Texts: (novels, textbooks, comics, etc.)					

On a scale of one to five, with one representing very little and five representing a great deal, how much access do you have to digital devices at home?

1 2 3 4 5

On a scale of one to five, with one representing very little and five representing a great deal, how much access do you have to the Internet at home?

1 2 3 4 5

On a scale of one to five, with one representing very slow and five representing very fast, how fast is your Internet connection at home?

1 2 3 4 5

Considering the print and digital items noted above, with which do you most like to interact? Why?

_____

_____

_____

_____

_____

Again considering the print and digital items noted above, which do feel will be of the most benefit to you long-term? Why?

_____

_____

_____

_____

_____

Finish the following sentences by using relevant comparisons (for example, "Having an argument is like fighting a battle."):

Using online digital technologies for my own personal use is like…

_____

_____

How or why? _____

_____

_____

_____

_____

_____

Using online digital technologies for my schoolwork is like…

_____

_____

How or why? _____

_____

_____

_____

_____

_____

(Adapted from L. Bauer, 2012)

Appendix B

Student Focus Group Questions

Phase II: Warm-up activity. Laptops, iPads, smart phones, and e-readers are all types of computers we use to do various tasks. These computers are sometimes called "digital devices." Take two minutes to think about and write down your earliest memories of using digital devices.

1.What is your earliest memory of using a digital device?

2. In elementary school, which did you like more: reading books or using digital devices?

3. In elementary school, what sort of print books did you read? For what purpose?

4. In elementary school, what sort of digital devices did you use? For what purpose?

5. What did your teachers use more of in class: print books or digital materials? Why?

6. Which activities, print or digital, did you do more in a group? For what purpose?

Phase III: Warm up activity. The use of digital devices in school is much more common than it used to be. For the next two minutes, list the ways you use digital devices to do your schoolwork today.

1. How do you use digital devices for your schoolwork?

2. In your current schoolwork, what do you like/dislike about using print materials, like books? Why?

3. In your current schoolwork, what do you like/dislike about using digital devices, like iPads or laptops? Why?

4. What sorts of group activities do you do in your classes?

5. Why do you think your teachers are using digital devices more often in their lessons?

6. Do you think knowing how to use digital devices for learning is important? Why or why not?

Phase IV: Warm up activity. Blended learning combines face-to-face teaching with online learning. This type of teaching is supposed to better meet the needs of each student. For the next two minutes, think about your own teachers. Do you think any of their classes are somewhat blended? Write down any lessons that seem to combine face-to-face teaching with online learning.

1. Which of your classes do you feel is the most blended? Why?

2. In the future, do you think teachers should use more blended learning? Why or why not?

3. In the future, which do you think you will use more yourself: print texts or digital devices? Why?

4. In the future, do you think teachers should use more small groups in their teaching? Why or why not?

5. What are your plans after you graduate from high school?

6. Do you think blended learning will help you achieve your future goals? Why or why not?

Appendix C

Teacher Interview Questions

Phase II: Warm up activity. Finish the following sentence using a relevant comparison (for example, "*Having an argument is like… fighting a battle*."): *Using digital devices as a student was like…*

1. Why did you choose this comparison?

2. As a student, which did you find more valuable: print books or digital devices? Why?

3. Which teachers do you remember as being most effective from your elementary and secondary education? Why?

4. What sorts of print and/or digital materials did the teacher or teachers use in their lessons?

5. Did the teachers use any sort of small group activities in their lessons? If yes, for what purpose?

6. Do you feel your own approach to teaching is influenced by the teachers you had? If yes, how?

Phase III: Warm up activity. Finish the following sentence using a relevant comparison (for example, "*Having an argument is like… fighting a battle."): Using digital devices for my teaching is like…*

1. Why did you choose this comparison?

2. Which do you feel is more beneficial to your students: print texts or digital tools? Why?

3. Do you use any sort of small group work in your current classroom? If yes, for what purpose?

4. What sorts of instructional practices do you use that require your students to go online? For what purpose?

5. According to the Clayton Christensen Institute, blended learning is defined as

> "…a formal education program in which a student learns: (1) at least in part through online learning, with some element of student control over time, place, path, and/or pace; (2) at least in part in a supervised brick-and-mortar location away from home; (3) and the ways in which the student learns within a course or subject are connected to provide an integrated learning experience (2015)."

How closely do you think your instruction currently matches this definition? Why?

6. Do you feel adequately prepared to incorporate blended practices into your teaching? Why or why not?

Phase IV: Warm up activity. Finish the following sentence using a relevant comparison (for example, "*Having an argument is like… fighting a battle."): Incorporating blended learning into classroom instruction is like…*

1. Why did you choose this comparison?

2. Do you see yourself as more of an instructor or a facilitator? Why?

3. In the future, what role will teachers likely play in the classroom? Why?

4. Do you think digital literacy or print literacy will be most important in helping students achieve their future academic and professional goals? Why?

5. Do you think social learning will be important in classrooms of the future? Why or why not?

6. In the future, do you think blended learning will be the exception or the rule? Why?