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Digital Technology and Its Influence on the Professionalization of Teaching Associates in a University English Department

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DIGITAL TECHNOLOGY AND ITS INFLUENCE ON THE PROFESSIONALIZATION OF TEACHING ASSOCIATES IN A UNIVERSITY ENGLISH DEPARTMENT

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The purpose of this study was to investigate the influence digital technology had on the professional development of Teaching Associates participating in a mentoring program in an English Department at a public four-year university. A qualitative study was conducted involving ten students in the department's two doctoral programs over the course of an academic year. Data analysis was conducted on the participant interview responses and textual data from their mentoring program application materials. Results indicated that while doctoral students with prior teaching experience viewed digital technology as an instructional tool rather than content itself, those with no prior teaching experience were more willing to reflect on the pedagogical ramifications of digital technology and its influence on content delivery. Doctoral program participation influenced contrasting adoption levels of digital technology in both pedagogy and research. Those in the Literary Criticism program adopted more digital technology in their pedagogy than in their research, with the inverse among those in the Writing & Language program. Lastly, the importance of digital technology in doctoral students' respective disciplines was examined in terms of job posts, organizational memberships, conference participation, and journal subscriptions. Responses indicated the participants limited their organizational participation due to financial and temporal factors.

ACKNOWLEDGMENTS

I want to thank the doctoral students who participated in the Teaching Associate Mentoring Program for agreeing to assist me in my research. I greatly appreciate their willingness to take time from their teaching and research to aid me as I explored our experiences teaching and learning together. Their interest and support have made this study possible.

I also want to thank my dissertation advisor, Dr. Gian S. Pagnucci, for his interest in my doctoral career, even prior to my arrival on campus in August 2010. Thanks to his support, I was awarded a Graduate Assistantship in the IUP Thesis and Dissertation Office, where I learned much more about research writing and Writing in the Disciplines than I ever expected. I rely on this experience in every class period and every time I meet with faculty members to discuss student writing.

DEDICATION

I dedicate this dissertation to my paternal grandmother, Hannah Snyder Hepler, whose love of teaching I inherited. Born in 1901, she completed tenth grade and immediately went to study education at a private Lutheran university in north-central Pennsylvania. Subsequently, she pursued teacher certification at what was then the Central State Normal School in 1921. Awarded permanent state certification in 1924, she taught elementary school in a one-room schoolhouse in rural Pennsylvania until her death in 1950.

Graduation Photo, Hannah Snyder, Central State Normal School, 1924.

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CHAPTER ONE

INTRODUCTION

"The best scholar may be the poorest teacher; the poorest scholar the best teacher."

~ Teacher Educators, Ypsilanti Normal School, 1879 (as qtd. in Fuller, 1982, p. 166).

This dissertation is an exploration of the experiences of doctoral students as they experience the journey of professionalization within the field of English studies. I chose to use qualitative inquiry as my methodology as I felt it best supported my original plans for conducting research. As my participants knew each other, I needed a method of representing their voices without exposing their identities. They worked together, commiserated together; they shared teaching space, office space; personal struggles, professional successes; shared, yet separate identities.

In a paper examining the professional experiences and identities of teachers and teacher educators, Clandinin, Downey, and Huber (2009) used the expression "stories to live by" as a means for examining the multiple identities future teachers and their educators maintained. They stated that these "stories to live by" were a means to share the experiences "teachers live out in practice and tell of who they are, and are becoming, as teachers. Important to this way of thinking is an understanding of the multiplicity of each of our lives – lives composed around multiple plotlines" (2009, pp. 141-142). Entwining my participants' "stories to live by" with my own experiences would allow me to explore the research topic unfettered by temporal, spatial, and interpersonal concerns.

My research topic, to investigate the experiences of doctoral students through the intersection of professionalization and technological knowledge, evolved over a period of

seven years. In order to explain my current interests, and in keeping with my interest in narratives, I recount my academic journey through those seven years which led to this study.

Overview of the Study

I have to tell the truth; my journey through doctoral studies was not part of my original plan. I had been working for nearly two decades in information technology (IT) and marketing when I chose to resume my academic career. Both extrinsic and intrinsic motivations (Ryan & Deci, 2000) drove my decision. On the one hand, I was motivated intrinsically by a life-long love of education and knowledge acquisition; on the other, extrinsic motivation in the form of professional success was a substantial factor as well. In the past, I had flirted with the idea of pursuing a graduate degree each time I had reached a professional plateau and felt unsatisfied by my work and responsibilities. Each time, I was "saved" from rejoining academia by a new employment opportunity that offered a higher salary and a new mental challenge; yet the thought lingered in the back of my mind. Ultimately, it would take losing two jobs in one year to convince me it was time to consider pursuing a graduate degree.

However, the appeal of the classroom was grounded in more than a general dissatisfaction with my career in IT and marketing. Although I am the only member of my immediate family to earn a degree beyond high school, I am not the first in our family history to have a career in education. My paternal great-great grandfather, Samuel Snyder, was a teacher in the mid-nineteenth century. My father's mother, Hannah Snyder Hepler, followed his example and became an elementary teacher in the 1920's. Because of this tradition, perhaps it is not so surprising that teaching has appealed to me throughout my adult life.

My Journey to Doctoral Studies

My initial thoughts were to pursue a Master's degree in something, but I was not sure in which discipline. I had earned a Bachelor's degree in French, yet I felt continuing my education in my second language was not the right choice, and a Master's in Business Administration did not appeal to me. I felt I had to find some middle ground: a program that would appeal to both my linguistic and professional interests—one that would satisfy both my extrinsic and intrinsic motivations.

A Master's degree in Teaching English to Speakers of Other Languages (TESOL) seemed to be a program that would combine my interests in second language acquisition and my business experience. During the 1990's and the early part of the first decade of the new century, I worked as an IT and marketing specialist for several large multinational corporations. English had been the lingua franca of both companies, and I noted that technical barriers did not create many of the problems employees encountered; instead, linguistic barriers were the frequent causes of program failures and missed deadlines.

After enrolling in a program in a state university outside of Philadelphia, my plan initially remained the same: to complete a Master's degree and return to the business world. During employment interviews, I would no longer have to respond negatively to the question, "Do you have a Master's degree?" That was the original plan; but gradually the plan changed.

As I attended classes, I noted that a sizeable number of my classmates were public school teachers. While all were certified to teach in Pennsylvania, they did not have experience in teaching children whose first languages were not English. Several taught in school districts where the demographics had evolved over the past decade; others had been

reassigned as English as a Second Language (ESL) teachers through cost cutting measures. In both situations, they felt unprepared to teach a different type of student but had to enter the classroom every day.

In class, they shared their frustrations and feelings of inadequacy, as well as their loss of professional identity, from having been thrust into unfamiliar pedagogical territory. As I listened to their stories, I empathized with their situations and recalled my experiences in past jobs where I initially had lacked the proper training. They inspired me to rethink my goals and put aside my extrinsic motivations of material and professional gain. I decided I had an intrinsic motivation to become a teacher educator.

Encouraged by a veteran faculty member, and with the knowledge that a Master's degree would not be fully adequate preparation, I applied to doctoral programs in three universities, two in Pennsylvania, and one in Delaware. Each of the English Ph.D. programs had a different focus: theoretical research, applied linguistics, and teacher preparation. Ultimately, I was pleased to matriculate in the 2010 graduate cohort of the university whose English Department prided itself on its teacher-scholar program.

I was fortunate to be offered an assistantship in the Graduate School, where I learned far more than I could have expected prior to my arrival. Tasked with reviewing thesis and dissertations to ensure they met graduation guidelines. Because these theses and dissertations came from all the university's graduate programs, I experienced a cross-section of academic writing. During the two years of my assistantship, I read over one hundred theses and dissertations. Early in my employment, I noted that each graduate program functioned autonomously within their respective departments; the impact this had on the process was that approval from the Graduate School was almost a formality. Upon successfully defending

a thesis or dissertation in the department, a graduate student could be reasonably confident of participating in graduation ceremonies. It also became apparent that the acquisition of technological knowledge was not a priority in many of the graduate programs.

Lulled by my two decades of constant technological formation in information technology, I was surprised that, well into the twenty-first century, students could complete a terminal degree and not know how to type, let alone master basic word processing skills. Frequently graduate students submitted manuscripts that were incorrectly formatted as per the university guidelines as well as the appropriate discipline style guide. Despite posting extensive formatting and style guide aids on the graduate school website, I found that students did not understand enough about word processing and MS Word to revise their work. As a result, on a monthly basis I worked with a woman who provided typesetting services for student manuscripts. One of her customers I would encounter after she completed her doctorate, but in a different setting.

New Ph.D.'s Circumventing Digital Technology

During the summer of 2012, I worked in the language laboratory of the English Language Academy (ELA),[1] a non-credit intensive English language program housed on the campus of Pennsylvania Commonwealth University (PCU).[2] My role was to learn the laboratory's audiovisual instructional software and develop a training program for the instructors employed at the institute.

One afternoon, as I installed software updates on thirty student computer stations, a recent Ph.D. graduate entered the room. I recognized her as one of the students whose

[1] An alternate organizational name was selected to assist in preserving the anonymity of the participants.
[2] This alternate university name is based on historic precedent. In the 1960's, there was a drive to unite the fourteen "state schools" in one institution, which was to be named "Pennsylvania Commonwealth University." While the plan was never implemented, the name is useful in this situation.

dissertations I had read the previous spring semester. She sat beside me and began to ask questions about different software programs. She specifically wanted to know which ones were best for teaching English composition. At first, I thought she was testing my knowledge, but quickly I realized that her goal was not to challenge me, but rather to learn from me. Previously, she had asked for help to do rather mundane computer-oriented tasks, including how to log onto the student computers, how to print a document on the lab printer, and how to change her password. It was clear to me that, in terms of knowledge of computer technology, her exposure and mastery were severely limited.

I responded to her questions and then inquired about her use of computers, and technology in general, throughout her academic career. According to her, she only had mastered the rudiments of desktop publishing, e-mail, and audiovisual tools. She had managed to complete a terminal degree in the early twenty-first century, yet she did not understand what page margin settings were.

I was very curious to know how she had fared during her academic career with such limited experience, especially during the dissertation phase of her doctoral research. She said that she "got by" during her coursework using the basics (e-mail, word processing, spreadsheets) but usually asked for help from a friend if she encountered a situation she could not resolve. After she completed coursework, she wrote most of her dissertation by hand; prior to her final submission, she utilized the services of a professional typesetter.

I asked her if she had ever approached her professors for help. She quickly replied that she had been ashamed and afraid to let faculty know of her limited experience with technology. She added that a number of them had appeared to be no more comfortable with

computers than she did, so that assumption provided another deterrent to her mastery of technology.

I then inquired about her use of technology as an instructor at the language institute. Her response was that she avoided it when possible, preferring to build her curriculum around paper-based instructional tools. She confessed that she was too embarrassed to share her limited technological skills with her students, whom she thought seemed to be much more comfortable in this digital age. She felt that such a divulgence would compromise her position as their instructor. Nevertheless, before she left the institute to start teaching at another university, she began to ask questions of her peers still in the graduate program. She explained that she felt that it was time to expand her technological knowledge in regards to pedagogy so that she would make a good impression on her peers when she started her tenure-track faculty position.

Based on this first-hand experience with a former instructor at the language institute, as well as my observations of both fellow students and seasoned faculty and their uses of technology, my interest was sparked. I wanted to explore how students in graduate programs acquired knowledge of computer-based resources and how such knowledge informed their professional identities as they prepared to transition to positions as new faculty members.

Research Questions

The questions I hoped to answer at the close of my study focused on the influence digital technology had on the professionalization of doctoral students as new faculty members within the community of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) of the English department at a public four-year university located in western Pennsylvania. My interest in their views of digital technology and its

influence on their professional development focused on three aspects of academia: pedagogy, research, and scholarly interaction with their respective disciplines. Thus, I formulated three research questions:

1. What were the Teaching Associates' views of the influence of digital technology on their pedagogical practices?
2. What were the Teaching Associates' views of the influence of digital technology on their research practices?
3. What were the Teaching Associates' views of the influence of digital technology in their respective disciplines?

Although I expected my research to generate additional avenues of investigation, these questions remained the foundation of my study.

Purpose of the Study

The purpose of this study was to investigate the professionalization process graduate students in English programs experience as they transition from students to new faculty members. This process included the development of their professional identities within the communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) at the program and departmental level. Technological knowledge in the form of digital technology and its influence on the graduate students' pedagogical and research experiences was the critical lens used to contextualize the research results.

The intended audience of my research is scholars in English studies as well as teacher education. It was my intention to illuminate the knowledge gap between what graduate students knew of digital technology, and what they were expected to know of it, as they prepared to transition into roles as new faculty members. I assumed that this knowledge gap

negatively impacted the graduate students' attention to professionalization in the field and hindered the establishment of certain aspects of their professional identities, including collaboration with peers and more seasoned faculty in their respective departments.

Significance of Research

Doctoral students nearing the completion of their dissertation research, as well as those who have recently graduated and are now on the job market or have recently secured employment, face a challenging time in higher education. Factors including budgetary reductions, diminishing undergraduate student populations, and an aging—but largely unwilling to retire—existing faculty (Hicken, 2013) create a daunting scenario for the academic employment seeker.

Degrees Earned Versus Employment Opportunities

According to the National Center for Science and Engineering Statistics (NCSES), the second decade of the new century has been a tumultuous time for both terminal degree granting institutions and their students. After several years of steady increase, in 2010 the number of doctoral degrees granted by American institutions of higher education fell by over 3% to 48,032. The numbers rebounded in subsequent years, with over 54,000 students finishing terminal degrees in all fields in 2014 (NCSES, 2015a). In the Humanities, which includes English studies, 5,486 Ph.D.'s were granted by these institutions in the 2014-2015 academic year, representing just over ten percent of the total Ph.D.'s granted (NCSES, 2015b). While these figures may appear heartening at first, the realities of employment opportunities dampen enthusiasm for the situation.

In contrast to the recent increase in terminal degree completion, an analysis of employment data published by the U. S. Bureau of Labor Statistics (BLS) reported a 1.25%

increase in the number of jobs in higher education in the fourth quarter of 2015, yet the total percentage of jobs in higher education continues to decline, from 1.32% of all new jobs in 2012, down to 1.25% for 2015 (HigherEdJobs, 2016). Moreover, the BLS itself noted that while there was an increase in the total number of new positions in higher education, adjunct and part-time positions were outstripping tenure and tenure-track positions. Most troubling for doctoral students in English programs, the BLS predicted only an increase of 9,400 English language and literature positions between 2014 and 2024 (U. S. Bureau of Labor Statistics, 2015). While the previously cited NCSES figure of 5,486 new Ph.D.'s in the humanities included not only English literature, but also foreign languages and history, the actual number of doctoral degrees awarded in English studies in 2014 were 1,553 (NCSES, 2015b). If this number merely keeps pace and does not continue to increase over the next ten years, the total number of new English scholars on the job market will easily outstrip demand (15,530 new Ph.D.'s versus 9,400 new positions). However, other figures also factor into future employment access for doctoral students.

While the figures reported in the previous paragraph indicate a depressing situation for doctoral students, but other statistics report a more complex (and potentially confusing) picture. Recent studies (Hicken, 2013; Jaschik, 2007, 2013) revealed that seasoned faculty were delaying retirement, thus limiting opportunities for recent graduates to gain tenure-track or at least full-time positions. In reporting on established faculty delaying retirement and its impact on new professionals in the disciplines, Hicken, citing data published by the American Association of University Professors, reported that "more that 40% of college professors are forced to rely on poorly paid and less secure 'adjunct' positions" (2013, para. 7). Furthermore, she noted that tenure and tenure-track positions had declined by 50%

between 1975 and 2011, which she cited as applying additional pressure on those seeking a career in academia.

While high job satisfaction and a love of teaching were cited as powerful reasons for faculty delaying retirement by Hicken (2013) and Jaschik (2013), both also reported that financial worries were strong factors for remaining on campus beyond the expected retirement age. In a report published the same year by the retirement investment firm Fidelity, the authors cited survey responses identifying one of the most compelling reasons faculty members were not retiring was due to poor financial planning. The firm surveyed over nine hundred faculty in client institutions between February 21 and March 6, 2013, the firm reported that 74% of the respondents expected to delay retirement past the age of 65 years. Tellingly, 70% of respondents identified the lack of a formal retirement plan, a "critical first step in understanding one's financial ability to retire" according to Fidelity (2013, para. 4), as one of the reasons why they had decided to delay retirement.

Nevertheless, age is not only a factor for long-established faculty, but increasingly for doctoral students themselves. Caught between an aging tenured faculty and a perpetually youthful student demographic, doctoral students have learned that the axiom "with age comes experience" has now been inverted by the latest developments in computer technology.

Doctoral Students as 'Digital Immigrants'

In addition to an increase in doctoral student numbers, doctoral student age increasingly plays a factor. According to the 2014 cycle of the *Survey of Earned Doctorates*, in the United States the median age of Ph.D. recipients in the humanities was just over 34 years old, with over nine years being the average time spent earning the degree (NCSES,

2015a; NCSES, 2015d). Percentages paint an even more telling picture: over 37% of these future faculty members were 35 years old or older (NCSES, 2015c). Generally at least sixteen years older than the first-year undergraduate students they will most likely encounter in the classroom as new faculty members, these doctoral students are a generation away from the experiences and interests of their students. In some ways, this population of doctoral students represents a 'lost generation' of technology adoption. The undergraduate students they teach generally have more exposure to technology (i.e. smart phones, tablets, texting, tweeting, Facebook, YouTube, etc.) and are more accepting of the pervasive influence technology has in today's society. Christened 'digital natives' by Marc Prensky (2001), these undergraduates interact with information in a very different manner from the graduate students assigned to teach them.

Prensky coined the descriptors *digital native* and *digital immigrant* to describe what he perceived to be the technological divide between instructors and students. According to him, those students born after 1980 were part of a generation that interacted with the world around them in a different way than those who were born prior to that date. While other researchers used differing descriptions, including *Net Generation* (Tapscott, 1998) and *Millennials* (Howe and Strauss, 2003), they all attempted to define the same student population. According to Prensky, these 'digital natives' represented a new generation habituated to the use of electronic technology in their everyday lives. He asserted, "They have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age" (p. 1). He further described them as being accustomed to receiving information quickly and preferring to perform several tasks at the same time, i.e. multitasking and parallel processing. Visually

oriented from their exposure to smart phones, computers, videogames, etc., which are categorized by the term *information and communication technology* (ICT), they expected to process information with graphics preceding text, rather than the traditional order of text followed by graphics, which is preferred by academia.

For those of us born prior to 1980, we are defined as 'digital immigrants'. While we may adopt and profit from the use of new technology, we will never be immersed in it as much as the younger generation (Prensky, 2001, p. 2). To support his assertion, he drew an analogy with second language learning and the concept of age as a determiner of accent (Brown, 2000, pg. 59). In his analogy, the older generation acquired the technology but still maintained an "accent" while using it. Prensky provided several humorous examples of digital immigrants, including the professional who printed e-mails to read them and others who edited word-processed documents on paper (p. 2). While I consider myself to be well versed in ICT, I fall into Prensky's designation of 'digital immigrant', by virtue of my age and my selective use of computers, cellular phones, the Internet, and social media. When I first was exposed to Prensky's identifications, I was skeptical of his blanket assertions, especially in reference to me. Apparently, I was not alone.

Prensky's assertion of a digital generation gap is not without its detractors. His generalization, while true for some, cannot accurately describe all of this generation. Moreover, some peers were concerned with the lack of measureable support in his claims. Bennett, Maton, and Kervin (2008) noted that Prensky's constructs, as described in published academic literature, were "based on limited empirical evidence", and were "supported by anecdotes and appeals to common sense beliefs" (p. 777). The scholars were also troubled by uncritical adoption of Prensky's 'digital natives' term by others in the field. Other researchers

noted the negative impact labels such as ‘digital native’ and ‘digital immigrant’ can have on student and instructor identities and self-efficacy.

In an article co-written with Prensky in 2011, Martinez cautioned that labels such as ‘digital native’ and ‘digital immigrant’ were divisive and could even encourage instructors to avoid implementing new information and communication technologies in the classroom. Martinez closed her portion of the article with a statement reflecting the Constructivist theory of knowledge acquisition. She asserted, “Labels only solidify boundaries and imply that teachers and students are adversaries. It’s simply the wrong model for a collaborative learning environment, where both teachers and students are fellow lifelong learners” (p. 7). In his portion of the article, Prensky acknowledged this concern and expressed his disappointment in those educators who used the terminology as an excuse to perpetuate their current instructional methods (Prensky & Martinez, 2011, p. 7). Nevertheless, in the article Prensky still promoted his constructs of ‘immigrant’ and ‘native’.

In reality, the situation is more complex than Prensky allowed. Bennett, Maton, and Kervin (2008) noted that technology has not been universally adopted by all young people, nor do all have access to it. They maintained that despite Prensky’s assertion, there was no dramatic generation gap in terms of the use of technology. More recently, Jones and Shao (2011) also refuted Prensky, stating that terms such as ‘digital native’ and ‘Net Generation’ were oversimplifying the situation. “There is no evidence that there is a single new generation of young students entering Higher Education and the terms Net Generation and Digital Native do not capture the processes of change that are taking place” (p. 2). Instead, research conducted since 2001 indicates that for economic and social reasons, the use of ICTs among teenagers and young adults in the United States is in a state of constant change.

Differing classifications of age groups among published research further complicate the issue. The United States Census Bureau (File, 2013; File & Ryan, 2014), the Centers for Disease Control (Blumberg and Luke, 2007), Harris Interactive (Krane and Miller, 2008), and the Pew Research Center (Jones and Fox, 2009) report statistical use of technology featuring competing age classifications (Figure 1).

Reporting Body	Age Continuum						
Centers for Disease Control	18 - 24	25 - 29	30 - 44	45 - 64	65+		
Harris Interactive	18 - 29		30 - 39	40 - 49	50 - 64	65+	
Pew Research Center	18 - 32		33 - 44	45 - 54	55 - 63	64 - 72	73 +
U.S. Census Bureau	18 - 34		35 - 44	45 - 64		65+	

Figure 1. Age classification differences in published research. Note: Ranges retrieved from Blumberg & Luke, 2007 (Centers for Disease Control), Krane & Miller, 2008 (Harris Interactive), Jones and Fox, 2009 (Pew Research Center), and File, 2013; and File & Ryan, 2014 (U. S. Census Bureau).

The differences demonstrate the difficulty in reconciling research data and population classifications across multiple studies and cloud the analysis of the use of technology by age group.

Competing literature aside, educators ascribing to demographic classifications such as Prensky's 'digital natives' versus 'digital immigrants' must recognize that there is no static point in time that age and technological advances intersect. Despite Prensky's assertion of a 'singularity', the term he uses to describe "the arrival and rapid dissemination of digital technology in the last decades of the 20th century" (2001, p. 1), technological innovation has been a constant factor in human development; there is no one "big bang" event.

Nevertheless, research indicates that age is a factor in the *rate of adoption* of new technology. In a study of cellular phone usage in the United States, Krane and Miller (2008)

noted that new technology is "often first adopted by younger segments" of the population (p. 3). Supporting this observation, Jones and Fox (2009) identified age shifts in Internet usage, noting that younger Internet users moved on to newer sites and applications as older users adopted more established platforms. One example is the use of e-mail as a means of communication; Jones and Fox noted that while 91% of the respondents over the age of eighteen reported using e-mail, only 73% of those in the 12-17 year old group reported using it.

Another example is the social networking site Facebook. While it remains the most popular site among teenagers, in a recent Pew Research Center survey Madden et al. (2013) reported a "waning enthusiasm for Facebook" (p. 7), with one reason given the number of adults joining the site. The other reasons teenagers gave for their growing dissatisfaction with Facebook were the "drama" and "inane details" posted online by others as well as the "stress of needing to manage their reputations" on the site (Madden et al., 2013, p. 7). The researchers also reported that teens were migrating to other sites, including Twitter and Tumblr. They noted that Twitter usage jumped from 16% to 24% between 2011 and 2012 (Madden et al., 2013, p. 5). Citing the same report, Boster (2013) identified these sites, along with Instagram, as offering "a parent-free place where they can better express themselves" (para. 4). These sites offer teenagers 'safe houses', which Pratt (1991) defined as "social and intellectual spaces where groups can constitute themselves as horizontal, homogeneous, sovereign communities with high degrees of trust, shared understandings, and temporary protection from legacies of oppression" (p. 40). Until parents and other adults adopt them, these sites provide teenagers and young adults with areas where they can express themselves and develop their senses of identity, away from supervision and judgment.

Ultimately, the constant adoption and abandonment of ICTs by teenagers and young adults represents a continual challenge for all educators, not just doctoral students in English departments across the country. Human beings will likely continue to embrace technological innovation in a disjointed and dispersed manner, as long as economic and social differences exist. If Prensky's classifications are valid, today's 'digital natives' will be tomorrow's 'digital immigrants'. New developments in technology continue to propel society forward and the challenge for future educators will be to keep abreast of technological trends and devise effective methods for implementing them in educational settings.

Doctoral Student Preparation

While K-12 teacher education in the United States is rigidly controlled at both the federal and state levels, no governmental mechanism exists to foster the preparation of those who will educate these future teachers. A rich legacy of scholarship exists in undergraduate education, yet comparatively little empirical research has been published on doctoral education (Gaff, 2002; Jones, Davis & Price, 2004). One frequently stated rationale for not organizing oversight at the state and federal levels is that this oversight would be contrary to the tradition of academic freedom established faculty members that enjoy within their fields of expertise. Another reason for not pursuing a common educational policy at the faculty preparation level is that the preferred terminal degree, the doctor of philosophy (Ph.D.), focuses on research rather than classroom pedagogy.

Research as the traditional focus of doctoral programs. In the United States, the historical focus of doctoral programs across multiple disciplines has been the production of Ph.D.'s destined for academic careers. In support of the academic career path, doctoral programs have focused on developing students' research skills. Academic research, defined

as “the intellectual work that creates and publishes new knowledge” (Lombardi, 2010), is seen as the ultimate test of student ability, with the dissertation as the ultimate proof of research ability. Yet research is only one third of the responsibilities that most faculties in higher education shoulder. Teaching undergraduate students is another responsibility, and service, in the form of participation on committees and program or departmental administration, is the third.

Moreover, not all doctoral students wish to pursue a career in academia. In 2001, the National Association of Graduate and Professional Students (NAGPS) conducted a national survey of doctoral students across multiple disciplines (Weibl, 2001). The National Doctoral Program Survey (NDPS) was based on the responses of 32,000 participants from nearly 400 graduate institutions. The results indicated that while doctoral students intent on pursuing academic careers were satisfied with their programs, those considering careers outside of academia were much less so. The survey indicated that 74% of doctoral students in the Humanities interested in remaining in academia were pleased with their programs, whereas only 21% of those desiring a career outside of academia reported the same response. No other area of study rated so poorly among students not interested in pursuing academia as a career (Table 1).

In terms of teaching preparedness, the NDPS survey reported that 44% of doctoral students employed as teaching assistants felt they had not received “adequate preparation and training before they entered the classroom.” The survey responses also indicated 49% of the teaching assistants believed that they had not received “appropriate supervision to assist them in developing their teaching skills” (Weibl, 2001). Unfortunately, the NAGPS has not repeated the survey in the intervening sixteen years. It is possible that the situation in many

doctoral programs has changed since 2001. Nevertheless, a need for better pedagogical preparation in doctoral programs has been recognized for many years, across multiple disciplines.

Table 1

Doctoral Program Offers Effective Career Planning and Preparation

	% Strongly Agreeing / Agreeing	
Area of Study	Academic Careers	Non-Academic Careers
Education	64%	42%
Engineering	65%	65%
Humanities	74%	21%
Life Sciences	70%	39%
Physical Sciences	69%	49%
Professional	74%	26%
Social Sciences	71%	33%

Note: Table adapted from "National Doctoral Program Survey" (2001), by the National Association of Graduate and Professional Students.

The Boyer Commission on Educating Undergraduates in the Research University (1998) published an influential report advocating substantial revisions to undergraduate programs in research institutions across the United States. The commission recommended that institutions provide more support for first-year students in the curriculum through inquiry-based seminars, small class sizes, and a senior capstone research project.[3] According to the committee, to ensure improved undergraduate outcomes, more attention to graduate student preparation for their pedagogical responsibilities was needed. Moreover, citing data from the 1995 cycle of the *Survey of Earned Doctorates*, where only 54% of recent graduates from doctoral programs across all fields reported academia as their professional goal (Office of Scientific and Engineering Personnel, 1996), the committee recognized that not all

[3] Of note is the influence this report has had on curricular design in institutions of higher education with a lesser focus on academic research. This model has been in force at my current institution for over a decade, with digital copies of senior theses available online dating to the 2006-2007 academic year.

graduate students planned to remain in academia after earning their degrees. Especially for these students, a broader focus on preparation for a career beyond higher education was imperative. Examining the situation, the committee stated

> Graduate students are given intensive work in narrowly defined subjects and meticulous training in the technical skills required for research projects; it is the unstated assumption that the other expectations will be met without organized effort—met, presumably, by the general education that preceded graduate training. For too many people, that assumption is unwarranted. (1998, p. 30)

Nevertheless, the commission noted that the number of graduate students intending to pursue careers outside of academia varied per discipline. The highest percentage of doctoral students planning to remain in academia were studying in the humanities and the lowest reported figures came from the field of engineering, with 83% to 23% respectively (Office of Scientific and Engineering Personnel, 1996). Members of the commission were also concerned about the pressures exerted on new doctoral students teaching for the first time.

Generalizing that a large proportion of new doctoral students had only recently completed their Bachelor's degrees, the Commission was concerned that they were assigned to teach foundational undergraduate coursework at a time when such interaction between undergraduate and graduate students was critical for both groups' academic success. Noting that often many were assigned to teach coursework outside their disciplines with little prior preparation, the Commission elaborated that the doctoral students' views on teaching such courses may have been influenced negatively by more senior members in their departments. This influence could lead the doctoral students to believe that teaching would hurt them "by taking away from their concentration on their own study and research" (Boyer Commission

on Educating Undergraduates in the Research University, 1998, p. 29). In finalizing their report, the members of the commission recommended multiple changes, most notably a refocusing of doctoral program goals to balance the importance of both pedagogy and research. While this recommendation may have appeared new to many, a doctoral degree offering that balance had already been in existence for over thirty years.

Doctor of Arts programs. The recognition that effective pedagogy was an essential feature of faculty performance in higher education dates back to the beginning of the 20th century (Berelson, 1960; James, 1987). Some realized that a focus on doctoral research did not guarantee good classroom teaching. In an essay originally published in 1903 on the requirements to teach at the university level, James (1987) recounted the experience of a new faculty member who almost was dismissed from Harvard's graduate school because he did not have a doctoral degree. James noted the difficulties the instructor (as well as the hiring committee) endured in order to retain his position. Ultimately successful after completing and defending a thesis in two years, he continued to teach. Yet James was unsure of the validity of a doctoral degree in itself as an indicator of teaching ability. He reflected

> Will any one [sic] pretend for a moment that the doctor's degree is a guarantee that its possessor will be successful as a teacher? Notoriously his moral, personal and social characteristics may utterly disqualify him for success in the classroom. (1987, p. 1114)

Faculty at Johns Hopkins in 1909 (followed by Yale in 1910) recommended that the two-year Master's degree should be designated as the degree requirement for college teachers, with the Ph.D. restricted to those pursuing a career in academic research. Their peers in higher education dismissed both proposals (Berelson, 1960). Despite the recognition of the

unpredictable pedagogical prowess of university faculty, a formalized call for a terminal degree that did not perpetuate the primacy of academic research over the other academic responsibilities was not heard until nearly thirty years after James's evaluation of the situation.

In 1932, the president of Clark University, Wallace Atwood, recommended at a meeting of the American Association of Universities (AAU) that a new degree, the Doctor of Arts, be instituted to train doctoral students to teach at the college level (Glazer, 1993). Later in the decade, Baxter (1939) noted, "The largest proportion of graduate students studying for the doctorate were intending to engage in college teaching and yet were receiving no specific training for that profession" (p. 107). While he stated that his investigation into pedagogical training for graduate students had not found "outstanding or far reaching [sic] results" (p. 115), he maintained that the discussion within academia on the issue was "the beginning of a gradual but definite course of action" (p. 117). Obviously, the events of the 1940s and their effects on higher education stalled discussion on pedagogical reform. Talk of reform would have to wait until the next decade.

In the autumn of 1954, the New York-based Fund for Educational Advancement invited professors and administrators[4] from fourteen institutions of higher education across the U.S. to participate in a review of issues facing graduate programs around the country (Strothmann, 1955). On the agenda were Fund-sponsored programs featuring new graduate

[4] This group, named the Committee of Fifteen, included Jacques Barzun, Columbia University; Harvie Branscomb, Vanderbilt University; Paul Buck, Harvard University; Philip Davidson, University of Louisville; William DeVane, Yale University; John Dodds, Stanford University; Frederick Hard, Scripps College; Charles Johnson, Fisk University; Roger McCutcheon, Vanderbilt University; Donald Morrison, Dartmouth College; Whitney Oates, Princeton University; Philip Rice, Kenyon College; F. W. Strothmann, Stanford University; C. Vann Woodward, Johns Hopkins University; and Clarence Faust, President of the Fund for the Advancement of Education.

programs at several prestigious universities. Prior to meeting, the committee members communicated their concerns about extant programs and the focus on research at the expense of the other academic responsibilities faculty members shouldered. Strothmann explicated

> There was unanimous belief that graduate schools, in their efforts to advance the boundaries of knowledge by research, are at present not paying sufficient attention to a function they inherited by natural historical process—that of providing effective training for college and high school teachers. (p. 3)

The committee members recommended that a different degree, focusing on pedagogy rather than research, was necessary. "There should be established another doctor's degree, not less rigorous, but different. The training designed for this degree should be directed toward preparing men and women to teach effectively in college" (p. 14). Despite this recognition, it would take over a decade longer for an institution to launch the first Doctor of Arts program.

In 1966, Carnegie Mellon launched Doctor of Arts (D.A.) programs in mathematics, with programs in English, history, science, and fine arts starting a year later (Glazer, 1993). The degree programs were initially funded by a $1 million dollar grant from the Ford Foundation to the Carnegie Education Center (Schnakenberg, n.d.). Within five years, D.A. programs were launched in 22 additional universities across the country, funded in part by a $3.2 million dollar grant from the Carnegie Corporation (Jarvi, 2008). One of the promoted features of the D.A. degree was the proposed average time to completion. The degree was intended originally to be a three-year degree, complete with a dissertation focusing on teaching and issues within the chosen subject matter discipline (Beyer, 1974), rather than hard-core research.

Nevertheless, over the ensuing years the average time to completion, at least in the case of the D.A. Program at SUNY-Albany, grew to 9.5 years (University Senate, 2004). One reason stated for the increase was that the majority of students were enrolled part-time and were educational professionals teaching in community colleges and similar institutions of higher education (Glazer, 1993). For example, to accommodate working students, Clark Atlanta University offered part-time status to graduate students enrolled in less than six credits and not actively conducting research leading to a thesis or dissertation (Office of Graduate Studies, 2009, pg. 41). Ironically, in 2013 Bok reported in an article in *The Chronicle of Higher Education* that 40% of doctoral students in the humanities were taking seven years to earn their degrees; he was even more troubled by the statistic that 40% of doctoral students across all disciplines failed to complete their programs within ten years (Bok, 2013, para. 2). Today, twelve years after the publication of the University Senate report at SUNY, when the average time to completion in the D.A. program at that institution was 9.5 years, the national mean for completing doctoral degrees according to the National Science Foundation's *Survey of Earned Doctorates* (2015d) stubbornly remains over nine years.

Struggles to define the curriculum and purpose of the D.A. degree (Cardozier, 1968), opposition from faculty within departments (Dressel & Thompson, 1977), the retirement of proponent faculty (Jarvi, 2008; University Senate, 2004), and the prestige marketing of the Ph.D. to the public, eroded the viability of the D.A. degree in institutions across the United States over the ensuing decades. At the time of Glazer's 1993 survey of D.A. degree-granting institutions, there were fifteen D.A. programs in English (Jarvi, 2008). In reviewing Glazer's list of programs today, none remains active. All of the degree programs either have been

discontinued or have been replaced by the more publically marketable and collegiately desirable Ph.D. degree. The last two programs focusing on English have been discontinued since the start of my research (Table 2).

The Doctor of Arts in Humanities degree at Clark Atlanta University was replaced in 2015 (Office of Strategic Communications and University Relations, 2015), and the Doctor of Arts in English degree at St. John's University was replaced in 2016 (Office of Marketing and Communications, 2016). Both degrees were replaced by Ph.D. programs. In each institution's press release, they identified rationales for replacing the programs as related to the standards of "scholarship and research" expected in Ph.D. programs. In announcing new Ph.D. programs in English and History at St. John's University, Provost Robert Mangione, Ed.D., R.Ph., stated, "The focus on rigorous research and scholarship, and the contemporary application of knowledge that characterizes these two new doctoral programs, will distinguish our graduates among their peers" (Office of Marketing and Communications, 2016, para. 2). In the press release issued by Clark Atlanta University announcing the replacement of the Doctor of Arts in Humanities degree, the Interim Dean of the School of Arts and Sciences, Danielle Gray-Singh, Ph.D., elaborated, "Our desire in offering this revised doctorate program is to engage an even broader field of graduate scholars" (Office of Strategic Communications and University Relations, 2014, para. 4). In the same press release, Clark Atlanta University President Carlton E. Brown, Ed.D., stated, "This important programmatic transition aligns the D.A.H. program with CAU's other Ph.D. programs –10 in all—and represents the University's address to the demands placed upon scholars, researchers and the professoriate in today's higher education arena" (Office of Strategic

Table 2

Doctor of Arts Programs in English and English-Related Studies in U.S. Universities as of 2016

Year Adopted	Institution	Program	Status	Alternate Terminal Degree
1967	Carnegie Mellon	English	Discontinued (1988)	PhD English Literary & Cultural Studies
1969	Oregon	English	Discontinued (1989)	PhD English – Structured Emphasis – Rhetoric & Composition
1970	Middle Tennessee State	English	Replaced by PhD (2003)	PhD English – Specialization Rhetoric, Composition & Pedagogy
	University of the Pacific	English	Discontinued (1980)	None applicable
1971	Catholic	English	Discontinued (1989)	None applicable
	Idaho State	English	Replaced by PhD (2009)	PhD in English & Teaching of English
	SUNY-Albany	English	Discontinued	PhD in English in Writing, Teaching, & Criticism (1992)
	University of Michigan	English	Discontinued	PhD in English & Education (Joint Program)
	University of Mississippi	English	Discontinued	PhD in English Literature
1972	Drake University	English	Discontinued (1985)	None applicable
	Syracuse University	English	Discontinued (1981)	PhD English
1973	University of Miami	English	Discontinued	PhD English Literature
1976	Illinois State University	English	Discontinued	PhD English Studies
1978	St. John's University	English	Replaced by PhD (2016)	PhD English
1980	George Mason University	Education	Discontinued	PhD Teaching & Teacher Education
1981	Clark Atlanta University	Humanities w/Concentration in English	Replaced by PhD (2015)	PhD Humanities w/Concentration in English
1983	Nova Southeastern University	Teach/Learn	Discontinued (1990)	PhD Education
1984	SUNY-Albany	Humanistic Studies	Discontinued (2004)	None applicable

Note: Adapted and updated from Glazer, 1993, pp. 41-43.

Communications and University Relations, 2014, para. 2). These statements support the view among academics at these institutions that a Ph.D. was better than a D.A. degree.

To further demonstrate the bias, the Clark Atlanta University press release maintained that faculty research would not be adversely affected by the change "since it does not represent a significant departure from the current program" (Office of Strategic Communications and University Relations, 2014, para. 5). However, the situation was not as straightforward for the students then currently enrolled in the program. They had the choice of either completing their degrees in the 60-credit D.A. program, or converting to the new program.

Unfortunately, conversion would oblige them to take additional coursework, as the new Ph.D. required 72 credits for completion. Eight new 3-credit courses had been added to the curriculum; four were required, with the remaining courses cataloged as electives. These eight new courses focused on "research and scholarship" to meet the requirements of the new Ph.D. program (Office of Strategic Communications and University Relations, 2014, para. 3). The press release sent a signal to the public that the D.A. program had not been as rigorous as the new Ph.D. program would be.

Regardless of the information issued in press releases, a comparison of the coursework in the D.A. program with that of the Ph.D. program is a strategic examination of the intentions of the department faculty. The Doctor of Arts program at Clark Atlanta University was in Humanities Studies, with concentrations in African-American Studies, Africana Women's Studies, English, History and Romance Languages. In a review of the 2010-2012 Graduate Studies Catalog, I noted that the program had a set of humanities courses defined as the core curriculum. This foundational group of courses was divided into

six courses (four required) in a "humanities component" and one course in a pedagogy component, consisting of a one- or two-semester internship in a required undergraduate course (Graduate Studies Office, 2010, pp. 70–72). Beyond the core curriculum, the concentration in English required 30 hours in English, including two required courses, *CENG 516: Major Authors* and *CENG 509: Genres of Literary Expression*, plus the balance of the hours in two courses taken in six "areas" each: African and Caribbean Literatures; African-American Literature; American Literature; British Literature; Language and Linguistics; and Women's Literature (Graduate Studies Office, 2011, pp. 59–60). The English component was clearly focused on literary studies; however, the Humanities component included several elective courses focusing on issues of pedagogy: *CHUM 681: Higher Education in the United States*; and *CHUM 682: Teaching and the Humanities*.

In an examination of the 2014-2016 graduate catalog, the required number of credits has jumped from 12 to 36 credits in the Humanities component. The course examining the state of higher education in America is no longer listed; however, the internship and the course on humanities teaching remain, but they are renumbered. The coursework in English remains the same, but with less courses required in each of the six "areas" (now one 3-credit class each) to accommodate the new research-centric coursework (Graduate Studies Office, 2014, pp. 131; 136–138). These new research courses include a research design class and a research methods class. The differences in the course requirements and offerings conflict with the statement in press release indicating that the program would not substantially change with the conversion to the Ph.D. degree. It appears nonetheless that the doctoral faculty members have developed a relatively balanced program. However, I noted that the three-year course plan published in the 2014-2016 catalog included taking four classes per semester

(Office of Graduate Studies, 2013, p. 138), a heavy load for any doctoral student, especially in the third year when the internship and doctoral research are scheduled.

At St. John's University, the change was a logical move, according to Steven Mentz, Ph.D., the director of the English department's graduate program. His opinion was that it reflected the actual curriculum taught for the last decade. "Our argument was that the English D.A. program as we had been teaching it for the last five to 10 years was the equivalent of a Ph.D. program, in the sense that we ask for independent research for a substantial dissertation and professional quality work at all levels" (Office of Marketing and Communications, 2016, para. 4). Nevertheless, in a comparison of course offerings between the Fall 2015 and Fall 2016 semesters, important changes to the curriculum appear to have been implemented in the graduate program.

The two courses at St. John's University directly related to issues of pedagogy in teaching writing offered during the Fall 2015 semester were no longer listed in the Fall 2016 course catalog (English Department, 2015; English Department, 2016). The first course, *ENG 120: Composition Theory and the Teaching of Writing*, was described as an "overview of the field of composition with a focus on first-year writing" (English Department, 2015). The second course, *ENG. 135: Critical Issues in the Teaching of Writing: Literacy and the Politics of Best Practices*, was defined as a course focusing on the development and documentation of policies and procedures related to learning and teaching literacy. Both courses appear to have been replaced by one, *ENG 141: Writing in the Academy*.

According to the graduate flyer published each year (similar to the course descriptions in the PCU graduate course catalog, this new course focused on issues in Writing in the Disciplines (WID) and Writing across the Disciplines (WAC) programs and

their intersections with language, identity, community, access, and exclusion. The curriculum highlighted student experiences in higher education through case studies documenting student writing both on- and off-campus (English Department, 2016). Thus, it is a very different experience—albeit a valuable topic—for doctoral students in the new Ph.D. program.

Moreover, it remains to be seen what coursework at St. John's University will be offered in the Spring 2017 semester. In the past, students pursuing the D.A. degree enrolled in practical experiences in the spring. A required course, ENG 105: Teaching Practicum, offered the doctoral students teaching first-year composition and literature on campus the opportunity for reflection and collaboration as they shared their experiences in a digital environment, along with classroom-based dialogue related to best practices in teaching (Hollander, 2015). Unfortunately, the course roster for the 2017 spring semester is not available for inspection at this time.[5]

I do think there is some good news. Clark Atlanta University added an elective course, *CHUM 885 Digital Humanities* to the 2014-2016 graduate catalog. The course description is short, but it provides a basic idea of the course content. It states, "Explores the emerging methodologies for using the electronic media in humanistic study as well as electronic publishing in humanities" (p. 285). Similarly, while the coursework in the Fall 2016 program at St. John's University remains heavily focused on literature, with courses covering 19th century British literature, Anglo-American Modernism, African-American Literature, Caribbean literature, and Shakespeare, a course on digital literacy has been added. The course, *ENG 195: Digital Literary Studies*, "investigates how digital technologies affect

[5] As of 11 February 2017, the course listing is still not posted on the department webpages.

the way we read, study, teach, and understand literature" (English Department, 2016). Even more promising, it includes pedagogical techniques and scholarship promoting the acquisition of knowledge through digital technology.

With the demise of the programs at Clark Atlanta University and St. John's University, no institutions of higher education in the U.S. offer the pedagogy-oriented Doctor of Arts degree in any field of English studies. The degree is still offered in other fields in select universities in the U.S. and around the world. Nevertheless, the need for an organization preparation program providing equal emphasis pedagogy for doctoral students is still apparent, coupled with a need to enhance graduate students' technological pedagogical knowledge. The difference today is that with budgetary cuts across university campuses, advances in instructional technology, decreases in student population, and more public scrutiny of institutional practices (Hawkins, 2008; Cowan, 2013), the responsibility to conduct research, provide effective instruction, and perform service-related duties is more pressing than ever.

In the next section, I examine an initiative at the national level that promoted pedagogically-oriented faculty development programs.

Preparing Future Faculty program. In 1993, the Counsel of Graduate Schools (CGS) and the Association of American Colleges and Universities (AACU) launched the Preparing Future Faculty (PFF) program (Gaff, 2002). The program received additional funding support in the form of competitive grants from the Pew Charitable Trusts, the National Science Foundation (NSF), and Atlantic Philanthropies (Nelson & Morreale, 2002). The CGS and AACU recognized that the "traditional Ph.D. is a research degree, preparing, for example, historians, chemists, and sociologists" (Preparing Future Faculty, 2002). The

program's organizational structure allowed for a growth and rollout of policies and procedures designed to improve graduate student preparedness for the professional lives they would be expected to lead as new faculty members.

Designed as a four-phase program of graduate student preparation in Research I institutions spanning nearly a decade, the PFF program involved 43 doctoral degree-granting institutions and 250 additional institutions identified by the program management as 'partners' where doctoral students learned the "full range of professional responsibilities" outside of research (Preparing Future Faculty, 2002). These partner institutions provided mentoring for doctoral students with associate professors at the selected Research I institutions. According to the PFF website (www.preparing-faculty.org), the phases were:

- PFF 1: 1993-1997 - develop model PFF programs
- PFF 2: 1997-2001 - institutionalize and spread PFF
- PFF 3: 1998-2000 - develop model PFF programs in the sciences and mathematics
- PFF 4: 1999-2002 - develop model PFF programs in the humanities and social sciences

According to Jones, Davis, and Price (2004), the program was launched with the following three assumptions: "First, doctoral education poorly reflected the skills that colleges and universities looked for when hiring new faculty. Second, graduate programs failed to assess empirically their graduate training. Third, the academy possesses utilizable resources to better prepare future faculty members" (p. 265). The authors recognized that not all doctoral students from Research I institutions were destined to become faculty at these same universities. As a result, the research skills they acquired were not ideally suited to the pedagogical needs of teaching-oriented institutions where they would be hired.

The following four universities were selected by the National Council of Teachers of English (NCTE) to participate in the phase IV implementation in the English track:

- Howard University
- Michigan Technological University
- University of Illinois-Chicago
- University of South Florida

After the completion of Phase IV in 2002, the program ended as planned; however, a new initiative in 2010 on student assessment was launched. The program website remains active, providing information for institutions wishing to develop PFF programs on their own.

In a review of the websites for each of the universities that participated in Phase IV, only Howard University appears to continue to implement the PFF program in its participating departments (Physics, Communication, English, History, and Political Science). The English department website of Michigan Technology University identifies its past participation in the program, but no further information is available online (http://www.mtu.edu/gradschool/programs/degrees/rhet-comm/). Any references to the program at the other two institutions only exist on faculty curricula vitae.

Beyond issues of funding, other factors affected the implementation of the PFF program at both the participating and partner institutions. Describing the outcomes of the Phase IV implementation at North Carolina State University, Jones, Davis and Price (2004) noted that while students generally reported "feeling better prepared to make job application decisions when going on the market" (p. 269), faculty had different reactions. Associate professors at both NCSU and the partner institutions expressed reluctance in continued participation in the program. They felt participation took time away from the traditional activities leading to tenure and promotion: publishing, research, and institutional service. Tenured faculty at NCSU were unsupportive of the program; 62% refused to participate in PFF activities, and some opposed creating a certificate graduate students could include in

their portfolios. Hostility to the PFF program centered on faculty perceptions of turning the Ph.D. into a "teaching degree instead of a research degree" (Jones, Davis, & Price, 2004, p. 271). Once again, the prejudice favoring research over pedagogy persisted.

Graduate student mentoring programs. Unlike other disciplines, teaching is by its nature a relatively insular activity. Our nation's history romanticizes the concept of the one-room schoolhouse tended to by the unmarried 'schoolmarm' (Bial, 1999; Apps, 2004) and our education system's organizational structure replicates this sense of isolation. Whether in a true one-room schoolhouse, or in the classroom of a large university, when the door closes and the class begins, the instructor is isolated from peers. The daily schedule of competing classes increases the isolation as instructors are often teaching at the same time. Furthermore, opportunities to share ideas are frequently limited to departmental meetings where the hidden agenda may impede the valuable exchange of ideas (Hume, 2005). Often doctoral students are not permitted to attend departmental meetings, at least until they become teaching assistants.

For doctoral students in the role of teaching assistants, although they may be permitted to attend departmental meetings, frequently their teaching schedules conflict with the meeting schedules, thus depriving them of the opportunity to interact with more seasoned colleagues. Exposure to new pedagogical concepts and tools often is limited to bi-weekly or monthly mentoring sessions where discussion topics may not focus on instructional technology.

At Pennsylvania Commonwealth University, there are two doctoral programs in the English department: Writing & Language and Literary Criticism.[6] Students in the two doctoral programs employed as teaching assistants are mentored separately, resulting in somewhat divergent formative experiences. In the Writing & Language program, biweekly teaching assistant meetings are held with an experienced faculty member. While there are scheduled discussion topics, meetings frequently focus on pedagogical theory rather than "in the field" situations and responses to them. As a result, little conversation is spent during these mentoring sessions on instructional technology and how computer-assisted instruction (CAI) could benefit both teaching assistants and their students.

Other than one introductory course in the Writing & Language program *ENGL 808: Technology and Literacy*, no formal mechanism was in place for doctoral students to acquire the technological knowledge necessary to integrate instructional technology in their pedagogical practices. While in theory a doctoral student in the Literary Criticism program could take the course as an elective, in practice this course is offered during the first semester of the doctoral experience, when students have little say in the course selection process. Later in their academic careers, students in the Literary Criticism program are confined by the approved course offerings and limited elective courses scheduled to take advantage of this course.

Thus, I concluded prior to actively pursuing data collection that this limited formal exposure for students in both doctoral programs potentially had a negative impact on how these novice instructors saw themselves as instructors and professionals in general. I was also

[6] Alternate program names were selected to assist in preserving the anonymity of the study participants.

concerned that it could also affect their ability to compete successfully for employment. It was my hope to add to the knowledge base of faculty preparation and through my research.

Research Paradigm

This study is grounded in the epistemological paradigm of Social Constructivism. In this paradigm, knowledge is not only constructed within the individual, but also socially constructed through interaction with peers and mentors (Ackermann (2004). However, knowledge is not simply a transferable commodity that can be passed from teacher to student. This construct fosters cooperation and collaboration in communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) that are created in numerous social situations, including environments as diverse as the workplace and in classrooms. In my research, doctoral students entering the field of instruction in higher education function in socially situated environments, where their knowledge of both pedagogy and technology are informed by these settings. In turn, this interaction influences their identities as professionals in the field.

Organization of Chapters

In Chapter Two, I examine the theoretical framework discussed in scholarly research in identity theories, and instructional technology (IT), with a focus on computer-assisted instruction (CAI) and resistance to it. Chapter Three describes the methodology of my proposed research, including the research paradigm and methods used to conduct research. Steps taken to protect the participants as well as issues of credibility, dependability, confirmability, and transferability round out the chapter. In Chapter Four, I report the data gathered through textual analysis of the participants' Teaching Associate application

materials and from the two rounds of interviews using a cohort approach (Bruner & Fleisher Feldman, 1996; Ritchie, 2008) to analyze the sources.

In Chapter Five, I identify the outcomes of the study, noting that my expectations and those of the participants themselves were not supported by the data; instead, Teaching Associates in the Literary Criticism program were using more digital technology in their pedagogical practices than their peers in the Writing & Language program were. While older participants had more formalized training in digital technology than the younger participants had, younger participants were willing to reflect on their professional identities in regards to it. Older participants already had established identities and viewed digital technology as an optional tool rather than as content to be mastered. All ten Teaching Associates reported participation in scholarly organizations to varying degrees based on limited funds and time. After describing the trends in the data, I discuss the limitations of the study and make recommendations for repeating it in the future. I close the chapter with my thoughts on the need to incorporate more pedagogical preparation in Ph.D. programs across the country.

CHAPTER TWO

LITERATURE REVIEW

"…it is not sufficient for faculty to know only the content of their fields; they also must be effective teachers and advisors, be able to relate to students as learners, and participate in institutional governance."

~ Gaff, Pruitt-Logan, Simms, & Denecke (2003)

Introduction

In this chapter, I first introduce the theoretical framework that informs and guides my research. I briefly describe the epistemological framework that grounds the research and serves as the foundation for the theories of knowledge acquisition, social psychology, and instructional technology that form the theoretical basis of this study. I review the position statements, guidelines, and official reports of organizations in the field of English language instruction for references to future faculty preparation. Lastly, I describe issues of concern related to technology and its influence on learning and research.

Epistemological Foundation

I believe that knowledge is created through interaction with others. This epistemological theory is known as *Constructivism* (Piaget, 1955). In Constructivist theory, people use mental filters, or constructs, to interpret and form a reality based on their experiences and interactions with their environment. Experiences are cumulative and compounded; experiences are built on previous experiences and in turn influence the construction of new experiences. Furthermore, experiences are at the same time personal and social (Dewey as cited in Clandinin & Connelly, 2000, p. 2). Thus, the surroundings and the people who inhabit them influence the development of knowledge in the individual, and in a larger sense, the society in which the individual participates.

Constructivist Paradigm

Unlike Behaviorist theory (Skinner, 1957) where knowledge is viewed as transferred from knowledge giver to knowledge receiver, the constructivism paradigm presents knowledge and meaning as being constructed rather than given. Citing Jean Piaget's Constructivist theory, Ackermann (2004) defined knowledge, writing

> Knowledge, to a constructivist, is not a commodity to be transmitted—delivered at one end, encoded, retained, and re-applied at the other— but an experience to be actively built, both individually and collectively. Similarly, the world is not just sitting out there waiting to be to be uncovered, but gets progressively shaped and formed through people's interactions / transactions (p. 18).

Proponents of the social constructivist paradigm support the construct of learning through social interaction. Narrowing the focus to the context of education, Parker and Chao (2007), stated that meaning "is shaped and knowledge constructed through discussion with peers and teachers" (p. 59). Parker and Chao's statement situates learning as a social experience within an instructional setting, a view shared by researchers in both the fields of sociology and psychology.

To further support knowledge and meaning as being socially created, Ackermann (2004) referenced the Soviet developmental psychologist L. S. Vygotsky. According to Vygotsky, knowledge was acquired through the interaction with others, especially in the relationship between children and adults. Describing Vygotsky's belief, Ackermann explicated, "At the heart of Vygotsky's socio-constructivism lays [sic] a simple idea. From the day they are born, people learn, thrive, and grow in relation with others. We 'are' because

of others" (p. 21). Knowledge acquisition could not take place without the assistance (in a myriad of forms) of others.

Vygotsky viewed interaction as essential to learning: i.e., knowledge was created through shared experiences with others. While he implied that these shared learning experiences were constructed with immediate physical proximity, technology has mitigated somewhat the need for face-to-face interaction. "Learning is inherently social, even when others are not physically present" (Lee & Smagorinsky, 2000, p. 2). This perception of spatial distance as not being an inhibitor to knowledge acquisition is a fundamental tenet of instructional technology.

Other scholars have examined instructional technology and its relation to constructivism. Dalgarno (2001) noted the impact that computer technology had on the constructivist paradigm. Applying Moshman's three interpretations of constructivism, *endogenous constructivism*, *exogenous constructivism*, and *dialectical constructivism,* to the realm of computer technology, Dalgarno (2001) positioned ICTs within the construct of knowledge acquisition. According to Dalgarno, Moshman (1982) posited that *endogenous constructivism* emphasized the individual nature of knowledge acquisition, with learner discovery and autonomous learning valued and the teacher acting as facilitator rather than a distributor of knowledge. In the realm of computer-assisted instruction, Dalgarno identified hypertext markup language (HTML) as an example of an endogenous constructivist tool (2001, p. 186).

The second interpretation of constructivism, *Exogenous constructivism,* Moshman defined as still valuing direct instruction, but the learner controlled the scope and sequence of

instruction, followed by a real-world application of the knowledge gained. Dalgarno assigned learner-controlled online tutorials or context-sensitive pedagogical tutorials to this category.

Lastly, *dialectical constructivism* emphasized the role of social interaction in the learning process, favoring cooperative and collaborative learning strategies (Moshman, 1982). Computer technology that supported communication, such as discussion boards, e-mail, and other electronic forms of sharing and informing, were examples of this third of Moshman's interpretations of constructivism.

Critics of the use of computer technology in educational settings frequently identify issues of focus and sequencing of information to be major distractors to learning (Dalgarno, 2001). Nevertheless, this same technology challenges students to expand their knowledge in an environment instructors can control, creating safe spaces and support for learning.

Zone of proximal development. A key concept in Socio-constructivism is the *Zone of Proximal Development* (ZPD). Vygotsky defined the ZPD as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (p. 86). The ZPD is social in nature. Learners interact with slightly more capable peers to master cognitive functions they could not achieve without assistance. This learning is necessarily social. A related concept is *scaffolding* (Bruner, 1985), which is defined as assistance from a more experienced person or persons enabling a learner to accomplish what he/she would not be able to accomplish independently.

Modes of representation. In his research on the cognitive development of children, Bruner defined three modes of representation: *enactive* (or action-based) representation; *iconic* (or image-based) representation; and *symbolic* (or language-based) representation

(Bruner, Olver, & Greenfield, 1966). Bruner maintained that the linear progression between the three modes was roughly sequential, with the goal of guiding the learner from enactive to symbolic representations. In a scaffolded environment, the educator was present to assist the learner integrate the material to be learned in a progressively more sophisticated (i.e., symbolic representation) manner. Bruner stated that this sequencing of educational materials was also effective for adult learners and advocated instructional *spirals*, where material was revisited throughout the educational process, with each subsequent pass becoming more and more refined.

Situated Learning and Communities of Practice

Helping students to access the Vygotskian ZPD requires that a collaborative learning environment be established. This type of learning space is created in many different settings with the common features being the formation of a group, or *community of practice*, and the concept of learning being grounded, or *situated* within the context of the organization and its environment.

Graduate students employed as teaching assistants and their faculty mentors can establish an environment where knowledge acquisition, in the form of pedagogical knowledge, is a collaborative effort. Lave and Wenger (1991) describe this environment as a c*ommunity of practice*. In *Communities of Practice: Learning, Meaning, and Identity*, Wenger (1998) defined the term as the collective experience of learning both a repeatable task and defining identity through the performance of that task. To be successful in performing the task, individuals had to cooperate, with some learning from others within the collective. Wenger elaborated

> Over time, this collective learning results in practices that reflect both the pursuit of our enterprises and the attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of a shared enterprise. It makes sense, therefore, to call these kinds of communities *communities of practice*. (1998, p. 45)

While originally used to define social organizations that evolve in non-scholarly environments, such as in lunchrooms at work, factory floors in manufacturing plants, or other social environments where people gather and share information, today it is recognized that communities of practice can be created anywhere by people with a shared goal or interest; be it for recreation (i.e. games) or education (language learning, composition, or other subjects).

In a later publication, Wenger, McDermott, and Snyder (2002) described the members of a community of practice as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (p. 9). Elaborating on their interaction, Wenger, McDermott, and Snyder maintained that the participants of a particular community of practice did not need to interact on a daily basis, but instead gathered to share information and solve problems because of their common experiences. They stated

> As they spend time together, they typically share information, insight, and advice. They help each other solve problems. They discuss their situations, their aspirations, and their needs. They ponder common issues, explore ideas, and act as sounding boards. They may create tools, standards, generic designs, manuals, and other documents—or they may simply develop a tacit understanding that they share. (p. 9)

The authors' description of people gathering on a regular but not daily basis to discuss common problems and share advice is appropriate for describing the community of practice fostered in teaching associate mentoring programs. Further contextualizing the concept in the realm of education, Wenger, Trayner, and de Laat (2011) positioned the community of practice as a "learning partnership among people who find it useful to learn from and with each other about a particular domain. They use each other's experience of practice as a learning resource" (p. 9). This reference to a "particular domain" is reflected in Lave and Wenger's (1991) definition of 'situated learning' and is relevant to mentoring programs.

The community of practice created by teaching assistants and their faculty mentors is part of the concept known as *situated learning* (Lave & Wenger, 1991). In keeping with the constructivist paradigm, Lave and Wenger maintained that situated learning should not be viewed as simply the transmission of decontextualized knowledge from one individual to another, but instead as a social process where knowledge was co-constructed. They suggested that such learning was situated in a specific context and embedded within a particular social and physical environment. Situated learning was in essence a process of creating meaning from activities that took place in daily life.

In the context of the mentoring program for teaching assistants, the community of practice established is part of the larger scope of pedagogical knowledge acquisition that occurs at the department level. Working from Lave and Wenger's model, faculty share ideas and resources with each other, sometimes taking the lead on a topic or project, other times participating more on the periphery when they are less knowledgeable. Thus, faculty move in and out of the center of the community of practice as their participation varies. This

movement and growth within the community is described by Lave and Wenger (1991) as *legitimate peripheral participation.*

Legitimate Peripheral Participation

Wenger (1998) described legitimate peripheral participation as the "the process by which newcomers become included in a community of practice" (p. 100). He noted that the constructs of *peripherality* and *legitimacy* were both required for eventual full participation to occur. The construct of peripherality pertains to the level of participation afforded newcomers by their experienced peers. Wenger asserted that observation of practices and activities within the community was not enough for newcomers to become fully engaged. He explained

> Observation can be useful, but only as a prelude to actual engagement. To open up a practice, peripheral participation must provide access to all three dimensions of practice: to mutual engagement with other members, to their actions and their negotiation of the enterprise, and to the repertoire in use. No matter how the peripherality of initial participation is achieved, it must engage newcomers and provide a sense of how the community operates. (p. 100)

Wenger described legitimacy as being valued within the community of practice. He noted that new community members "must be granted enough legitimacy to be treated as potential members" (p. 101). Based on Wenger's model, one can argue that faculty should involve doctoral students in departmental service activities early in the students' careers in the Ph.D. programs in order to prepare them for the responsibilities they will face outside the classroom in their future roles as productive faculty members.

The concept of 'identity' within the community of practice is another aspect of legitimate participation. Norton (2000) defined *identity* as "how a person understands his or relationship to the world, how that relationship is constructed across time and space, and how the person understands possibilities for the future" (p. 5). Teaching assistants construct their professional identities through their participation in the mentoring program. As they expand their knowledge of the pedagogical responsibilities they will face as full-fledged members of the departmental community of practice, their identities are changed by the experience.

In an examination of the use of the community of practice model in research focusing on online and blended learning environments, Smith, Hayes, and Shea (2017) stated, "As people participate in a CoP [sic], they acquire new knowledge and simultaneously their sense of who they are, their identities, change" (p. 213). Most notably, 'identity' is both how people define themselves, and how they do not. According to Wenger (1998), identity construction within a community of practice fosters the development of a sense of self shaped by the experience itself, a "process of becoming" (p. 215). He argued

> Because learning transforms who we are and what we can do, it is an experience of identity. It is not just an accumulation of skills and information, but a process of becoming—to become a certain person, or conversely, to avoid becoming a certain person. (1998, p. 215)

This study looks at how participating in a departmental mentoring program promotes the development of a specific type of doctoral student, the teaching assistant.

Doctoral students join a departmental community of practice when they become teaching assistants, mentored by seasoned faculty members as they teach introductory courses. After attaining their terminal degrees, they gain legitimacy in the community as they

become more experienced in their pedagogy and subject matter. As they professionalize in the field, this participation can take on new dimensions of involvement and responsibility. Wenger (1998) maintained that granting doctoral students legitimacy within the department's pedagogical community of practice was mandatory for their professional development. "Only with enough legitimacy can all their inevitable stumblings and violations become opportunities for learning rather than cause for dismissal, neglect, or exclusion" (p. 101). Unfortunately, graduate students' abilities to participate in departmental activities can be limited by factors frequently not acknowledged. For example, simple class scheduling issues may create time conflicts that make some students unable to attend department meetings.

Not all communities of practice function well (Wenger, McDermott, & Snyder, 2002, p. 140). Human foibles may inhibit the organization's performance based on a number of factors. Ideas may become entrenched in the culture of the community, preventing new members' contributions to the community as a whole. An unwillingness to question perceived authority may prevent healthy criticism and challenges to entrenched methods and beliefs that periodically should be reexamined and reevaluated.

Mentoring Programs as Communities of Practice

According to Cherian (2007) a teaching assistant mentoring program is one specific type of community of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002). Reflective of the influence the construct of situated learning (Lave & Wenger, 1991) has had on education, Cherian described learning to teach as "a meaning-making process, mediated by time, place, and the relationships that exist between novices and mentors" (2007, p. 28). Describing graduate studies as venues for socialization within the disciplines, Austin (2002) noted that socialization was "a dynamic process in which the

individual newcomer brings experiences, values, and ideas into the organization" (p. 97). These views reflect both the recognition of the importance of organized instructional preparation and the value of the graduate students' prior experiences and accumulated knowledge that has grown over the latter half of the twentieth century.

Recognition of the need to provide instructional preparation for future faculty dates back to the post-World War II era. Some institutions, such as the University of Washington (Nyquist & Wulff, 1986) reported having graduate teaching assistant preparation in the form of orientation sessions and weekly meetings in the 1950's. As the number of course sections and class sizes increased, institutions came to rely more and more on graduate students to fill the need while gaining valuable pedagogical experience (Parker, Ashe, Boersma, Hicks, & Bennett, 2015). Frequently what was missing was an organized program to ensure consistent preparation. One response to this recognized need was the Preparing Future Faculty program (Gaff, 2002), where doctoral students at Research I institutions were provided pedagogical preparation in anticipation of the fact that many of them would be hired at institutions focusing on pedagogy as well as research.

Beyond individual departmental mentoring programs, Gaia, Corts, Tatum, and Allen (2003), Nyquist and Wulff (1986), Parker et al. (2015), and Ridgway, Ligocki, Horn, Szeyller, and Breitenberger (2017) advocated institution-wide programs allowing interdisciplinary interaction between graduate students participating in the mentoring programs. While the researchers advocated cross-disciplinary mentoring programs at the institutional level, they maintained that departments should still manage their own graduate students' experiences in the mentoring system. It is noteworthy that doctoral students were not the sole beneficiaries of participation in the mentoring programs. Gaia et al. (2003) stated

that mentors involved in the cross-disciplinary program at the University of Tennessee Knoxville reported benefits from their participation in the program, with renewed interest in their own teaching and access to new trends in pedagogy in their respective fields.

Computers appeared in the teaching assistant curriculum as early as the mid-1980's. Nyquist and Wolff (1986) described a fall semester workshop entitled "Using Computers in Instruction" focusing on issues of instructional approach, materials development, and methods to evaluate computer-aided learning (p. 12). In addition to the workshop, the center also produced a guide on using video as an instructional resource, focusing the availability of video technology on campus, the instructional benefits of using video in the classroom, and specific procedures for including it in the classroom. Lastly, the center produced a video roleplaying teacher-student situations and how to best manage them. Topics covered in the video included plagiarism, class discussion, what constituted appropriate materials, differences over grades, and office hours (p. 13). A decade later, Albright (1998) detailed examples of faculty across disciplines leveraging digital technology to provide interactive learning opportunities for students in English, biology, hospitality management, and economics. His rationale was that if the teaching environment was being digitized, then teaching assistants would have be adequately trained on this technology.

The needs of non-native English speaking teaching assistants are also addressed relatively early in the development of mentoring programs. Bauer (Nyquist & Wulff, 1996) noted that international teaching assistants frequently started their graduate careers with little to no prior exposure to the standards of student feedback and evaluation common in American institutions of higher education. Startled by another layer of teaching associate assessment, they were preoccupied with their language abilities and some feared that

undergraduate students would criticism them for correcting grammar mistakes in their assignments (pp. 94-95). Later research (Sarkisian & Maurer, 1998; Zheng, 2017) indicated that these concerns may be unfounded as undergraduates generally have responded favorably to their interaction with non-native English speaking teaching assistants. Nevertheless, both Nyquist and Wulff (1986) and Sarkisian and Maurer (1998) advocated additional support for international teaching assistants to help them adjust to not only the demands of teaching, but teaching in an unfamiliar academic environment.

Unfortunately, doctoral students may not desire to participate in mentoring programs, especially if they do not see the value of participation (Ridgway et al., 2017) or if they view the programs as interfering with their personal lives (Patel, 2017). Mena, Diefes-Cux, and Capobianco (2013) reported low participation rates when programs were not mandatory, reporting on research conducted at Purdue University where only twelve of twenty-eight doctoral students in an engineering program attended a week-long training seminar at the start of the semester, and an even lower number, eight doctoral students, attended workshops throughout the semester (pp. 196-198). Ridgway et al. (2017) reported resentment from faculty in a biology department, viewing the professional development sessions as taking away from the teaching assistants' focus on conducting research (p. 79), a perspective of research being more valuable than teaching reported in earlier research (Boyer Commission on Educating Undergraduates in the Research University, 1998; Gaia et al., 2003; (Jones, Davis, & Price, 2004; Nyquist et al., 1999). Not surprisingly, resistance to graduate teaching assistants extends beyond the college campus.

Resistance to Graduate Teaching Assistants

The use of graduate students to teach introductory level courses for undergraduate students has been controversial for years. Nyquist and Wulff (1986) reported that by 1980 an increase in enrollment at the University of Washington required graduate students to assume the role of instructor with almost 25% of all undergraduate coursework taught by graduate teaching assistants. In the *Final Report of the MLA Committee on Professional Employment* published by the Association of Departments of English in 1998, committee members reported that in the institutions the committee surveyed during the 1996-1997 academic year, graduate students "taught 63% of the first-year writing sections, part-timers 19%, and full-time non-tenure track faculty members 14%, on average" (Association of Departments of English, 1998, p. 29). According to these figures, only 4% of first-year composition courses were taught by tenured faculty members. While these figures alarm those who do not favor providing doctoral students access to teaching opportunities, it should be noted that the report does not clearly identify the number of institutions included in the survey from which the statistics were cited.

Many liberal arts institutions advertise that the majority of their undergraduate coursework, either campus-wide (Lake Erie College, 2016; McKendree University, 2016; Mount Mary College, 2016; University of Nevada, Reno, 2016), or in individual departments (Ball State University, 2016: Dartmouth College, 2016; Truman State University, 2016) are taught by faculty and not graduate students. Reasons given by institutions in the past included faculty expertise in their given fields and passion for their fields of research, in comparison to the less experience graduate students possessed. Outside the classroom, graduate students often have less than ideal access to campus facilities, such as inadequate

office space and limited access to instructional tools. This limited access affects undergraduate students directly through a lack of privacy for one-on-one meetings and less material support for the coursework taught. On the other hand, the use of graduate students to teach undergraduate classes can be very positive.

In the field of psychology, Hogan, Norcross, Cannon, and Karpjak (2007) reported that undergraduate students were more comfortable asking their teaching assistants questions about course requirements than they were their professors. McKeegan (1998) noted that undergraduate students were more comfortable asking teaching assistants for alternate explanations of course content than they were with their professors. In foreign language studies, research indicated that undergraduates were more willing to practice with teaching associates (Rodrigues-Sabater, 2005; Youngs & Green, 2001). Fingerson and Culley (2001) described the use of teaching assistants in a sociology department to diversify teaching methods. Even social interaction with teaching assistants outside the classroom could influence undergraduate opinions of courses (Fernald, Chiseri, Lawson, Scroggs, & Riddell (1975). While several of these studies investigated undergraduate teaching assistants rather than graduate teaching assistants (Fingerson & Culley, 2001; Rodrigues-Sabater, 2005; Youngs & Green, 2001), research indicates that undergraduate students benefit from pedagogical interaction with teaching assistants.

In this decade, published research further supports the position that graduate students in mentoring programs and adjunct faculty (many of whom may still be graduate students themselves) were effective in the classroom based on undergraduate subsequent academic behaviors. Figlio, Shapiro, and Soter (2015) researched the course selection choices made by undergraduate students after taking a course taught by a teaching assistant. Bettinger, Long,

and Taylor (2016) investigated the subsequent field of study selection of undergraduates after taking a course taught by a teaching assistant. While both studies had important limitations, they did identify several positive outcomes of having non-tenured instructors in undergraduate classrooms.

In the study conducted at Northwestern University between 2001 and 2008, Figlio, Shapiro, and Soter (2015) examined the course selection practices of undergraduate students rather than their course grades or overall university retention rates. The researchers stated

> A non-tenure track faculty member increases the likelihood that a student will take another class in the subject by 7.3 percentage points (9.3 percentage points when limited to classes outside the student's intended major) and increases the grade earned in that subsequent class by slightly more than one-tenth of a grade point (with a somewhat greater impact for classes outside of the intended major). (pp. 717-718)

Intriguingly, in a discussion of the same study published two years earlier, Jaschik (2013) noted, "The gains are greatest for the students with the weakest academic preparation. And the study found that the gains extended across a wide range of disciplines" (para. 3). However, the publication was potentially biased, as one of the authors of the study, Dr. Morton Shapiro, was also Northwestern's president.

Figlio, Shapiro, and Soter (2015) did state that they were not able to assess the student outcomes in the subsequent courses, calling into question the long-term influence these non-tenured instructors had. In addition, the researchers acknowledged that the study was only conducted on the campus of Northwestern University, and as such, it would be difficult to generalize the results to other institutions of higher learning. Nevertheless, the

results of this study suggested that students, after taking a course taught by a tenured professor, were less likely to take another course in the same field.

More recently, Bettinger, Long, and Taylor (2016) reported similar results in a study following freshmen students and graduate students at twelve public universities in Ohio. They reported that undergraduate students had higher performance outcomes in terms of selection of discipline to study, subsequent courses taken in the subject, and total number of credits taken. The researchers reported

> Undergraduates taught by graduate students are very likely to subsequently major in the subject: an estimated effect of 81 percentage points on major choice. The estimates for course taking behavior are complementary: 83 points more likely to take any additional courses and an average increase of 30 additional credits in the subject. (p. 73)

Beyond a positive result for undergraduates, they also reported that there were beneficial outcomes for the graduate students teaching the courses.

The researchers noted that those graduate students involved in teaching undergraduate students earned their doctorates more quickly than those who were not in the program. In an examination of the probability of completing a doctoral program within six years, they noted that the graduate students in the humanities teaching undergraduates had the highest percentage outcomes, with a two-percent increase for each course taught. Bettinger, Long, and Taylor (2106) also noted that those graduate students who were in the teaching program were more likely to be employed within six years of starting the doctoral program, with a 1.4% increase in likelihood of being employed in higher education in the state of Ohio for each course taught.

In the next section, I examine the construct of knowledge and its influence on instructor preparation.

Instructor Knowledge and Knowledge Theories

In this section, I reference the constructs of teacher knowledge (Shulman, 1986) and Technological Pedagogical Content Knowledge (Harris, Mishra, & Koehler, 2009; Koehler & Mishra, 2009; Mishra & Koehler, 2006) to situate my research in relation to the constructs of knowledge and teacher education. I start with a brief overview of the epistemological constructs of knowledge as being innately known versus knowledge that must be explicitly learned.

A Priori and A Posteriori Knowledge

A priori knowledge is knowledge that is independent of experience. An example of a priori knowledge is the statement "all balls are round." We know this to be true based on our knowledge of physics, albeit in this example largely unconscious. In other words, our existing knowledge is based on reason, belief, or an understanding of the construct under examination. Nevertheless, this does not mean that a priori knowledge is always correct; Russell (2012) noted that a priori knowledge can be potentially refuted since it was "based on reason alone, or is based solely on understanding the proposition being considered" (para. 5). Thus a priori knowledge can be disproved if new evidence is presented that contradicts it.

A posteriori knowledge is knowledge that is constructed based on experience or empirical evidence. An example of a posteriori knowledge would be children learning how to tie their shoes or ride a bicycle. Such knowledge must be learned; reason or belief alone cannot support the statement.

Teacher Knowledge

In 1890, the Iowa state superintendent of public schools, Henry Sabin, described the mental properties that teachers had to possess in order to be successful in the classroom in very different terms than those used today. He stated, "There are only four indispensable requisites [for teaching]—knowledge of subject-matter, uprightness of character, a desire to improve, and common sense" (as qtd. in Fuller, 1982, p. 167). While all four still would be seen as important, today's concept of teacher knowledge is more robustly defined.

Shulman (1986) organized teacher knowledge into three categories: *subject matter content knowledge*, *pedagogical content knowledge*, and lastly, *curricular knowledge*. He defined *subject matter content knowledge* as the deep knowledge of a subject; a teacher not only knew the concepts and principles of the subject matter, but was able to explain the rules that governed the subject matter and strategically implement those that best responded to the needs of his or her students. Shulman stated

> The teacher need not only understand that something is so; the teacher must further understand why it is so, on what grounds its warrant can be asserted, and under what circumstances our belief in its justification can be weakened and even denied (p. 9).

He maintained that teachers must also be able to sift through competing topics relating to a discipline and decide (and explain) which ones were foundational to the discipline and which ones were less relevant.

Shulman defined *pedagogical content knowledge* as the specific knowledge of a subject in order to be able to teach it. Pedagogical content knowledge includes the knowledge of numerous ways to teach a subject, the knowledge of what concepts and theories challenge the average student, and the best pedagogical approaches to responding to those challenges.

The third category, *curricular knowledge*, was defined by Shulman as the knowledge of instructional materials and programs to teach a subject, including the ability to evaluate and select alternate resources. He further distinguished curricular knowledge in spatial and temporal terminology. *Lateral curriculum knowledge* was the ability to make connections between the subject matter being taught in one course with that simultaneously being taught in another course. *Vertical curriculum knowledge* described the knowledge of what was taught the previous year and what will be taught the following year in a particular subject, and to make similar connections to the topics and issues covered in those years.

Technological Pedagogical Content Knowledge

Responding to the omnipresence of computer technology in the twenty-first century classroom, Mishra and Koehler (2006) expanded on Shulman's concepts of teacher knowledge. They organized teacher knowledge into seven categories:

- content knowledge
- pedagogical knowledge
- pedagogical content knowledge
- technological knowledge
- technological pedagogical knowledge
- technological content knowledge
- technological pedagogical content knowledge

Their constructs of content knowledge and pedagogical content knowledge are similar to those proposed by Shulman—the knowledge of the subject matter and the pedagogical knowledge to teach it. They defined *pedagogical knowledge* as the "deep knowledge about the processes and practices of teaching and learning" (Harris, Mishra, and Koehler, 2009, p. 397). Thus, the researchers viewed instructional methods to be as important as the content the methods delivered.

Technological knowledge is a broad understanding of technology leading to informed decisions on its appropriate usage in a variety of settings, including work, play, and school. Koehler and Mishra (2009) further explained that technological knowledge required the ability to "recognize when information technology can assist or impede the achievement of a goal, and to continually adapt to changes in information technology" (p. 64). Similar to Shulman's construct of curriculum knowledge, they maintained that technological knowledge required a deep understanding of information technology in the broad sense of data processing and communications. This deep understanding fostered the ability to complete tasks, and required an arsenal of technological tools to complete those tasks. As previously noted, Koehler and Mishra maintained that technological knowledge was not a static state; it would compel teachers to keep abreast of the latest trends in computer technology.

Koehler, Mishra, and Cain (2013) further qualified the continuously changing landscape of technology as requiring a lifelong commitment on the part of the instructor. They stated, "This conceptualization of TK [sic] does not posit an 'end state,' but rather sees it developmentally, as evolving over a lifetime of generative, open-ended interaction with technology" (p. 15). Moreover, they cautioned that the pace of technological development made even establishing a stable definition of technological knowledge a challenge for researchers in the field of educational technology.

Technological pedagogical knowledge is the understanding of how technology impacts teaching and learning. Harris, Koehler and Mishra (2009) used the whiteboard as an example of an educational tool that transforms the classroom. They explicated that the positioning of the whiteboard at the front of the room dictated the positioning of student desks, which impacted the interaction between teachers and students. They then compared

the use of the whiteboard in the classroom with its use in business meetings, where interaction between the participants, the whiteboard, and each other was much more freeform.

Technological content knowledge is defined as the awareness of how technology and content impact each other. Harris, Mishra, and Koehler (2009) asserted that teachers had to understand "which technologies are best suited for addressing which types of subject-matter, and how content dictates or shapes specific educational technological uses, and vice versa" (p. 400). The researchers cited as an example how the invention of hypertext transfer protocol (HTTP) had changed the way in which people interact in their daily lives.

*Technological pedagogical content knowle*dge, frequently identified by the acronym TPACK, is the synthesis of these different forms of teacher knowledge. TPACK is the intersection of these constructs (See Figure 2). Harris, Koehler, and Mishra (2009) stated

> TPACK encompasses understanding and communicating representations of concepts using technologies; pedagogical techniques that apply technologies appropriately to teach content in differentiated ways according to students' learning needs; knowledge of what makes concepts difficult or easy to learn and how technology can help redress conceptual challenges; knowledge of students' prior content-related understanding and epistemological assumptions, along with related technological expertise or lack thereof; and knowledge of how technologies can be used to build on existing understanding to help students develop new epistemologies or strengthen old ones. (p. 401)

In short, TPACK is what technologically- and pedagogically-focused teachers use to develop and deliver their curricula. Nevertheless, adopting digital technology within an educator's own discipline is not sufficient.

More recently, Kereluik, Mishra, and Koehler (2011) identified the need for educators to "subvert" technology for new purposes and make cross-disciplinary connections between content not usually envisioned together. To support their argument, the authors recounted the experience of a high school biology teacher who posted on his blog poetry written by his students about the scientific concepts that they found the most challenging. The authors

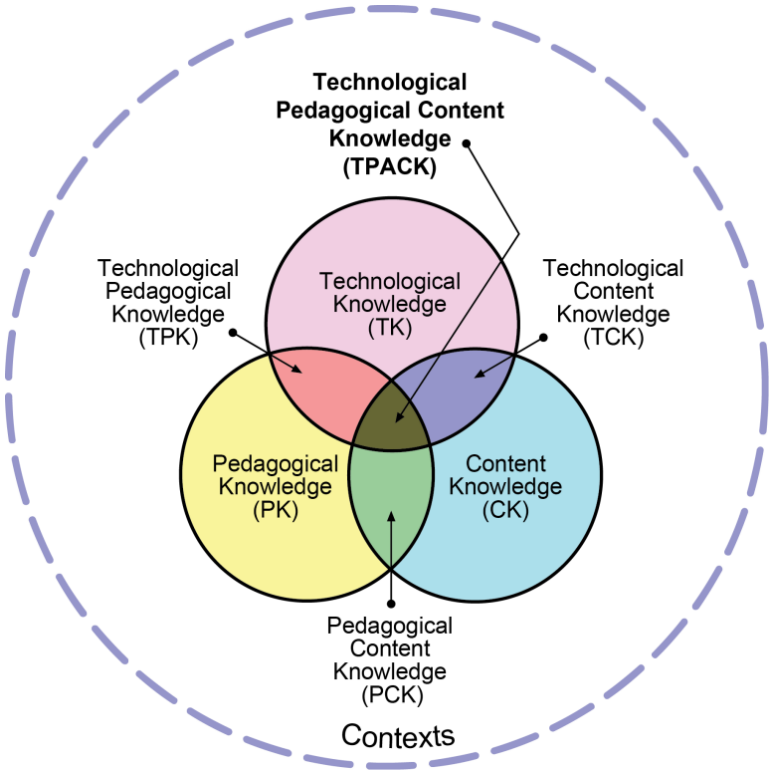


Figure 2. The TPACK Model. Reproduced by permission of the publisher, © 2012 by tpack.org.

maintained that the activity required a deep understanding of the concepts in order to subvert them in a new form and share them in a medium other than the traditional textbook.

Kereluik, Mishra, and Koehler argued that traditional classroom technology including printed textbooks, overhead projectors, and whiteboards were no longer sufficient media for pedagogy. Instead, they stated that technology, i.e. digital technology, had progressed to the point where it could be "repurposed by a competent and capable teacher, one who is skilled and confident in their technical literacy" (2011, p. 13). Noting that the repurposing of technology and the willingness to borrow ideas across disciplines were concepts not included in educator programs, the authors maintained that these skills were required to fully leverage the opportunities digital technology offered to educators today.

Over the ensuing decade since its first dissemination, the TPACK model has been adopted by teacher educators across multiple disciplines around the world (Hofer and Grandgenett, 2012; Keser, Yılmaz and Yılmaz, 2015; Koh, Chai and Tsai, 2010; Kurt, 2012; Sancar, Yanpar, and Yavuz, 2013; Schmidt et al., 2009; Semiz, 2011). While these studies focused on the preparation of K-12 teachers in disciplines such as physical education (Semiz, 2011) English (Kurt, 2012), and special education (Anderson, Griffith, & Crawford, 2017) my research focus was to examine how doctoral students teaching first-year college English courses acquired TPACK and how this acquisition influenced their professional identities.

In the following section, I include a brief discussion of technology-related theories and concepts relevant to my research.

Technology Behind the Research

This section starts with a broad view of instructional technology and then the focus narrows to examine seasoned instructor attitudes towards technology.

Instructional Technology

For many people, the term 'instructional technology' immediately conveys the use of computers in education (Earle, 2002). Yet the term predates the advent of personal computers in the mid-1980's by at least several decades. The Commission on Instructional Technology (1970) convened during the first Nixon administration defined *instructional technology* as

> a systematic way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communication, and employing a combination of human and nonhuman resources to bring about more effective instruction. (p. 27)

It is clear the Commission had taken a broader view of the use of technology in education that what the public may consider today in more narrow terms. Nevertheless, the Commission did predicate its definition by ascribing in more colloquial terms the construct to specific communications media, including movies, television programs, overhead projectors, and computers (p. 27). Moreover, the Commission noted that these resources had been adopted by educators ad hoc rather than having been leveraged en masse to their full educational potential.

Later in the same decade, the Association for Educational and Communications Technology (AECT) defined *instructional technology* as "a complex, integrated process involving people, procedures, ideas, devices, and organization, for analyzing problems, and devising, implementing, evaluating and managing solutions to those problems, in situations where learning is purposeful and controlled" (Task Force on Definition and Terminology, 1977, p. 3). Moreover, the Task Force differentiated between 'instructional technology', which the task force members defined as a subset of a larger educational concept, namely

educational technology; the latter encompassing additional resources utilized in the educational environment, but not necessarily in the instruction process itself (1977, p. 6). Again, the scope of what constituted "technology" as viewed by the task force was much broader than the general view today.

In a revised report nearly two decades later, the AECT published an updated definition of *instructional technology*, identifying it as "the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning" (Seels & Richey, 1994, p. 1). What is interesting in this newer definition is the omission of human beings from the definition. A decade later, the general view would be even more narrowly focused on the use of computers in education, as Earle (2002) stated in his explanation of the public perception of what constituted instructional technology. He noted, "The prevailing public perspective incorporates instructional technology as a synonym for computer technology. In other words, as noted above, technology means computers in the minds of many" (p. 3). The more appropriate term for this view of the use of computers in education is *computer-assisted instruction*.

Computer-Assisted Instruction

Computer-Assisted Instruction (CAI) is a general term for the use of computer technology in the education process. Defined by Seo and Bryant (2009) as "the use of a computer to provide instructional contents" (p. 914), the focus of CAI is on providing teachers with technology-based instructional tools for use in the classroom rather than focusing on the technology, as does the more general term *Information and Communication Technology* (ICT). These tools may be specifically designed for educational purposes, e.g. Blackboard or Moodle; or software and websites originally designed for business or

entertainment purposes, e.g. MS Office or iPhoto, and later adopted for pedagogical purposes (Kereluik, Mishra, & Koehler, 2011). To refine the focus of my research in terms of instructional technology, I examine faculty attitudes to integrating digital technology in the traditional classroom environment.

Resistance to Computer-Assisted Instruction

A locus of resistance to the use of technology in the classroom often comes from seasoned faculty. Unfortunately, post-graduate faculty education is an area that is commonly neglected in higher education. This can cause classroom-based CAI solutions to be burdened with instructor unfamiliarity and resistance, due to lack of training and exposure to new technologies. According to Davies (1997), the failure of computer technologies to make a significant impact on teaching and learning could often be traced back to the lack of appropriate training for teachers in making the best use of them. Unless instructors were given proper training on how to use the technology, merely supplying them with equipment was self-defeating. Furstenberg (1997) stated

> There are good reasons for our confusion and reluctance. Many of us have not been trained to use technology and many therefore feel vulnerable using it in public. It may be unfamiliar to us, and we may not have the time or may not want to take the time to learn about it. Or we may not perceive its role in the classroom. The result is that many of us just don't integrate technology into our teaching. (p. 1)

Twenty years after Davies and Furstenberg reported on problems preparing faculty to integrate digital technology in their pedagogy, distrust remains, according to Reid (2017). Some instructors remain skeptical of the most recent changes in their campus computing

based on their distrust of administrative intentions and the long-term viability of the technology often forcibly thrust on them.

However, there are many scholars of Composition Studies who promote an alternate view. For example, Journet (2007) identified the need for faculty to adopt technology in their pedagogy. Her rationale was that today's students were sophisticated users of technology and that faculty members must recognize that the construct of "writing" for students is very different from that of seasoned faculty. She explained

> I have begun to recognize that what I and my students consider 'writing' are very different phenomena. Young people today move more fluently among words, sound, and image; they report experiences with technologies I only dimly understand; and they write in genres I have never heard of. (pp. 107-108)

Similar to Kereluik, Mishra, and Koehler's (2011) assertion that educators should become "skilled and confident" in their technological literacy, Journet wrote of "reinventing herself" as a user of technology, noting that previously her use of computer technology had been limited to word processing and accessing the Internet. However, with the realization of her students' different understandings of what "writing" entailed, she has adapted herself to newer modes of expression. She explained, "Consequently, I have begun to compose in multiple modes, including sound, still, and moving images" (p. 108). She added that she had even integrated multimodal assignments in her curricula.

Wenger (1998) noted that while some seasoned members of a community of practice, i.e. a departmental faculty, may resist change within the community, others may also embrace it. In terms of instructional technology and its adoption within a department, seasoned faculty respond in different ways. While other issues may distract them from fully

investigating new instructional resources for non-pedagogical reasons, seasoned faulty may not wholly reject them. Wenger stated

> Embroiled in the politics of their community and with the confidence derived from participation in a history they know too well, they may want to invest themselves in the future not so much to continue it as to give it new wings (1998, p. 157).

Further complicating matters, new members to a community of practice may adhere to the established mores and procedures of the group in order to ground themselves within the established order (Wenger, 1998). Teaching associates and recent graduates may focus more on adapting to the status quo of the department and refrain from introducing any new pedagogical resources in an attempt to gain legitimacy within the department.

Recently, *Faculty Focus*, an online newsletter and website featuring articles focusing on traditional, online, and blended pedagogical practices in higher education published the results of its fourth annual survey of its readership. According to the survey results, almost 74% of 1628 survey respondents reported "incorporating new technology in their classes" (Bart, 2014, para. 2). While this number may seem encouraging, since this is a web-only publication, survey respondents automatically would have a bias in favor of using technology in their teaching. In contrast, almost a quarter of the respondents still reported they did not incorporate any new technology in their pedagogical practices. The report also did not include any qualification of what kinds of new technology the instructors were adopting.

The following year, a study involving 13,276 faculty members at 139 institutions of higher education in the U.S. and nine other countries (Brooks, 2015) indicated that faculty participants supported the application of digital technology in their pedagogical practices if it could be demonstrated that it would improve student learning outcomes. Faculty respondents

also indicated that training was a primary need in order to better utilize the technologies that they already had access to on their campuses. Nevertheless, the same survey also indicated that 61% of respondents were only minimally utilizing their institutions' learning management systems to post course content to facilitate student access to those documents.

Lastly, a factor to consider is student technological ability. According to Bergström (2017), faculty expectations of student experience and real student experience are in conflict. He wrote, "There is a disconnect between how students experience and interact with technology in their personal lives and how they use technology in their roles as students" (p. 23). One of the most prevalent disconnects exists in word processing skills. In Composition Studies it is common for faculty to expect undergraduate students to "know how to write"; i.e., to know how to use word processing software. Two common responses to suggestions about showing students how to complete simple tasks, such as setting margins or double-spacing text are "That's not my responsibility," and "They should know that already." Logically, if each instructor expects students to be prepared by the previous instructor, it would seem that explicit computer instruction would have to start very early in a student's educational experience.

The previous discussion of technological knowledge and teacher education demonstrates the complex situation doctoral students encounter as they professionalize in their field of study and within the university department. In the larger realm of professional organizations, the situation is just as complicated. In the next section, I examine position statements, guidelines, and reports published by national and international scholarly organizations regarding the preparation of future faculty and the impact each organization's focus has on doctoral students.

Review of Position Statements, Guidelines, and Reports

At times, it seems that we live in a confusing world of competing and conflicting standards. Complex systems arise from specific interests maintained by specialized groups. For example, in the realm of general science education, the Association for the Education of Teachers in Science (AETS), the National Association for Research in Science Teaching (NARST), the Association for Science Teacher Education (ASTE), the School Science and Mathematics Association (SSMA), and the National Academy of Sciences (NAS) all provide guidance on teacher education. Each organization fosters a niche environment for educators, based on their interests and experiences in science education. The challenge for novice instructors is deciding which organization (or organizations) best meets their professional interests.

In the field of English studies, the Modern Language Association of America (MLA), Teachers of English to Speakers of Other Languages (TESOL), and the National Council of the Teachers of English (NCTE) all focus on specialized aspects of English language literacy and instruction. Each of these organizations maintains standards and policy statements regarding student preparation, which reflect their different interests in English language instruction (i.e., MLA, English literature; TESOL, second language acquisition; and NCTE, English literacy in general). Nevertheless, none of them directly or through subsidiary organizations, such as the Council on College Composition and Communication (CCCC) or the Association of Departments of English (ADE), covers all concerned, i.e., students, teachers, teacher educators, and administrators, and only two directly focus on teacher educators (MLA and NCTE).

In this section, I examine each organization's published standards and guidelines for references to teacher educator preparation, including preparation in the use of instructional technology. In addition to these organizations focusing on facets of English studies, I also examine two additional organizations, the International Society for Technology in Education (ISTE) and National Council for Accreditation of Teacher Education (NCATE) for their focus on teacher educator preparation. See Appendix A for a synthesis matrix of the organizations and their standards and position statements.

Modern Language Association

Over the past fifteen years, the MLA has published three documents that directly relate to doctoral student preparation: the *Final Report of the MLA Committee on Professional Employment* (1998); the *MLA Ad Hoc Committee on Teaching* (2001); and the *Guidelines for Information Technology Access and Support for the Modern Languages* (2013).

Final Report of the MLA Committee on Professional Employment. The MLA Committee on Professional Employment published its final report (1998) on the employment situation in American universities in the late 1990's. The committee was convened by the Executive Council in 1996 to address the "economic, political, and cultural forces" that exacerbated an academic crisis despite the relative affluence of the American economy during that decade. The committee blamed the "failures in our academic system" (p. 28) on an overreliance on graduate students and adjunct faculty to teach introductory courses. The members explained that the problem with non-tenured faculty was their inability "to teach in the committed and expert way expected of regular faculty members" (p. 28) caused by a perceived lack of time and support at the institutional level.

The committee cited data gathered by the MLA showing staffing levels in a sample of English departments across the country for the academic year 1996-1997. They noted that in departments granting terminal degrees, on average graduate students taught 63% of the first-year composition courses, another 19% of the sections were taught by part-time instructors, and 14% were taught by full-time non-tenure-track faculty members. Thus, only 4% of the courses were taught by the preferred full-time tenured faculty members. Committee member Jane Harper, of the Tarrant County Community College, claimed that undergraduate students were being short-changed by instruction from graduate students and adjunct faculty. She further claimed that full-time faculty had to shoulder the burden of departmental committee work and university service requirements, including student advising and curriculum development. This view stated in the report ignored the fact that on many university campuses, part-time and non-tenured faculty are excluded from participation in service-related campus activities by tenured faculty themselves.

Their assessment of the situation was that there were too many graduate students in Ph.D. programs, noting that less than 50% of the graduate students who earned Ph.D.'s between 1990 and 1995 found full-time tenure-track positions within a year of earning their degrees. They blamed the post-World War II drive to publically funded higher education followed by the Cold War anxieties of the 1950's and the concomitant government pressure to increase research initiatives in universities across the country for the increase in the graduate student population. This overpopulation in graduate students created a system of over-production of "cheap labor" (p. 34) in the form of Teaching Associates and adjunct faculty.

The committee's solution to the problem was to increase the number of tenure-track faculty positions in the humanities, while reducing the number of new students admitted to graduate programs. They failed to note that allowing doctoral students and adjunct faculty (many recently graduated themselves) to teach and participate more fully in departmental responsibilities were themselves opportunities for professionalization within the field of higher education, as well as opportunities to lighten the load of their own departmental and university service responsibilities. More realistically, they did recommend that graduate coursework include an introduction to strategies for attaining employment in non-academic careers and assistance in procuring those positions.

Eighteen years after its publication, the recommendations made by the committee to increase tenure-track faculty while reducing the number of students entering post-baccalaureate programs have proven to be untenable. Institutional budgetary concerns frequently have driven departments to justify their programs' existences by the number of graduate students enrolled in them. The prestige (and monetary support) from research funding dependent on graduate student participation also frequently contradicts this committee's recommendations. For departments and graduate programs to be deemed "viable," they need a constant influx of monetary support and the students to justify it.

MLA Ad Hoc Committee on Teaching. The Executive Council of the MLA established the Ad Hoc Committee on Teaching in 1998, the same year the *Final Report of the MLA Committee on Professional Employment* was published. This committee was convened in response to the changing educational environment in the United States and Canada. The council recognized that the workforce needed to succeed in a multinational and commodity-driven economy would be one that would return periodically for retraining to

pursue second, even third careers. Based on this recognition, the committee was tasked with developing recommendations for promoting excellence in teaching across all levels of education and using all tools at the instructor's disposal.

In addition to recommendations on teaching and scholarship, working conditions, and teacher education, the committee's final report (2001) focused in part on graduate education and developed a series of recommendations to support doctoral students in their development as teacher-scholars. The committee members stated, "Graduate student education should demonstrate that teaching matters" through revisions to the programs to promote courses that would develop these students as new faculty members "in the art and science of teaching and learning" (p. 235). They also advocated courses in pedagogy to prepare students for teaching in diverse situations and to familiarize them with the American and Canadian systems of higher education.

The committee supported mentoring and opportunities for collaboration with experienced peers throughout the entire graduate experience to support their professional development. However, recognizing that a percentage of doctoral students would not pursue careers in higher education, either because of a lack of opportunity or a lack of interest, the Ad Hoc Committee recommended that "graduate programs provide early discussion of career options as well as direct assistance with the job-search process" (p. 236). The committee's final report and its recommendations complimented the concurrent Preparing Future Faculty Phase IV programs for the humanities and social sciences (1998-2002).

Refuting the published concerns of the Committee on Professional Development regarding the use of doctoral students in teaching situations, the Ad Hoc Committee on Teaching recognized the importance of doctoral students and their professional development.

Nevertheless, the committee also reiterated the primacy of research over pedagogy in scholarly activities, while acknowledging that the MLA's past focus on textual research should be diverted to topics directly related to promoting teaching excellence.

Guidelines for Information Technology Access and Support for the Modern Languages. The Committee on Information Technology recently updated (2013) its original guidelines first published in 2000. The committee recognized the important role information technology played in academia, stating that all faculty, administrative staff, and students should be adequately trained to use it. Institutions should also solicit input from faculty and students on the types of technology necessary to promote scholarship and pedagogy. The committee also recommended that departments appoint technology support staff to assist faculty and students in the adoption and mastery of information technology. This support staff should also be trained in the pedagogical and research needs of faculty and students in order to successfully support them.

The committee noted that institutions of higher education must recognize the special requirements of persons with disabilities, along with the federal regulations regulating user accessibility, when making decisions to purchase or develop technological solutions. Administrator decisions on implementing technology should take into account the impact new technological platforms have on teaching, learning, and conducting research.

Lastly, the committee identified the responsibility faculty had in remaining current with trends in information technology. The members also noted that faculty should recognize technology support staff as "vital collaborators" (para. 8). The staff were to be regarded as professionals in their fields of expertise and that their work on university campuses was a valuable contribution to the academic community.

It is important to note that the committee members made no distinction between the types of faculty (full-time, part-time, tenured, non-tenured, etc.) nor students (undergraduate, master's, doctoral) in their recommendations for the use and support of technology in higher education. This committee recognized the benefits information technology brings to all parties involved in the education process.

Teachers of English to Speakers of Other Languages

Both revised in 2006, the *PreK-12 English Language Proficiency Standards* and the *Standards for Adult Education ESL Programs* focus on students and teachers rather than the preparation of teacher educators. A third set of standards, the *Standards for ESL/EFL Teachers of Adults* (2008) focuses on what teachers should be able to do in the adult ESL/EFL classroom. As such, it indirectly relates to the preparation of teacher educators, but this preparation is not its primary goal. TESOL published two additional sets of standards, the *TESOL/NCATE Standards for P-12 ESL Teacher Education*, and the *TESOL Technology Standards Framework Document*, with the latter updated to define in more detail the organization's expectations for teacher educator programs.

TESOL/NCATE Standards for P–12 ESL Teacher Education. Updated in 2010, these standards were originally published in 2001. They were developed after TESOL became a member organization of the National Council for the Accreditation of Teacher Education (NCATE) in 1999. Similar to the *PreK-12 English Language Proficiency Standards* and the *Standards for Adult Education ESL Programs*, the joint standards focused on the expectations regarding performance of future teachers rather than on future teacher educators.

TESOL Technology Standards. Similarly, the goal of the *TESOL Technology Standards Framework Document* (Healey, Hegelheimer, Hubbard, Ioannou-Georgiou, Kessler, & Ware, 2008) was to provide educators with guidelines for better pedagogical practice, both inside and outside the classroom. The authors believed the technology standards would encourage educators to investigate and adopt computer technology in their curricula (where available), as well as demonstrate to administrators and education stakeholders the need to provide adequate support, both financial and physical, to integrate technology in education policy.

Moreover, Healey, Hegelheimer, et al. (2008) envisioned technology standards that would respond to issues of social and economic inequity in education, citing the 'digital divide' (Morrisett, as qtd. in Hoffman & Novak, 1998) that existed not only between first and third world countries, but within countries themselves, including the inequities that existed in the United States. The authors cited U.S. Census Bureau statistics from 2001 to call attention to the disparity by race and ethnicity in the access to computers and the Internet in American homes. They noted that in 2001 only 43% of black children and 37% of Hispanic children in the United States lived in computer households, compared to 77% of White non-Hispanics and 72% of Asians.

While still reporting a difference by race and ethnicity, the latest U.S. Census figures on home Internet use (2013), indicate that progress has been made since the start of the current decade (File, 2010; File & Ryan, 2014). In 2013, 66.7% of Hispanic households (up from 59.1% in 2010) and 61.3% of African-American households (up from 58.1% in 2010) reported Internet use at home, compared with 77.4% of White non-Hispanic households (up from 74.9% in 2010) and 86.6% of Asian households (up from 82.6% in 2010). It is

interesting to note that the percentage of White non-Hispanic households remained relatively static while the other three demographic groups all saw more growth. This may imply that the technological inroads in American households have reached the saturation point for White non-Hispanic households. The impact on institutions at all levels of education is that the percentage of White non-Hispanic students entering classrooms with no access to computer technology (and no familial interest in it) will remain constant, perpetuating if not an ethnic 'digital divide', then at least an economic or social one.

Lastly, and most importantly, Healey, Hegelheimer, et al. (2008) wanted to develop standards that would support the "adequate and appropriate" use of computer technology in the classroom (p. 10). They cited other research indicating that effective pedagogical uses of computer technology were mandatory for positive educational results to occur (Cuban, 2001; Parsad & Jones, 2005; Pelgrum & Plomp, 2002; Wenglinsky, 1998). Unstructured computer use or ignoring the computers in the classroom entirely were clearly undesirable approaches to technological adaptation.

The *TESOL Technology Standards*, updated in 2011, devoted an entire chapter on integrating the technology standards into teacher educator programs (Healey, Hanson-Smith, Hubbard, Ioannou-Georgiou, Kessler, & Ware, 2011). In extending the original *TESOL Technology Standards Framework Document* published in 2008 to include more detailed support on the subject of teacher preparation, Healey, Hanson-Smith, et al. (2011) incorporated Lave and Wenger's (1991) concepts of situated learning, communities of practice (Wenger, 1998), collaborative learning, and self-directed learning into their recommendations for implementing instructional technology training in teacher educator programs.

Healey, Hanson-Smith, et al. (2011) cited Hubbard (2008) as a rationale for developing the teacher technology standards, noting that "the majority of MA TESOL programs in the United States and Canada did not offer dedicated technology training courses" (Healey, Hanson-Smith, et al., 2011, p. 149). If programs did include technology-based instruction, the courses were generally late-academic career electives offered after core courses had been taken (Hubbard, 2008). The authors noted that integrating technology into teacher educator programs should be implemented after careful consideration of the long-term goals of the program. Dedicated technology courses were deemed as not being useful for transference of skills, yet distributing instruction across multiple courses could prove to be incapable of providing the depth of knowledge also needed for adapting technological skills to different educational settings.

Healey, Hanson-Smith, et al. (2011) also identified issues of acceptance within the teacher candidate students themselves. They noted that some would resist ICT instruction because of previous negative experiences, a fear of technology in general, and what the authors described as "a naïve view that technology skills and knowledge from personal use will be sufficient for language teaching" (p. 144). These candidate views are not surprising as earlier research on fielded instructors demonstrated similar negative views (Davies, 1997; Furstenberg, 1997). It can be inferred that this reluctance can be directly linked to the type of reluctance reported by Davies and Furstenberg as the instructors described by those authors would have been the teachers of today's teacher candidates.

Lastly, Healey, Hanson-Smith, et al. (2011) recognized that no formal mechanisms were in place to assess compliance with the *TESOL Technology Standards*. They did note that it would be in the best interests of both the teacher educator programs and the doctoral

students themselves to establish materials that would demonstrate comprehension and compliance to the standards. The authors recommended developing electronic portfolios of student work, clearly associating each component of the portfolio with the technology standard it reflected. They also suggested that since the standards were recent, assessment tools may be developed in the near future.

National Council of Teachers of English

The National Council of Teachers of English (NCTE) published independently two documents on teacher and teacher educator preparation, *Beliefs about Technology and the Preparation of English Teachers: Beginning the Conversation* (Swenson, Rozema, Young, McGrail, & Whitin, 2005) and *Guidelines for the Preparation of Teachers of English Language Arts* (Stover and the Standing Committee on Teacher Preparation and Certification, 2006). In partnership with the National Council for the Accreditation of Teacher Education (NCATE), NCTE published in 2012 the *Standards for Initial Preparation of Teachers of Secondary English Language Arts, Grades 7-12*. This last document did not directly address teacher educators or the preparation of teacher educations, instead focusing as the title reflected on preparing middle and secondary teachers. However, the standards did identify the mastery of instructional technology and texts in multiple formats as core requirements for effective pedagogy and professionalism.

In 1982, the Executive Committee of the Conference on College Composition and Communications approved the *CCCC Position Statement on the Preparation and Professional Development of Teachers of Writing*. While this position statement did not directly address the preparation of future teacher educators, it did address current faculty in teacher education programs. These faculty members were tasked with developing

coursework that provided first-hand experience in applying the theories and practical skills learned in their classrooms in student teaching environments and to work with state departments of education in developing teacher certification programs.

Beliefs about Technology and the Preparation of English Teachers: Beginning the Conversation. This position paper, published by Swenson et al. (2005), grew out of the Conference on English Education (CEE) Leadership and Policy Summit held that same year. While not directly focusing on the preparation of teacher educators, the authors outlined their beliefs about the use of various technologies and their effect on teacher preparation. Swenson et al. focused on the intersection of technology and education, organizing their topics under four themes

> Newer technologies v. newer literacies; the influence of newer technologies on theories informing our thinking about text, language, and literacy; composing with multimodal and multimedia technological tools; and the political, economic, and socio-cultural influences operating under the practice of new literacies with new technologies. (2005, p. 217)

In the following paragraphs each of these themes are examined for their impact on teacher educator preparation.

Newer technologies vs. newer literacies. The authors cautioned focusing on teaching the technology at the expense of teaching the content. They urged teacher educators to avoid devolving the English language arts classroom to a computer training session, as computer technology is continually advancing. Nevertheless, they acknowledged that direct instruction on the technology is frequently required to master the connected literacies and modes of inquiry. They noted, "Newer technologies have altered the space in which the study of

meaning-making and meaning-makers occur and these changes have important implications for teachers, learners, and communities" (p. 219). Unlike the MLA Committee on Information Technology (2013), Swenson et al. (2005) did not discuss the role educational facilities would have in adopting ICTs, nor did they include student preferences in the selection of technologies to be employed. Nevertheless, educational institutions were in the periphery of discussion when the authors noted that adopting newer ICTs was problematic as frequently teacher educators did not have access to the technologies and required formalized instruction in their mastery. Lack of institutional support clearly would limit adoption of new technology.

Furthermore, they advised teacher educators to consider carefully the implications integrating ICTs had on both the content to be taught as well as the knowledge acquisition experiences they afforded. Similar to maxim "the medium is the message" (McLuhan, 2003), Swenson et al. (2005) maintained that new technologies had unforeseen effects on the medium they delivered. As did Healey, Hanson-Smith, et al. (2011), they recommended that teacher educators evaluate the impact adoption would have on their pedagogical practices and their curricula prior to making any decisions regarding ICTs. Swenson et al. (2005) recognized a related and unforeseen outcome: computer technology allowed students the experience of "ubiquitous computing" (p. 220) which also created an expectation that instructors would also be available at all hours every day of the week.

The influence of newer technologies on theories informing our thinking about text, language, and literacy. Swenson et al. (2005) again reflected McLuhan (2003) stating that new technologies influenced content and required a review of existing language arts theories. They noted, "…digital texts possess characteristics that are unique to the digital medium,

challenging our ideas about what texts are and how they work" (Swenson et al., 2005, p. 220). Not only did technology alter the concept of 'text', it also changed the concept of 'reader.' While identifying K-12 and undergraduate students, the authors included graduate students (i.e. future faculty) in the audience when they maintained that English educators should include digital texts in the form of web sites, blogs, online databases, etc., in their curricula. Swenson et al. expanded on this statement, noting that English educators should model effective practices in evaluating and connecting digital and traditional texts, thus requiring the development of new literacy strategies.

Composing with multimodal and multimedia technological tools. Swenson et al. (2005) identified hypertext, hypermedia, web design, PowerPoint presentations, digital literacy portfolios, and digital video documents as forms of multimodal and multimedia technological tools. While they maintained that English educators should incorporate these forms of technology in writing courses, nevertheless they stated clearly that technology was not intended to replace the instructor.

In one of the few instances of acknowledging human-computer interaction, Swenson et al. (2005) advised educators to include instruction on "design issues, especially with regard to creating links and realizing the meaning derived from this process" (p. 224). Not only did hyperlinks and hypermedia foster new concepts of knowledge and connections, the authors maintained that the new technology resituated the traditional writing conventions of audience, purpose, genre, form and context. Furthermore, the new technologies offered broader opportunities for collaboration among both students and instructors, but between instructors themselves. Lastly, this new pedagogical environment would require teachers to revise the assessment tools used to evaluate student output.

Political, economic, and socio-cultural influences. Pre-dating Healey, Hanson-Smith, et al. (2011) by six years, Swenson et al. (2005) identified issues of disparity in access to technology, both inside and outside the classroom. They described the imbalance of technological access among races, ethnicities, and genders and the need for teacher educators to both address the disparity in the classroom and instill an awareness of the problem in their students.

Discussing student output in terms of web-enabled writing and publishing, the authors cited plagiarism, copyright and fair use, and ownership of information as issues that students must be taught. In a related topic, they maintained that students must also be taught how to evaluate effectively web sources for reliability and authority. Lastly, they identified the construct of 'netiquette' (Scheuermann & Taylor, 1997) as another topic that teacher educators should address with their students. Describing 'netiquette' as encompassing more than just polite behavior on the Internet, Swenson et al. expanded on the construct to include tolerance of diversity in language, culture, and identity.

Unlike Healey, Hanson-Smith, et al. (2011), Swenson et al. (2005) did not address modes of program assessment. Furthermore, they only referenced graduate students twice, once in their discussion of the effect new technologies would have on the concepts of text and literacy; and again when they referred to "prospective teachers" (p. 228) in their discussion of legal and ethical issues regarding access to information and technology. Although Swenson et al. (2005) did not explicitly identify doctoral students planning on teaching at the university level in their discussion of new technologies and their impact on English language arts instruction, the reader can infer from the frequent references to teacher educators that this group's audience would include post-baccalaureate students.

Guidelines for the Preparation of Teachers of English Language Arts. This manual, updated by Stover and the Standing Committee on Teacher Preparation and Certification (2006), was the fifth edition of the published guidelines (previous editions were published in 1967, 1976, 1986, and 1996). The focus of the guidelines is on English language arts (ELA) teacher education programs producing teachers at the secondary school level, rather than on future teacher educators themselves. Adopting Shulman's (1986) concepts of content knowledge and pedagogical content knowledge, the authors formulated five basic principles that fostered the development of the guidelines.

First, Stover and the Standing Committee on Teacher Preparation and Certification (2006) stated that there should be differentiated instruction for those majoring in English subject matter and those majoring in its instruction. They maintained that the study of language and the study of language teaching required curricula featuring distinct content as well as pedagogical and assessment program requirements.

Second, the authors elaborated on their statement of the distinct pedagogical requirements of ELA programs, explicating that teacher candidates must develop an in-depth understanding of English as a subject to be studied. Their rationale was so that teacher candidates were able to employ "a range of methods for analyzing and thinking about that content as well as an understanding of diverse communication processes and literacies and their interactions" (Stover and the Standing Committee on Teacher Preparation and Certification, 2006, p. 10).

Third, Stover and the Standing Committee on Teacher Preparation and Certification maintained that no single approach to teaching existed that works with all students in all situations; to be effective, teachers must have a 'tool kit' of techniques at their disposal to

meet the educational needs of their students. The authors noted that educators needed to be able to both select and defend their choices of pedagogical tools.

Fourth, Stover and the Standing Committee on Teacher Preparation and Certification maintained that teacher education programs must provide "multiple, diverse, logically sequenced, and well-supervised opportunities for ELA teacher candidates to turn theory into practice" (pp. 10-11). The authors identified the art of teaching as a complex interaction of thought, reflection, and action; moreover, instructors needed to be mentally flexible in response to the extemporaneous nature of the profession.

Lastly, teacher education programs must instill in teacher candidates "respect and enthusiasm" (p. 11) for their students, the curriculum, performance assessment, and for the art of teaching itself.

Stover and the Standing Committee on Teacher Preparation and Certification (2006) also noted that instructors in teacher education programs were responsible to ensure that their students developed an understanding of teaching as well as learning processes through an integration of various instructional technologies and audiovisual media in their curricula. In common with the goals of TESOL, the authors also specified that new teacher candidates be instructed in the learning needs and outcomes of non-native speakers of English. Their statement reflects an understanding of the realities of student populations in American high schools today.

As part of their professional development, new teacher candidates should be encouraged to develop identities as members of their communities of practice (Lave & Wenger, 1991), while fostering and supporting their professionalization through reflection and openness to opportunities for practical improvement and personal understanding.

International Society for Technology in Education

The International Society for Technology in Education (ISTE) first published standards (originally identified by the acronym NETS) for technology in education in 1998. Now known as the ISTE Standards for Students (ISTE Standards•S), Teachers (ISTE Standards•T), and Administrators (ISTE Standards•A), the standards were last updated in 2008. The standards do not directly reference teacher educators (or their preparation), but instead establish the performance indicators used to guide teachers as they design, deliver, and assess technology-based lessons. The standards are organized around the principles of student-centered learning; authentic opportunities for knowledge acquisition through current technology; collaboration with students, peers, and community stakeholders; the responsible use of technology to protect the rights of others.

The standards were clearly influenced by the concepts of instructor knowledge developed by Shulman (1986) and Mishra and Koehler (2006) and they in turn influenced the development of the *TESOL Technology Standards Framework* (Healey, Hegelheimer, et al., 2008). Similar to the NCTE position paper *Beliefs about Technology and the Preparation of English Teachers: Beginning the Conversation* (Swenson et al., 2005), the ISTE Standards•T included references to the social and legal issues teachers faced when implementing ICTs in the classroom. The standards identified plagiarism, copyright, and online safety as fundamental topics teachers should cover when promoting the concept of 'digital citizenship' with students. The teacher standards also highlighted disparity in access to technology, and differences in social customs and expectations in a digital environment.

Human-Computer Interaction and the Standards

As demonstrated in the preceding pages, while some organizations provide support for teacher educators, the majority do not provide direct guidance for developing the teacher educators themselves. Furthermore, as these policy statements and guidelines provide high-level support to educators, the majority of them do not discuss aspects of human-computer interaction and the changes to the instructor-student dynamic established in the classroom. This interaction transforms the environment of human-computer-human interaction. This environment, where traditionally the instructor was in a position of power, is modified when the instructor adopts instructional technology, especially in the form of a learning management system.

The *TESOL Teacher Technology Standards* identified the use of technology in class preparation, record keeping, and student assessment. "Language teachers use electronic methods, as appropriate, for formative and summative assessment" (Healey, Hanson-Smith, et al., 2011, p. 261). Learning management systems (LMS), such as Moodle, Blackboard, and Desire2Learn (D2L), include a grading module for instructors to manage student assessment. Depending on the instructor, and the instructor's knowledge of the LMS, the grading module can be configured so that students are able to track their progress throughout the academic year (or semester). Overall course grades can be recalculated on a daily basis, depending on the grading scheme implemented by the instructor.

Similar to the concern that Swenson et al. (2005) voiced regarding around-the-clock accessibility of instructors, the impact on instructor-student interaction is that students are able to immediately see their grades, and question each of them. In the past, the instructor could admonish students to maintain their own records, thus deflecting questions about

specific grades. With the implementation of the grading module, the dynamic of the exchange is shifted back towards the instructor.

Another situation created by immediate access to grades for both courses and individual assignments is that students can become disheartened by their interim grade statuses, "give up", and withdraw from the course, either officially or unofficially. The impact these student reactions, either questioning or abandoning participation, potentially influences the instructor's sense of identity as an effective professional.

The around-the-clock accessibility of information via the Internet is viewed as both a boon and a bane to society. While the Internet may be a relatively recent innovation, scholars have questioned the influence of technology on human thought processes for far longer.

Concerns about the Influence of Technology on Learning and Research

Some have seen the development of digital technology over the past quarter century as a positive influence on knowledge and comprehension (Kern, 2006; Chun, Kern, & Smith, 2016); however, others have argued that in the process, this technology has changed us (Carr, 2010; McLuhan, 2003; Newport, 2016). In an examination of the influence of technology on writing, Chun et al. (2016) noted that technology had given "new power to language not only by expanding the possibilities of human expression but also by providing a means for knowledge to be recorded and accumulated" (p. 65). In contrast, Carr (2010) and Newport (2016) described the impact digital technology has had on the processing of information by the human brain.

Approaching the construct from opposite sides, Carr described how the Internet and social media were promoting "shallow thinking" while Newport described the importance of being able to maintain intense focus for long periods of time, what he called "deep work" (p.

3), and how e-mail, instant messaging, and social media were deemphasizing this skill in today's workforce. Identifying the change he noted in his ability to concentrate on long texts, Carr stated

> What the Net seems to be doing is chipping away my capacity for concentration and contemplation. Whether I'm online or not, my mind now expects to take in information the way the Net distributes it: in a swiftly moving stream of particles. Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski. (pp. 6-7)

Maintaining that the human brain was being returned to its prehistoric hunter-gatherer focus, Carr questioned whether or not the change was for the better and reflected on the influence other human innovations have had thought throughout history, including maps, the typewriter, and the clock.

Sharing a concern about the impact the Internet was having on reading with developmental psychologist Maryanne Wolf, author of *Proust and the Squid: The Story and Science of the Reading Brain*, whom Carr also quoted, Newton described how the Internet was changing the way people read. What Wolf (2007) described as "deep reading," Newton (2016) defined as "deep work." Citing examples of "deep workers" including author Mark Twain, filmmaker Woody Allen, and Microsoft CEO Bill Gates as examples of influential figures who eschewed the latest technology in order to focus their intellects, Newport explained

> The ubiquity of deep work among influential individuals is important to emphasize because it stands in sharp contrast to the behavior of most modern knowledge workers—a group that's rapidly forgetting the value of going deep. (p. 5)

Newton's description of the cognitive demands the Internet makes on the human brain, its saturation of information at the expense of deep reflection is not without precedent. The political scientist Herbert Simon predates Newton by over forty years. In his explanation of the effect of an "information-rich world" had on society, Simon stated

> In an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it. (1971, pp. 40-41)

Similarly, Carr described the effect the Internet had on his attention span, stating, "The linear mind is being pushed aside by a new kind of mind that wants and needs to take in and dole out information in short, disjointed, often overlapping bursts—the faster, the better" (p. 10). Recognizing the concern that innovation has changed how human beings think is not a recent phenomenon. It is tempting to compare the concerns of Carr and Newport regarding the changes to human interaction with information to Plato's complaints about the written word. In *Phaedrus*, the philosopher Socrates complained

> For your invention will produce forgetfulness in the souls of those who have learned it, through lack of practice at using their memory, as through reliance on writing they are reminded from outside by alien marks, not from inside, themselves by themselves: you have discovered an elixir not of memory but of reminding. To your students you give an appearance of wisdom, not the reality of it; having heard much, in the absence of teaching, they will appear to know much when for the most party they know

> nothing, and they will be difficult to get along with, because they have acquired the appearance of wisdom instead of wisdom itself. (Rowe, trans., 1988, p. 123)

Clearly, Chun et al. (2016) did not share Plato's satirical attitude as they provided a balanced perspective on the effect technology has had on the language human beings have used to define the social, emotional, and physical needs in their shared societies.

Other writers have taken an even more positive view of the effect of digital technology and human interaction. In an analysis of the online writing habits of adolescents, Crystal (2011) argued that teens were writing more today than in the past, thanks to social media such as Twitter. He also noted that the feared use of abbreviations in text messages demonstrated that adolescents knew the conventions of English spelling and that they had a sophisticated sense of both purpose and audience in their texting.

While the argument exists that writing online may increase output, research continues to indicate reading online is cognitively less effective and physically more taxing than reading on paper (Jabr, 2013). One reason given is the lack of physical organization of the reading material itself. According to research published from the 1970's (Rothkopf, 1971) through this century (Li, Chen, & Yang, 2013; Payne & Reader, 2006), readers mentally "map" the organization of a reading, being able to recall the location of text on page in a section of the publication. This ability is lost when text is presented and read online since there are no "pages" organized spatially on a computer or media reading device.

Some have argued that research in higher education itself has been affected negatively by the advent of digital technology. They maintain that digital technology, in the form of the databases of scholarly publications, has had an effect on the breadth and depth of information included in academic research. Evans (2008) researched 34 million journal

articles with citations dating from 1945 to 2015 and made available online between 1998 and 2005. Contrary to his expectation that as publishers loaded back issues of journals in online databases, the articles published in the older editions of the journals would be cited more readily, thus diversifying research opinion and broadening scholarly discussion. Instead, the data indicated that as the back catalogues of journals were posted online, scholars gravitated to newer publications, cited fewer articles, and those articles were concentrated in fewer journals. He stated, "Searching online is more efficient and following hyperlinks quickly puts researchers in touch with prevailing opinion, but this may accelerate consensus and narrow the range of findings and ideas built upon" (p. 395). Therefore, instead of broadening opinion, the databases encouraged a narrowing of research focus and subsequently, according to Evans, a narrowing of ideas based on this research.

A related factor limiting access to research is the prevalence of publisher paywalls. For decades, students in higher education have complained about the access fees academic publishers charge for journal articles. Frequently expected to pay $30.00 per article or more, students have been forced to rely on their institutional libraries' subscriptions to cover the annual paywall costs or to search for copies using alternate (and sometimes illegal) venues. With approximately 55% of publishing revenue generated in the U.S., the academic publishing industry generated $25.2 billion in revenue in 2013, according to Wade and Mabe (2015), and $10 billion was earned from English-languages journals alone. Moreover, Research Libraries UK reported in 2011 that "between 1986 and 2000, journal prices rose by almost four times the level of CPI inflation, and more than three times the level of inflation in book prices, with price increases outstripping the consumer price index inflation" (para. 3). Because of these increases, universities in the U. S. and U. K. have resorted to hard

negotiations with publishers (Curry, 2017; Earney, 2016; Wade & Mabe, 2015) to lower the subscription rates for top journals, using the threat of locating articles by other sources as one of their bargaining strategies.

In response to the high subscription fees for both individuals and institutions, one of these threats, open access publishing, has been growing steadily in popularity, both through legitimate and controversial methods. The Public Library of Science (PLOS) offers researchers a number of open access electronic journals with relatively low publishing rates, a peer review process based on soundness of research rather than relevance, and a broad range of disciplinary subjects (Wade & Mabe, 2015, pg. 11). As of 2016, PLOS reported over 27,000 articles published, over 12 million monthly article views, and over 2 million monthly article downloads (Public Library of Science, 2016). More controversial, the site Sci-Hub (http://sci-hub.io), based out of Kazakhstan, has republished over 81 million academic papers and journal articles effectively bypassing the original publishers' paywall measures (McKenzie, 2017). While organizations such as the American Chemical Society and publishers including Elsevier have taken legal action to thwart it, others believe it will be impossible to shut Sci-Hub down, especially since the site is so popular.

According to Bohannon (2016), users around the world accessed 28 million documents through Sci-Hub over the six months prior to March 2016. While Elsevier successfully sued for copyright infringement in the U. S., it is unlikely the company will recuperate any of the $15 million award as Sci-Hub's founder, Alexandra Elbakyan, resides outside the U. S. and maintains no assets in the country (Schiermeier, 2017). It is not surprising that Elbakyan was a graduate student when she started the database in 2011. Her

frustration with publisher paywalls was not unique; however, it remains to be seen what the industry response to her frustration will be in the long term.

Conclusion

In a review of scholarly organization standards, guidelines, and statements of principles, it is apparent that knowledge of digital technology is inconsistently defined and expected. Scholarly organizations have erratically responded to the development of digital technology over the past twenty years, with some organizations such as TESOL the MLA having authored specific standards relating to pedagogy and teacher preparation. Few of the organizations have focused on the preparation of those who prepare future teachers to use digital technology themselves. In another realm notably affected by developments in digital technology, academic publishing has been transformed into a significant source of revenue for the organizations managing the production and access to scholarly research. As a result, a backlash in the form of open access publishing and alternative hosting of published materials represents a challenge for both academia as a whole and especially for doctoral students wishing to safely and legally consume scholarly research.

In the next chapter, I describe the methods used to conduct research and protect those individuals participating in the research.

CHAPTER THREE

METHODOLOGY

"There is more than one kind of education necessary to make a good teacher. They are born, not altogether made."

~ County School Superintendent, Burt County, Nebraska, 1872 (as qtd. in Fuller, 1982, p. 157)

Introduction

In this chapter, I describe the methods I used in my research, the physical and virtual contexts in which the study was conducted, a general description of the population I invited as participants, the types of data examined, and the procedures used for gathering and analyzing the data. To situate myself in the research, I start with a brief description of my own experiences and how they have informed my life, both personally and professionally.

In keeping with the tenet that in qualitative research, the researcher is an integral part of the study he or she conducts (Marshall & Rossman, 2011), I introduce my rationale for using qualitative research methodology in a brief description of the transformation of my views on qualitative research over the past eight years, followed by a description of the organization of the study. I then describe precautions and measures taken to protect the study participants as well as the procedures implemented to respond to concerns of research credibility, dependability, confirmability, and transferability.

Review of the Research Questions

Before launching into the biographical and contextual descriptions that formed the basis of my research, it is important to revisit the questions I hoped to answer through my research. The three questions I hoped to answer were:

1. What were the Teaching Associates' views of the influence of digital technology on their pedagogical practices?
2. What were the Teaching Associates' views of the influence of digital technology on their research practices?
3. What were the Teaching Associates' views of the influence of digital technology in their respective disciplines?

While these questions may seem relatively straightforward, the responses I gathered in actively conducting research with my participants revealed a situation even more intriguing than I could have imagined.

Contextualization of the Study

Marshall and Rossman (2011) stated that a qualitative researcher was "sensitive to his personal biography and how it shapes the study" (p. 3). Moreover, van Manen (1990) described how personal experience informed research design. He wrote, "To be aware of the structure of one's own experience of a phenomenon may provide the researcher with clues for orienting oneself to the phenomenon and thus to all the other stages of phenomenological research" (p. 57). With that in mind, I start the contextualization of my research with a brief personal biography.

Personal Biography

In response to my research interests and my life experience, I share my biography organized with a focus on four aspects of my personal identity (Hecht, 1993; Norton, 2000): writer, second language learner, computer software designer, and qualitative researcher.

My adolescent identity as a "good writer." I wrote my first essay in the third grade. I was enrolled in the school district's "Enrichment Program" which was an accelerated

program for students in elementary and middle schools. Siamese cats were the topic of this first essay; I wrote three pages in large cursive letters. Today, it would probably only be a half-page long if written on a computer. However, since this was in the 1970's, computers were not present in classrooms, let alone in schools. Looking back on it now, I smile as I think of the essay cover I designed, featuring my own drawing of a Siamese cat. Little did I know that I was already demonstrating multimodal composition at the age of eight.

In high school, I was labeled a "good writer" by my teachers. Completing writing assignments came easily to me; perhaps too easily—I often waited until the night before an assignment was due to begin writing. I took both composition and creative writing courses, with the former being devoted to the "serious" writing that would be expected of me when I started college; the latter being viewed by some teachers as frivolous and "artsy." Oddly, I enjoyed the composition class more, as I became aware of the genre-specific rhetorical and organizational standards used in academic writing. In the creative writing course, I frequently clashed with the teacher, being "too creative" and not writing within the confines of the assignment. My argument was, "It's supposed to be creative!"

When I started college at what was then Millersville State College in the early 1980's, English composition was a course that all freshmen were required to take. I thought I should be exempted since I had good grades from my high school courses. Standing at the head of the line in the gymnasium (this was long before computerized registration—courses were assigned by queuing up and receiving punch cards), I questioned the upperclassman in charge on why I needed to take it. His response was, "Because you're a freshman and this is your punishment." At the time, I thought the student was being flippant, but I came to realize that

this was the general attitude toward the class. Faculty seemed to hate teaching it and students definitely hated taking it.

My identification as a "good writer" by my high school teachers was part of a larger designation of "good student," which meant I had more leeway with my behavior and attitude that those adolescents who were identified as not being good students.[7] As a freshman at Millersville, my social status in the campus hierarchy was assigned by upperclassmen and faculty. I had little social or academic power that first year and was frequently reminded of it. My solution to increase my social standing within the student population was to lie and tell other students (usually at parties with a beer in my hand) that I was a sophomore transfer student from Penn State. This generally was successful (at least for a while) since my roommate was a senior exchange student from Germany and it was unusual for freshmen to room with upperclassmen.

Despite my frustrations and bruised ego, I am truly glad that I was not born earlier in the 20th century; first-year students attending universities were made to wear clothing that identified them as freshmen and were open to institutionalized hazing. Nevertheless, my choice of major, French, was not considered "cool" at the time; second language studies were viewed by many, including members of my family, as being "un-American." As I would come to understand, nationality and international politics would impact my experiences in second language acquisition.

[7] While scholars including Epps (1995) and Berard (2005) describe teacher-assigned student identities as issues of race, class, and gender, in my case the situation was familial. Only one African American family resided in the school district in the 1970's and the median household income was well below the state level. Males were generally considered to be less interested in academics than females. I was lucky; my older brother was a constant disciplinary problem for both the high school administration and my parents. In comparison, I could do no wrong.

Too good to be "américain." As a second language learner, I studied languages in a number of educational environments in the United States and abroad. My undergraduate career as a French major was spent in foreign language classrooms, participating in social organizations (French club and foreign language club), and watching French films and television shows. During my sophomore year, I worked in the foreign language department's language laboratory and had my first experience using technology to acquire another language.

During my junior year abroad in France, I benefited from being forced to navigate daily life in an immersive environment. While this was ultimately an opportunity for me to mature and gain confidence as a human being, i.e., my identity and my interaction with the world around me, the experiences of face-to-face interaction with native French speakers were not always agreeable. As this was during the Reagan administration, the United States was not popular in France, and Americans were frequently verbally and sometimes physically harassed. My political identity as an American exposed me to prejudice and discrimination. I remember one cold winter night as I walked back to my apartment, a car approached me from behind. As the car passed, the occupants threw a bucket of water on me and yelled, "*Amerloque, vas te faire foutre!*" [American pig, go fuck yourself!]. I was left angry and frustrated, not to mention cold and wet, with a twenty-minute walk in front of me to stew on my mistreatment.

Other incidents occurred, mainly where people spoke freely in front of me, not realizing I understood what they were saying about me. At first I was angered, but over time I began to realize that I held the power in such situations, as I understood what they were saying (and could elect to respond in convincingly good French), whereas they did not speak

English. This ability to choose to be an "insider" bolstered my confidence and my identity as a second language learner. Near the end of my sojourn in France, the response was typically, "*Mais vous ne pouvez pas être américain, vous parlez français trop bien!*" [But you can't be American, you speak French too well!] I looked American, but I could not be because I sounded too good. Most amusingly, I was told I had to be Danish because of my height and hair color—but never German—that was even worse than being American.

In a perverse way, as an American of German descent, I was denied my national identity and my ethnic heritage *because* I was able to speak French. Yet in terms of my situational and social identities, I was still an outsider as I clearly *was not* French. On the other hand, I did not socialize with other American exchange students; I was somewhere in between, never quite belonging to any one linguistic community. While others use the terms *marginalization* and *disenfranchisement* to describe my social identity, in time I came to see my situation in a favorable light. I was able to move between different social groups, different communities. This became empowering for me.

The experiences and attitudes that I encountered in France profoundly shaped my identity and my view of the world. However, as this was before the advent of the Internet and the World Wide Web, my exposure to technology had been extremely limited. That would change after I finished my undergraduate degree.

The well-dressed "programmatore." Computers came into my life when I worked for first Ford Motor Company and then the Italian multinational company Fiat S.p.a. during the 1990's and into the first decade of the new century. Thanks to my degree, Ford hired me to work in a call center answering computer support questions and helping dealership

employees place orders. While I spoke French, I knew nothing about computers. To make matters worse, I very quickly learned how little I knew of the Quebecois dialect.

On my third day of work, I had to speak with an irate business owner who spoke no English, and I could not understand a word of what he said. Technology exposed me; I could not hide behind the pages of a book, pause the audio tape, or turn and walk away. If it had been a different environment, one where I felt confident, I believe it would not have been such an unnerving experience. But in this foreign realm of computers and telecommunications, I was out of my element, exposed and at a loss for the means to respond. While it did not threaten my job, this raw experience unsettled me and stripped me of my identity as a proficient speaker of French. Over time, I learned both Quebecois and computer technology and constructed another identity for myself, that of a multi-lingual professional in the field of information technology.

In the mid-1990's, I started my career at Fiat as a project manager working on a project to electronically deliver assembly diagrams and technical information to the company's global distribution network. Over time as my responsibilities grew, I became increasingly involved with overseas coworkers where my abilities to speak French and Spanish were an asset. I also enrolled in the free Italian lessons the company offered to employees, which were held in a traditional classroom format on the corporate campus. I established relationships with people whom initially I did not meet in person. Even after I began to travel to the company's offices in Italy, our interaction was often conducted online, and our mutual language learning (English and Italian) transpired through e-mails and transmitted documents as much as through verbal communication.

Once more, the construct of identity, this time in terms of a professional identity, emerged. Part of my responsibilities in software development was to provide training on the software I designed. On my first trip to Italy, I was introduced to the employees as *"il programmatore americano"* [the American programmer]. After three days of classroom instruction at the company's manufacturing and research facilities in Modena, Italy, my students' assessment of my skills as an instructor, a coworker—and most likely as a human being—were encapsulated in one sentence: *"Ma lui, si veste bene per un americano."* [Okay, he dresses well for an American.] Once again, I was the outsider, trying to gain entry to the community of practice. This time, however, while I was on the periphery in terms of legitimate participation (Lave & Wenger, 1991), I was still empowered through my position in the company.

What became increasingly apparent to me was the power and immediacy that electronic communication had acquired, and acquired quickly. I recall one instance when my supervisor wrote an e-mail to our colleagues in Italy and misspelled a word, wanting to "clearify" an issue that had occurred. Within days, unrelated e-mails were sent from numerous Italian employees, all using the "new" word. Watching this mistake spread was like watching a cold or flu travel through the office. I have never forgotten that incident, nor my efforts to rectify it diplomatically with my Italian peers.

I am a "qualitative bricoleur." My most recent identity, as a qualitative researcher, is a construct of the sum of my previous academic and professional identities. These identities, as I present myself to others, as I move in and out of specialized groups, and ultimately my status in power relationships, influence my research methodology.

Complementing Marshall and Rossman's (2011) assertion that a qualitative research study was “emergent and evolving” (p. 2), Denzin and Lincoln (2005) defined the qualitative researcher as a *bricoleur*, a French term literally meaning a “handyman” or “Jack of all trades” (p. 4). The qualitative researcher, they maintained, borrows freely from research tools and theories readily available throughout the course of the study. “If the researcher needs to invent, or piece together, new tools or techniques, he or she will do so” (p. 4). Marshall and Rossman (2011) described qualitative research as typically “enacted in naturalistic settings; draws on multiple methods that respect the humanity of the participants in the study; focuses on context; emergent and evolving; and is fundamentally interpretive” (p. 2). The qualitative researcher must be flexible during the investigative journey his or her participants chart to be followed and be ready to respond accordingly to these possibly unforeseen research trajectories. Thus, I see myself as a qualitative bricoleur, as I have used my own experiences and praxial knowledge gleaned from outside the domain of teacher education studies to guide my research design.

Rationale for Conducting Research

A common assertion made by seasoned faculty is that they are not responsible for ensuring that their students can effectively use computer technology in pursuit of their degrees. Such faculty often expect students, whether they are pursuing a Bachelor’s or terminal degree, already to possess the skills necessary to be academically successful. Today those skills include desktop publishing, conducting research using electronic sources, and even abilities as mundane (and taken for granted by many faculty) as possessing typing skills. Yet many students have never been taught how to type, let alone to perform more sophisticated activities involving computers and the Internet. This situation can leave

students “stranded” between what they are expected to know and what they can actually accomplish on their own.

The recent graduate I described in Chapter One is an example of the “stranded” student: unable to effectively type, but expected to write a dissertation; familiar with the traditional university library, but unable to efficiently navigate the library’s databases to identify and integrate sources; and comfortable to teach a classroom of undergraduate composition students, yet unable to create a PowerPoint presentation for them. For this student, her doctoral career was buffeted by technological work-arounds and favors from peers. In the end, she “un-stranded” herself by paying someone else to type and format her dissertation.

Rationale for Conducting Qualitative Research

I decided to conduct qualitative research because I felt that quantitative methods would not gather the type of data I sought. Furthermore, if I wished to position myself within my research, through personal narratives, that information could not be gleaned from an online survey. Clandinin and Connelly (2000) stated that in qualitative research, the researcher was inseparable from the study itself. Therefore, to ground the examination of the results, I needed to include my own experience in addition to the experiences of my participants.

To be honest, before I started graduate studies, I was a strong proponent of quantitative research methodologies. Raised on a lifetime of *National Geographic* magazines, physical sciences and the methods to investigate their phenomena seemed more accessible to me. The social sciences, with their concomitant qualitative methods of research, I found “mushy.” I could not accept the rationale that quantitative methods were dangerous,

if not impossible, to use in a social or psychological investigation. Of course, having spent nearly twenty years in information technology and marketing may have also informed my desire for the "firm" data found in computer code, the supposedly tangible data gathered through research marketing surveys. Alternately, I saw first-hand how quantitative measurements could be manipulated by coworkers for a variety of spurious reasons. As a result, I knew well the limitations of quantitative research; what I needed to learn were the potentialities of qualitative research.

Since starting graduate studies my opinion has changed, thanks to my exposure to qualitative research studies. I have learned that numeric data and qualitative research are not mutually exclusive. More importantly, I have come to realize that the questions that often intrigue me the most are the ones that quantitative research methods cannot easily answer. Nevertheless, I need a means to solicit participation from a cohort of peers at physical study site. A web-enabled survey gave me a means to interact with the potential participants in an anonymous environment, albeit that the initial data gathered was by quantitative means. Thus, a quantitative tool, the web-enabled survey, supported my selection of qualitative methods as I used it to identify participants for the in-depth interviews.

Organization of the Study

In the following sections, I first describe the life changes that affected the organization of the qualitative study. I reiterate the epistemological paradigm that served as the research framework. I identify the research methodology that guided the methods adopted to gather data and the procedures I used to ensure the protection of study participants. I describe the process and tools used to examine the data gathered through the interviews and

the challenges I encountered in during this step in my research. Lastly, I outline the procedures for credibility and trustworthiness I followed throughout the course of the study.

The Best Laid Plans

After successfully defending the first three chapters of this dissertation in June 2014, I planned to continue teaching two days per week in a university-based intensive English language program and four days per week at Saint Vincent College in Latrobe, Pennsylvania. At both institutions, I would teach academic English to English language learning students; some would be undergraduate students, others would be seminarians. I intended to conduct research throughout the 2014-2015 academic year through an initial survey to gather quantitative data as well as solicit interview participants for the subsequent qualitative portion of the study. I envisioned interviewing the participants several times throughout the semester, culminating in at least one group interview. In addition to the on-campus research, I planned to send out surveys to the members of NCTE, TESOL, and the MLA to gather recent graduates' opinions. Reflecting on my plans two years later, I realize the scope I envisioned was broader than I could have achieved in the timeframe that I had originally allowed myself.

While I was preparing for the three-chapter defense during the 2013-2014 academic year, I reviewed employment postings on such sites as CareerBuilder (www.careerbuilder.com), HigherEdJobs (www.higheredjobs.com), Monster (www.monster.com), and Vitae (chroniclevitae.com). From time to time, as I reviewed the employment postings, if I felt my skill set and experience matched the requirements, I applied for the position. On May 16, 2014, a recent graduate from the Literary Criticism program at PCU forwarded me a job posting for a newly created position as a director in a

small liberal arts college in eastern Maryland. Two days later, I submitted my cover letter, curriculum vitae, and reference list to the Provost's office of the college. To my surprise, on June 2, 2014, I received an e-mail from the Associate Provost for Student Services notifying me that I had been selected as part of the first round of candidates for the position. The next step was to participate in a committee phone interview, which turned out to be a frustrating—but fruitful—experience. Initially, the process moved swiftly (relative to academia), with the phone interview firmly scheduled on June 16, 2014.

On that day I was proctoring incoming freshman English placement exams and had to step out of the session (an undergraduate student was also present during each session) to take the call. Unfortunately, the committee's speakerphone was not functioning and they used the Associate Provost's cell phone in its place. As a result, I could hardly hear some of the committee members and the sound frequently cut out; resulting in me articulating answers to questions I was not sure I heard correctly. When the interview concluded, I fully expected to be removed from consideration for the position. Much to my delight, I was selected to visit campus on July 2, 2014, and to interview with the committee and key stakeholders in the academic community.

After the campus interviews, the process slowed due to faculty ten-month contracts and administrators' scheduled vacations. I waited a nerve-wracking five weeks for an outcome, periodically e-mailing the Associate Provost for an update on the candidate search. Finally, on August 7, 2014, she called my cell phone and offered me the position. I accepted the offer of employment the following day, leaving me with seventeen days to relocate and change my life entirely. Of course, this relocation dictated a dramatic change to my research

plans, which I describe in the following sections after first reviewing the research paradigm and theoretical framework I selected for my study.

Research Paradigm

As previously described, I adopted social constructivism as the epistemological paradigm in which to ground my research. Knowledge is not only constructed within the individual, it is also socially constructed through interaction with peers and mentors (Ackermann, 2004). According to this theory, knowledge is not a transferable commodity that can be passed from teacher to student. This construct fosters cooperation and collaboration in communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) that are created in numerous social situations, including environments as diverse as the workplace and in classrooms.

Site and Population

This qualitative study was conducted during the academic year 2014-2015 physically through one-on-one interviews on the campus of Pennsylvania Commonwealth University, digitally through a second round of interviews via the video and audio service called Skype, and through document analysis conducted on materials submitted by the interview participants.

According to statistics reported in the university's 2014-2015 Common Data Set (Kitas, 2015), there were 2,239 full- and part-time students enrolled in graduate programs at PCU. That same academic year, the university's College of Humanities and Social Sciences reported an enrollment of 515 graduate students, with the largest number, 320 students, enrolled in the Department of English's graduate programs (Asamoah, 2015).

As is common practice in many research-oriented public universities in the U.S., and also in keeping with its historical roots as a teachers' college, PCU employed thirty-nine doctoral students from the Writing & Language and Literary Criticism programs during the academic year 2014-2015. These doctoral candidates, having completed the required two years of coursework, were employed as Teaching Associates in PCU's required English courses for undergraduate students. The students were mentored in Teaching Associate programs respective of their doctoral programs and met biweekly to reflect on their experiences in the classroom. This study followed a self-selected sample of ten of the Teaching Associates assigned to all three writing classes. These doctoral students were juggling the demands of providing classroom instruction as well as conducting their own dissertation research.

Based on cross disciplinary research on the effectiveness of teaching assistants in undergraduate student classrooms (See Chapter Two), and PCU's historical tradition as a site of pedagogical preparation for both undergraduates and graduate students, I feel confident that the past, present, and future Teaching Associates—and the Teaching Associate Mentoring Program in general—are effective in preparing the undergraduate students they serve as well as preparing the doctoral candidates to teach.

In the fall of 2014, PCU reported 12,130 undergraduate students, with 3,763 first-year matriculating students (Kitas, 2015). These students were enrolled in several required English courses during their first two years. These courses were *ENGL 101: English Composition I*, a first-year composition course entitled 'College Writing' before academic year 2012-2013; *ENGL 202: English Composition II*, entitled 'Research Writing' before academic year 2012-2013; and *ENGL 121: Humanities Literature*, a survey of literature

course. To accommodate the large number of students, a large number of sections of the required courses must be scheduled each semester. For example, as of July 4, 2016, forty-three sections of English Composition I, twenty-seven sections of English Composition II, and fifteen sections of Humanities Literature are scheduled on main campus in the university's course registration system for the Fall 2016 semester (Registrar's Office, 2016). Class sizes are capped at from eighteen to twenty-two students in the composition courses, twenty-eight students in the introduction to research writing courses, and forty-five students in the humanities literature courses.

In the next section, I review the methodology I selected and my reasons for arriving at the decision.

Methodology

As noted in my biography, I had little exposure to qualitative research prior to starting my graduate career in 2006. My a posteriori knowledge of research was that of quantitative research, based on years of exposure to coursework in natural sciences and research conducted during my career as a software developer. Upon entering the doctoral program at PCU, I entered the program's community of practice, where qualitative research was embraced by the faculty in the program. While following the coursework, I learned more about qualitative research and different methodologies frequently adopted by researchers.

When it came time to establish the basis of my research, I examined several genres that I thought could inform my research methodology and ultimately I settled on qualitative research through interviews. For my participants, they could recount their experiences in the form of stories. Pagnucci (2004) stated that storytelling appeared to be part of what made us human, noting "the drive to narrate experience is, if not instinctive, then at the very least

quintessentially human" (p. 49). Most importantly, qualitative research afforded me the opportunity to include my personal narrative in the research.

Data Collection Methods

The methods used to collect data followed three investigative paths: the first involving an anonymous e-mail to solicit participation from the pool of Teaching Associates regarding their views and experiences related to digital technology and teaching in what was originally envisioned to be a series of interviews scheduled throughout the 2014-2015 academic year. Lastly, a requirement for participation in the interviews was a willingness to submit the Teaching Associate application materials for examination in comparison with the interview responses and general survey results.

E-mail invitation. Those doctoral students participating in the 2014-2015 Teaching Associate Mentoring Program were solicited to participate via e-mail. The anonymous e-mail was transmitted by Qualtrics through the university's e-mail system to thirty-six recipients[8] in the Teaching Associate Mentor programs on October 13, 2014. Their e-mail addresses were included in a full department list distributed by the English Department main office to the faculty at large at the start of the academic year. The panel feature in Qualtrics was used to assure the anonymity of the recipients and maintain their responses to the invitation to participate in the study. To further ensure the anonymity of the respondents, only their four-letter e-mail addresses were used, rather than the e-mail addresses derived from their names.[9]

[8] Thirty-nine doctoral candidates participated in the two Teaching Associate Mentorship programs; however, three candidates had successfully defended by the time I distributed the survey and would graduate that December. As I intended to follow the teaching associates over the course of the full academic year, I excluded those three e-mails from the Qualtrics panel.

[9] The university assigns two e-mail addresses to each member of the PCU community. Public e-mail addresses are derived from the first initial, middle initial, and family name; however, a second e-mail address is created based on the four-letter network ID assigned to each employee and student. This four-letter network ID is randomly generated and it is impossible to identify someone by this information.

The body of the e-mail included proof of Institutional Review Board for the Protection of Human Subjects (IRB) approval, an explanation of the benefits of participation in the study, and an explanation of the interviews. This explanation also apprised the potential study participants that they could choose to opt-out at the interviews without any impact on their standing in the doctoral programs. Lastly, the e-mail explained that if they agreed to participate in the interviews, they would be asked to sign a consent form (See Appendix E). This information was included in the consent form so that students could make an informed decision regarding participation.

As the potential participants were still students themselves, it was imperative that they were assured agency over their decisions regarding the study. Because of the anonymous distribution of the link to the survey, they could choose to ignore the e-mail, opt-in and refuse to participate further, or fully participate in the study by agreeing to the interviews and sharing their 2014-2015 Teaching Associate application materials. Three reminder e-mails were distributed on October 20, 2014, October 27, 2014, and November 1, 2014. A final "thank you" message was sent on November 5, 2014, to the e-mail addresses that had responded to the survey.

Participant interviews. Between October 13, 2014, and November 1, 2014, eleven of the thirty-six doctoral students agreed to the interviews, but one refused to share his application documents. Ultimately, I arrived at ten interview participants. Primary data collection through direct interaction centered on a series of individual interviews with the participants. Kvale and Brinkmann (2009) stated that interviewing was a form of collaboration, where knowledge was created between the researcher and the participant. To facilitate this, the sessions were organized as interview guides (Patton, 2002) scheduled

throughout the 2014-2015 academic year. In order to give participants the opportunity to reflect and prepare for the sessions (Marshall & Rossman, 2011), the interview questions were transmitted via e-mail to the participants when the interview dates were finalized.

With my move to eastern Maryland and the subsequent demands of opening an office, developing a support plan for faculty teaching non-native English speaking undergraduates, both while teaching a half-load of two classes per semester, I had to revise my plan to schedule participant interviews throughout the semester. Instead, I decided to conduct one round of interviews late in the fall semester, and then a second round of interviews midway through the spring semester. This new plan required that I schedule a date each semester to visit PCU and hold interviews with all ten participants in as short an amount of time as possible.

Further complicating the situation, my current institution's fall break was not scheduled at the same time as PCU's fall break. After contacting the ten participants and comparing schedules and workload, we agreed on a date: the weekend of December 5-6, 2014. Very quickly, I realized that this change to the planned interview process was beneficial, because by scheduling towards the end of the semester, the participants would have experienced almost the entire semester and they would have more stories and opinions to share with me.

Interview one. Nevertheless, the four and one-half hour one-way drive on that Friday, immediately followed by the first series of interviews, was more physically taxing than I had expected. Moreover, one participant was only able to give me a one-hour window on Saturday to meet—and the interview had to take place in Pittsburgh. Another participant was

leaving the area late Saturday afternoon, but was willing to meet in a restaurant located between Pittsburgh and the PCU campus before her departure.

The interview locations varied considerably. Food was a factor in the interviews with the two participants unable to meet me at PCU: I interviewed "Imani" in a very loud restaurant in downtown Pittsburgh; and participant "Sandy" and I met in another very loud restaurant in Blairsville, Pennsylvania. I interviewed the remaining eight participants in various locations on- and off-campus. I met "Linda" in her classroom on campus; participants "Jane" and "Kelly" met with me separately in a group study room in the library. Participant "Anne" and I agreed to meet in a local restaurant. After finishing with her, I met individually with "Alana" and "Fred" in the student union building on campus. Lastly, I met both "Bruce" and "Mike" in their off-campus apartments.

All participants were e-mailed the twenty semi-structured questions (See Appendix C) and the interview consent form for their review[10] on the afternoon of December 4, 2014. Prior to the start of each interview, I reviewed purpose of the study and gave them the option to withdraw if they had any reservations about continuing. All ten agreed to continue participation and signed the paper-based Informed Consent Form (See Appendix E). Each interview was recorded—with participant assent—with an Olympus Digital Voice Recorder model VN-4100PC. This was my personal recorder purchased to gather data during my Master's degree coursework six years earlier. While it functioned perfectly, I felt compelled to borrow another recorder from the Library Technology Services group in case my recorder malfunctioned during the interviews. Other than verifying that the library recorder

[10] Unsurprisingly due to the time of year and short lead-time to the interview, only four of the ten participants reviewed the interview questions and consent form. Those who did all had interview durations of less than 33 minutes.

functioned, I never actually used it to gather data. See Table 3 for the participant schedule, the pseudonyms each participant selected, and the duration of each interview.

Table 3

Schedule of the First Round of Participant Interviews

Participant	Date	Time	Duration
Linda	12/05/2014	02:30 PM	0:31:28
Jane	12/05/2014	03:30 PM	0:52:49
Kelly	12/05/2014	05:00 PM	0:44:44
Bruce	12/06/2014	10:00 AM	0:36:55
Imani	12/06/2014	12:00 PM	0:44:57
Sandy	12/06/2014	03:30 PM	0:34:18
Anne	12/06/2014	05:00 PM	0:28:13
Alana	12/06/2014	06:00 PM	0:31:25
Fred	12/06/2014	08:00 PM	0:57:48
Mike	12/06/2014	10:00 PM	0:32:55

Note. Participant names are self-selected pseudonyms.

At the end of each interview, I reviewed my plan for the spring semester with each participant. I explained that I planned to return to PCU during the 2015 spring break as our calendars matched. All ten Teaching Associates again agreed to continue their participation in the study.

Interview two. Again, fate—or Mother Nature—would intervene and change my plans for the second round of interviews. This time, the academic calendars of my current institution and of PCU were identical. Both institutions had scheduled spring break for the week of March 9-13, 2015. Unfortunately, both eastern Maryland and western Pennsylvania experienced substantial winter weather the week prior to spring break. Knowing the mountainous terrain and the general condition of several of the highways I would have to drive, I decided to contact the participants and suggest that we use Skype rather than meeting physically in person. We would still have the benefits of synchronous communication and since I had developed twenty open-ended questions for the second interview, Skype would

still allow us a relaxed, unstructured session, with no predetermined time limits, no rushed schedule to maintain.

I e-mailed each participant on March 4, 2015, and over the subsequent five days, each participant responded to my e-mail and agreed to hold the second interview online. Again, prior to each interview session, I transmitted the interview questions (See Appendix E) and another copy of the consent form to refresh the participants of their rights regarding continued participation in my research.

Nonetheless, while scheduling the interviews over spring break without the rush of trying to conduct them all in one weekend at first seemed a luxury, a different challenge arose: participants began to postpone our sessions for a number of reasons. Familial responsibilities, attempting to meet their own dissertation deadlines, the demands of grading undergraduate essays, wedding preparations—these were stated causes to reschedule. My planned week of interviews (ideally two per day) during spring break stretched out beyond the end of the semester (See Table 4).

In addition, despite my tests of Skype with several colleagues at PCU not involved in my research, the connection quality varied between participants. Several participants' connections were impressively clear, while others exhibited transmission interference evidenced by "choppy" video and audio delays. One extreme case was experienced during the interview with participant "Jane" who had an old laptop with an outdated video card and driver. During the Skype session, I could not see her at all, just movement from time to time on the screen. It reminded me of the episode "The Galaxy Being" from the classic science-

Table 4

Schedule of the Second Round of Participant Interviews

Participant	Date	Time	Duration
Fred	03/10/2015	01:30 PM	0:45:40
Anne	03/11/2015	12:00 PM	0:30:57
Kelly	03/12/2015	04:30 PM	0:47:40
Bruce	03/12/2015	08:00 PM	0:29:42
Mike	03/13/2015	05:00 PM	0:36:59
Sandy	03/17/2015	05:45 PM	0:35:10
Alana	03/21/2015	03:15 PM	1:19:14
Jane	03/23/2015	08:30 PM	0:51:27
Imani	04/09/2015	08:00 PM	0:40:56
Linda	05/31/2015	08:00 PM	1:20:36

Note. Participant names are self-selected pseudonyms.

fiction anthology, *The Outer Limits* (Stevens & Stevens, 1963), but in color. Fortunately, the audio was unaffected and we were able to converse effectively.

Conducting the second round of interviews via Skype presented a situation I had not anticipated: recording each interview. There was no way to save the Skype transmissions, which would have been useful had I intended to investigate the participants' kinesthetic behaviors as part of my research (Pennycook, 1985). However, I only needed the audio portion of the interviews, so I simply placed the digital recorder on my laptop between the keyboard and the screen. On playback, the audio was more than adequate, with little difference between the registration of my voice and the audio from the laptop speakers.

Finally, a little over two and one-half months from the first Skype interview, I completed the last interview on May 31, 2015, with participant "Linda." Her interview also was the longest, at 80 minutes and 36 seconds. As previously stated, I e-mailed the participants the twenty open-ended questions the evening prior the interview. Those participants who reviewed the interview questions finished in under 40 minutes. Ultimately,

while conducting the series of interviews took much longer than I originally anticipated, transcribing all of them took even more time, and I had no one but myself to chastise for it.

Transcriptions. I initially intended to transcribe both sets of participant interviews after I had completed the second round of interviews, but with the delay in completing the second round of interviews with certain participants, I started to transcribe the interviews of those participants whose second interviews I had already recorded.

To speed the process of transcription, and to provide a foundation of sorts for the transcribed text, I processed the audio files from the digital voice recorder using Dragon Naturally Speaking Premium software (Nuance Communications, 2014). While the software features an audio file transcription feature, the company only supports single-voice transcriptions. On the corporate website, www.nuance.com, the company advertises the use of its software for transcription purposes, but not for interviews or transcribing class lectures. According to Nuance Communications, "Since Dragon only recognizes the voice of the trained speaker—you—it's not designed for use with multiple speakers. Thousands of customers still successfully use Dragon to transcribe interviews or lectures using a basic technique called 'voice writing' or 'parroting'" (Nuance Communications, 2016, para. 8). This recommended technique required the software user to listen to the recording, and repeat the words spoken by the participants.

Moreover, while the software learns the user's voice, Nuance Communications maintains that additional grammatical cues are still advised, such as stating "period" or "comma" throughout the dictation, to help with the organization of the recorded text. I chose not to do any of this and simply process the transcribed files in their raw format. The results were large blocks of text with no punctuation, paragraph indents, or differentiation between

recorded voices. See Figure 3 for an extract of text from the first interview with participant "Jane" as an example. After the rough transcription had been created, I listened to the audio file and revised the text, adding punctuation, correcting words or phrases, and adding speaker identification (Figure 4).

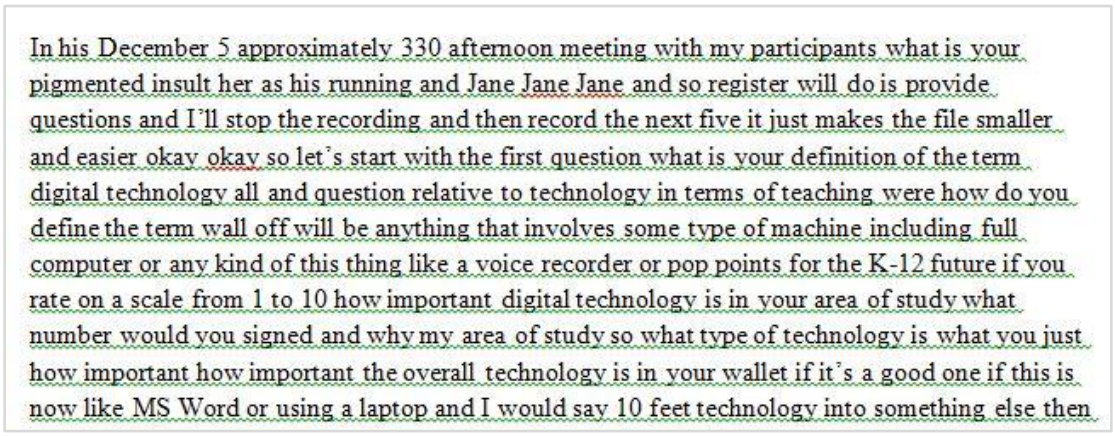
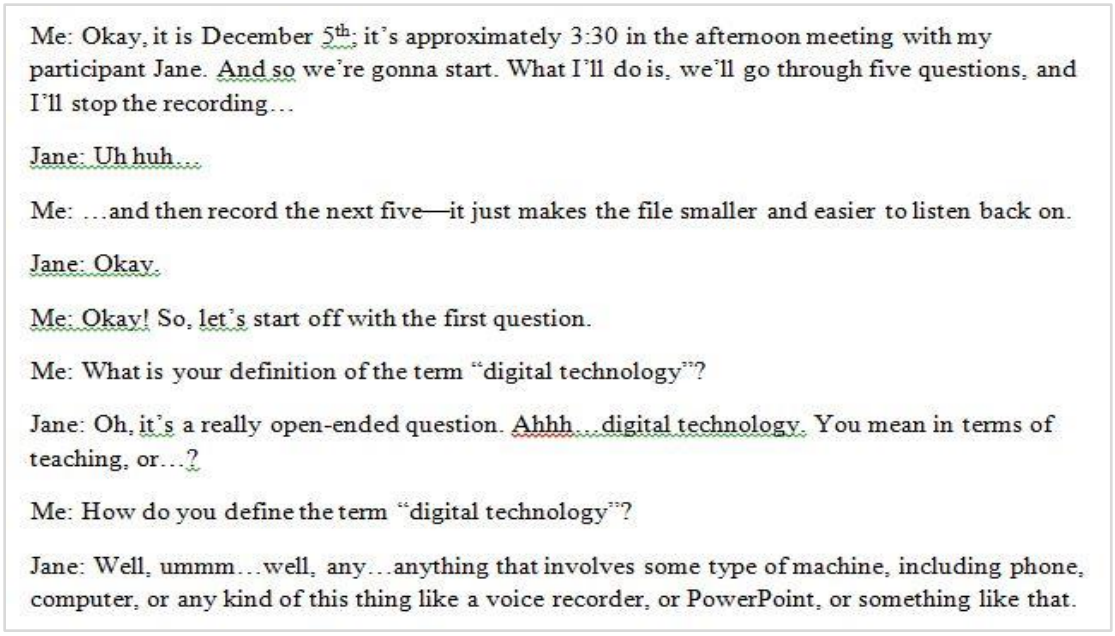

In his December 5 approximately 330 afternoon meeting with my participants what is your pigmented insult her as his running and Jane Jane Jane and so register will do is provide questions and I'll stop the recording and then record the next five it just makes the file smaller and easier okay okay so let's start with the first question what is your definition of the term digital technology all and question relative to technology in terms of teaching were how do you define the term wall off will be anything that involves some type of machine including full computer or any kind of this thing like a voice recorder or pop points for the K-12 future if you rate on a scale from 1 to 10 how important digital technology is in your area of study what number would you signed and why my area of study so what type of technology is what you just how important how important the overall technology is in your wallet if it's a good one if this is now like MS Word or using a laptop and I would say 10 feet technology into something else then

Figure 3. Raw text of interview with participant "Jane" transcribed by Dragon Naturally Speaking Premium software.

Ironically, over the course of the twenty interviews, the software's ability to transcribe accurately my voice vacillated from recording to recording; in several recordings, it actually transcribed several female participants' speech more accurately than mine. Despite these limitations, the process provided a useful foundation of transcribed material for the study. Nevertheless, the transcription and subsequent revision process required a substantial amount of time, much more than I had originally anticipated.[11] I estimate that on average, it took me one hour to transcribe and revise six minutes of recorded interview data.

[11] I naively scheduled two weeks to complete all of the transcriptions. Ultimately, through delays caused by my work schedule, conference participations, and purchasing a home, it took me over eight months to finish transcribing the twenty interview sessions.


Me: Okay, it is December 5th; it's approximately 3:30 in the afternoon meeting with my participant Jane. And so we're gonna start. What I'll do is, we'll go through five questions, and I'll stop the recording…

Jane: Uh huh…

Me: …and then record the next five—it just makes the file smaller and easier to listen back on.

Jane: Okay.

Me: Okay! So, let's start off with the first question.

Me: What is your definition of the term "digital technology"?

Jane: Oh, it's a really open-ended question. Ahhh…digital technology. You mean in terms of teaching, or…?

Me: How do you define the term "digital technology"?

Jane: Well, ummm…well, any…anything that involves some type of machine, including phone, computer, or any kind of this thing like a voice recorder, or PowerPoint, or something like that.

Figure 4. Revised text from first interview with participant "Jane."

As I completed the transcriptions of the interviews, I e-mailed them to each participant for member checking. In addition to the pages themselves, each line of the transcript was numbered so that participants could identify by page and line number any discrepancies in the transcripts. Also, there were instances where I could not comprehend some of their responses in the recordings and I needed their clarifications to finalize each transcript. Again, this process took much longer than I had intended, as several participants took months to respond with requested changes and subsequent approvals. See Table 5 for a record of the transcription process and member-checking log organized by participant and interview.

Table 5

Transcription and Member Check Log

	Interview 1		Member	Interview 2		Member
Participant	Start	Finish	Check	Start	Finish	Check
Linda	05/18/2015	05/19/2015	05/21/2015	06/07/2015	06/13/2015	06/19/2015
Kelly	05/19/2015	05/20/2015	05/21/2015	05/21/2015	05/28/2015	05/29/2015
Mike	06/16/2015	06/18/2015	06/19/2015	06/20/2015	06/28/2015	06/29/2015
Anne	07/03/2015	07/09/2015	07/28/2015	07/12/2015	07/14/2015	07/28/2015
Jane	07/22/2015	07/26/2015	04/01/2016	07/27/2015	08/05/2015	04/01/2016
Bruce	08/10/2015	08/15/2015	08/21/2015	08/16/2015	08/16/2015	08/21/2015
Sandy	11/22/2015	11/25/2015	11/28/2015	11/26/2015	12/06/2015	12/11/2015
Fred	12/26/2015	01/10/2016	01/11/2016	01/18/2016	01/19/2016	01/24/2016
Alana	01/23/2016	01/25/2016	03/29/2016	01/31/2016	02/04/2016	03/29/2016
Imani	02/07/2016	02/13/2016	04/21/2016	02/22/2016	02/28/2016	04/16/2016

Note. Participant names are self-selected pseudonyms.

Finally, the transcription and participant member check processes were completed on February 28, 2016, and April 21, 2016, respectively. Once transcribed, the interviews provided much more data than I had expected, with over fourteen and a half hours of audio recordings and 379 pages of transcribed text. Even with this much interview data, I still had each interview participant's application materials to analyze separately. See Table 6 for details on the amount of interview data generated per participant.

Table 6

Generated Interview Data per Participant

	Duration		Totals		
Participant	Interview 1	Interview 2	Time	Lines	Pages
Alana	0:31:25	1:19:14	1:50:39	1448	50
Anne	0:28:13	0:30:57	0:59:10	795	28
Bruce	0:36:55	0:29:42	1:06:37	757	28
Fred	0:57:48	0:45:40	1:43:28	1497	53
Imani	0:44:57	0:40:56	1:25:53	1238	46
Jane	0:52:49	0:51:27	1:44:16	1245	45
Kelly	0:44:44	0:47:40	1:32:24	918	29
Linda	0:31:28	1:20:36	1:52:04	1142	36
Mike	0:32:55	0:36:59	1:09:54	899	30
Sandy	0:34:18	0:35:10	1:09:28	976	34
Totals	6:36:32	7:58:21	14:33:53	10915	379

Note. Participant names are self-selected pseudonyms.

Coding interview data. After completing the transcriptions and receiving the member check responses from each participant, I began to code the interview data. Not having had any training in my doctoral classwork on appropriate coding techniques for qualitative data, I relied on my experience working with large amounts of data during my time at Fiat S.p.A. in the late 1990's. During my involvement in a project to digitize 20 years of parts assembly and service catalogues for European farming and heavy industrial equipment, I managed the project by Excel® spreadsheet using a data matrix to organize the catalogue number, equipment model, number of pages, number of images, etc., of each publication. I felt a similar approach could be used to organize and display the responses of the interview participants in a two-dimensional display, allowing me to view all responses to each interview question at the same time.

In researching the technique in the realm of qualitative research, I found that data matrices were a common tool used by researchers, especially in business management

studies. Miles, Huberman, and Saldaña (2014) defined a data matrix as "a tabular format that collects and arranges data for easy viewing in one place, permits detailed analysis, and sets the stage for later cross-case analysis with other comparable cases or sites" (p. 111). Thus, I felt this approach would work well with my plan to crystallize the interview data with each participant's Teaching Associate application materials and the general survey responses.

Taking the participants' transcripts from the two interviews, I built a spreadsheet of the pertinent responses to each interview question. As I pasted the text in each cell, I developed a set of inductive codes (Johnson & Christensen, 2008) by highlighting the parts of the responses that I felt generated a pattern to be coded (See Figure 5).

Question	Participant #1	Participant #2
1. How do you define the term "digital technology"?	Well to me, digital technology is…ummm…**any technology that is through the computer or Internet or…ummm…also tape-recording or video of some kind**, yes.	Okay, I think that's…ummm…**things that use the computer, um projection systems…going beyond books and handouts**. I know it can encompass probably more that what I put to, but in my world, it's primarily computer-based.
2. If you were to rate on a scale of one to ten the importance of digital technology in your field of study, what number would you assign it and why?	**I think it's seven because I do not completely rely on it; I rely on other things, too.** Although, it's very important for my research because a lot of the information I need for my research I find it in there, even if it's…ummm…when it comes to journals, they are easily accessible from the Internet. But at the same time, I would still need to get certain books or something that are not there, so that will give me the other percentages.	In my personal research, I wouldn't rate it very high…so, technology isn't a big focus. But, technology is allowing me to read things and have access to things that I wouldn't have. So, I'd say **I'll put it probably around a "5". It gives me access but it doesn't do too much else for me.**
3. How many hours per week do you interact with information related to your research topic in a digital environment? Less than two? Two to four? Five or more?	When I need it…oh**, two to four**—when I need it, it can even be more than that per week. Like **it can even be 10 to 12 hours**, yes.	Ummm… I would say it would depend on the week. **So, if I'm working on a primary text, it will be probably like 5 to 10 hours;** but if I'm not reading a primary text, then the only thing—I don't know if this constitutes "digital technology" —of just working in Microsoft Word, just typing. So, in that case, that's probably like around 10 hours.

Figure 5. Excerpt from data matrix of first interview prior to coding.

Next, following Groenland (2014), I opened a new tab on the spreadsheet and developed codes to examine the participants' responses in relation to each other, tallying instances of similar responses. Nevertheless, I elected to background the tallies, noting Groenland's caution that tallying the similarities in a data matrix can diminish the opportunity to uncover "new and unexpected notions and categories" (p. 10) by focusing too much on frequencies of data rather than unique responses. See Figure 6 for an excerpt of

coding the first interview responses. After I finished coding the interviews, I analyzed the participants' cover letters and philosophy of teaching statements from their Teaching Associate applications.

Codes	Response
Broad Definition of "digital technology"	Any technology that is through the computer or Internet or…ummm…also tape-recording or video of some kind
	I would define it as using a computer, word processors, phones…ahhh…tablets. Any medium that's plugged in and beyond…ummm…paper and pencil
	I would have to say "using some form of an electrical machine, software…ummm…as a—for lack of a better word—'prosthetic' extension that I would use." Probably examples are easier: computers, laptops, some sort of form of a computer. I think maybe that's easiest: some form of computer.
	Any technology where you can use online sources, or anything that can be used online.
	I would define it as anything I need to turn a power switch on
Definition of "digital technology" in pedagogical terms	Digital technology covers all…ummm…social media and, you know, learning device, online…ummm…you know, facilities for students and instructors to use to communicate, to operate their learning and teaching activities.
	I would define digital technology as anything that either the instructor or the students would be using in the classroom to further their education, i.e. anything me as an instructor would use, from a SMART Board to D2L…ummm…Blackboard…anything like that, that I would prepare and use for the classroom and then anything my students would use outside the classroom…library resources
	Things that use the computer, um projection systems…going beyond books and handouts
	Any sort of media being used in the classroom…ummm, the Internet, radio, music, TV, film…any sort of electronic device
	Anything that involves some type of machine, including phone, computer, or any kind of this thing like a voice recorder, or PowerPoint, or something like that. D2L.
Scaled importance of digital technology in field of study (1-10)	I think it's seven because I do not completely rely on it; I rely on other things, too.
	I'll put it probably around a "5." It gives me access but it doesn't do too much else for me.
	Seven. Because I use a lot of digital technology to do my research, ummm, and I'm constantly using digital technology. I mean, I rarely sit down with just a book anymore. I use e-books, I use digital archives, articles
	For me, I would give it a ten, because in my particular research, I'm focused on technology and how it affects how we read, and how we interact with different texts.
	If this is about, like, MS Word or using a laptop, then I would say 10. But if this technology is something else, then maybe 5.
	I would rate it at seven. Ummm…because in the field of my study relies heavily on printed material and as I learned from most of my professors, it seems that that they do not encourage students to use digital technology

Figure 6. Excerpt of coding from first interview.

Document analysis. In quantitative research, scholars generally pursue knowledge with the intent to arrive at conclusions that can be applied to larger situations, or populations, than those included in their studies. With this concept of *generalizability*, it is the responsibility of the researcher to provide adequate support of his or her research findings. In contrast, qualitative researchers usually strive to produce results that are *transferable*, with

the responsibility of the evaluation placed on the reader rather than the researcher (Lincoln & Guba, 1985). Nevertheless, qualitative researchers must provide enough information for the reader to deem the results transferable.

To analyze the data gathered through the participants' interviews, I reviewed the cover letters, philosophy of teaching statements, and supporting application materials the participants authored as part of the Teaching Associate application process for the 2014-2015 academic year. In particular, I examined their cover letters and philosophy of teaching statements for references to digital technology. This data, the application materials submitted near the end of the preceding spring semester, the first interview near the end of the fall semester, and the second interview mid-way through the spring semester, gave me access to the participants' views and opinions of both pedagogy and digital technology's role in pedagogy, as they evolved over the course of one full academic year. Nevertheless, to foster open expression, I had to create an environment where participants could feel they could respond without fear of exposure or retaliation from peers or faculty members in positions of power.

Protection of Participants

An anonymous e-mail was sent to thirty-six doctoral students in the English department's two Teaching Associate Mentoring Programs on October 13, 2014, at Pennsylvania Commonwealth University. Ten doctoral students agreed to participate in the sequence of two interviews scheduled during the 2014-2015 academic year. In keeping with the data reported in the 2014 cycle of the *Survey of Earned Doctorates* (NCSES, 2015a), all participants were over the age of 25 years old. The participants were instructed to select their

own pseudonyms, which would reflect their constructed identities as doctoral students and Teaching Associates.

Striving for participant anonymity. In qualitative inquiry, the participants' interviews are recorded, frequently anonymously, but still with details about the participants to support the study. This proved problematic in my research as my participants were acquainted with each other and with their departmental faculty. Too much specificity in individual details could compromise the anonymity of the participants. Beyond the anonymous survey and pseudonyms adopted by the interview participants, limited identifiable details were included in the interview transcripts. During the interviews, participants were instructed not to identify faculty advisors, children, spouses, and fellow Teaching Associates by name. However, to provide some context to the lives of the interview participants both on- and off-campus, doctoral program participation, gender, race, general age, basic marital status and offspring, and use of digital technology were the primary characteristics recorded.

Research oversight and approval. Institutional Review Board for the Protection of Human Subjects (IRB) approval was pursued to ensure that the design of the study adhered to university and IRB standards for protection of human participants.[12] As there were no expected risks involved with participation, I foresaw a timely approval from the IRB through an expedited review. The potential benefits to participation were limited to the information gathered through the survey instrument and subsequent interviews. No Teaching Associate was coerced to participate in the study through monetary or material gains; as a result, there was no need for alternate forms of participation. In keeping with the tenet of doing no harm

[12] IRB approval secured on 27 June 2014, covering the period from 26 June 2014 through 26 June 2015 (Log 14-176).

while conducting research using live participants, no information was withheld during or after data was gathered, analyzed, and interpreted. All of the interview participants had access to the transcripts of their interviews for member checking purposes.

Procedures to Address Trustworthiness

In a response to the quantitative measures of *reliability*, *validity*, *objectivity*, and *generalizability*, Lincoln and Guba (1985) proposed the alternate qualitative constructs of *credibility*, *dependability*, *confirmability*, and *transferability*. Following their criterion of credibility, my research was conducted during the 2014-2015 academic year, rather than being limited to a short observational period or several anonymous questionnaires. Regarding dependability, research data was gathered through an analysis of the participant interviews and an examination of their Teaching Associate application materials. Both confirmability and transferability were addressed through a detailed explication of the research methods used and of the research site for future researchers to replicate.

Conclusion

While my intention was to add to the knowledge base of teacher educator preparation, ultimately this research was about me. In keeping with Clandinin and Connelly's (2000) assertion that the researcher was inseparable from his or her research, this research was a journey of discovery, about me, the teaching associates in the Teaching Associate Mentoring Program, and the influence technological knowledge had on their preparation. As a qualitative researcher, and as a bricoleur (Denzin & Lincoln, 2005) of ideas and experiences—both my own and those of others—I looked forward to receiving the feedback of my peers and mentors as I conducted this study. I hope that others will also find my research credible, dependable, confirmable, and transferable.

CHAPTER FOUR

RESULTS

"Sometimes it's frustrating when you're in the classroom, when you're trying to use something, and you can just tell that students know, because they've been in similar classrooms, and they just have that exasperated sigh of, like, 'Miss, you forgot to click that button there.'"

~Sandy, First Interview, December 6, 2014

Introduction

In this chapter, I report the outcomes of the analysis of each interview participant's data gathered from their Teaching Associate application materials and the two interviews. Depending on the individual participant, the data was generated between February 2014 and May 2015, in the form of Teaching Associate application cover letters and philosophy of teaching statements, as well as the transcripts from the first and the second interviews. After a review of the research questions, I provide general descriptions of the study participants.

Review of the Research Questions

Prior to reporting the results of the qualitative study, I revisit the research questions that guided my research. My interest in the Teaching Associates' experiences with digital technology and its influence on their professional development focused on three aspects of academia: pedagogy, research, and scholarly interaction with their respective disciplines. Based on these three aspects of professionalism in academia, I formulated the following questions:

1. What were the Teaching Associates' views of the influence of digital technology on their pedagogical practices?

2. What were the Teaching Associates' views of the influence of digital technology on their scholarly research?
3. What were the Teaching Associates' views of the influence of digital technology in their respective disciplines?

Over the course of the data gathering process, I recorded much more information from all ten Teaching Associates. At times, the large amount of data collected (See Chapter Three) made it difficult to remain focused on the purpose of my study. However, a periodic review of the research questions restored my focus and made the task of evaluating and eliminating interesting, but out-of-scope, information from the study.

In the next section, I provide a general description of the Teaching Associates, including the aliases they self-selected at the start of the first interview.

General Demographics of Study Participants

Following the age range classification used by the U. S. Census Bureau (File & Ryan, 2014), the interview participants can be organized into two age ranges, with five interviewees being in the 25- to 34-year-old range and the other five reporting they were 35-years old or older. This break corresponded with Prensky's (2001) assertion that digital natives are born after 1980. Nevertheless, as Prensky's critics (Bennett, Maton, & Kervin, 2008; Jones & Shao, 2011) had maintained, the participants did not fully adhere to these classifications. While the age ranges were balanced, the Teaching Associates' views were not. Frequently, their responses to individual questions positioned them "outside" their age ranges, generating a varied range of responses to questions included in each session. Again, descriptors of the interview participants are general in nature to preserve their anonymity.

There were other ways in which the general characteristics of the Teaching Associates were not balanced. For example, gender was not balanced, as only three male survey respondents agreed to participate in the study interviews. Moreover, all three males were in the older age range. Perhaps unsurprisingly because of their ages, four of the older students were married and three of the four had children. Nevertheless, one of the youngest participants was also married and had children.

What may also be attributed to age, prior teaching experience was reported by the five older Teaching Associates. Two interviewees, both in the younger group, had never taught before participating in the Teaching Associate Mentoring Program. However, those who had prior experience reported varied pedagogical environments (e.g. K-12, higher education, for-profit certification institutions, etc.). While their previous classroom experiences differed from the pedagogical environment of the Teaching Associate Mentoring Program, with its concomitant exposure to active learning in the undergraduate classroom and reflective practice in mentoring sessions, the eight with prior teaching experience were able to draw on their experiences while in the classroom with their undergraduate students.

Lastly, only three of the interviewees were from the Writing & Language doctoral program. The remaining seven from the Literary Criticism program reported very different guidance from their mentors than the Composition and TESOL program. See Table 7 for an examination of the participants' general demographics.

Table 7

Interview Participant Basic Demographics

Participant	Gender	Age Range		Marital Status	Children	Previously Taught	Program
		Under 35	35 & Older				
Alana	♀	X		M	Y	Y	L&C
Anne	♀	X		M	N	Y	L&C
Bruce	♂		X	M	N	Y	L&C
Fred	♂		X	M	Y	Y	W&L
Imani	♀		X	M	Y	Y	W&L
Jane	♀		X	M	Y	Y	W&L
Kelly	♀	X		S	N	N	L&C
Linda	♀	X		S	N	Y	L&C
Mike	♂		X	S	N	Y	L&C
Sandy	♀	X		S	N	N	L&C

Note. Interview participants chose their own pseudonyms. ♂ = Male; ♀ = Female; M = Married; S = Single; Y = Yes; N = No; L&C = Literary Criticism; and W&L = Writing & Language.

In the following section, I provide more detailed profiles of each of the ten participants. While providing readers with additional background information, I also strove to protect the anonymity of each participant.

Participant Profiles

In this section, I describe my interviews with the Teaching Associates[13] and provide an analysis of their application materials where relevant in relation to their participation in the interviews. Participant profiles are organized alphabetically by pseudonym and are oriented to our interaction during the first interview.

Alana

Participant "Alana" and I met to complete the first interview in the PCU's student center on the evening of December 6, 2014. Alana was a Caucasian female between 25 and 30 years of age. A doctoral candidate in the Literary Criticism program, she was married and had children. She had passed the candidacy exam and did not plan to graduate during the

[13] All participants are identified by pseudonyms of their own choosing.

2014-2015 academic year. Prior to enrolling in the doctoral program, she had taught first-year composition in the adult education, community college, and university environments.

In her application letter dated the previous March, Alana directly referenced the Teaching Associate Mentoring Program as a reason why she had applied for a position. Despite her prior experience teaching in three different educational settings, she stated that she was eager to work with more experienced faculty in designing her curricula to incorporate more substantially her pedagogical views, which were based on Freire's critical pedagogy (Shor, 1992) and Jarratt's (1991) feminist pedagogies.

Anne

Participant "Anne" and I met in a local restaurant the evening of December 6, 2014. Anne was a Caucasian female between 30 and 35 years of age. She was married but did not have any children. She was a doctoral candidate in the Literary Criticism program and had passed her program's comprehensive exam. Anne had established an aggressive schedule for herself to graduate at the end of the 2014-2015 academic year. Prior to enrolling in the doctoral program, she had taught both high school and college English courses.

Anne's teaching philosophy statement submitted as part of her 2014-2015 Teaching Associate application was unique among those submitted by the participants in that she included a specific section devoted to the use of digital technology as a core component of her pedagogical practices. While she identified several standard digital tools including Desire2Learn, Prezi, and multimedia, she remained cognizant that she had much to learn. Her embrace of digital technology as a means of engaging her students in the learning process was evidenced in her description of her classroom practices and approach to delivering content.

Bruce

For the first interview, participant "Bruce" and I met in his apartment the morning of December 6, 2014. Bruce was an Asian male between 35 and 39 years of age. He was married but did not have any children. He was a doctoral candidate in the Literary Criticism program and planned to complete his degree at the end of the Spring 2015 semester. Prior to enrolling in the doctoral program, he had taught composition and literature courses at the university level overseas.

A non-native speaker of English, Bruce had developed an assumption that the mainstream students he taught the previous academic year believed that because he spoke with an accent, that he was not qualified to teach English composition and literature courses. Such biased and erroneous beliefs by students are an ongoing problem for non-native speakers who teach English. Bruce's concern is not without cause. Lippi-Green (2012) and other sociologists have reported a bias among Americans against those who speak English with a "foreign accent", often perceiving these speakers as not being legitimate participants in their realms of interaction. Known as the *native speaker fallacy* (Phillipson, 1992), this bias (which may or may not have been actually expressed by his students), propelled Bruce to place high expectations on himself in all aspects of pedagogy, including materials preparation, classroom instruction, and student conferencing.

Fred

Participant "Fred" and I met in the university's student center on the evening of December 6, 2014. Fred was a married Caucasian male over 40 years of age with children. Enrolled in the Writing & Language doctoral program, Fred planned to defend and graduate

at the end of the Spring 2015 semester. Fred had many years of experience teaching English overseas in K-12 institutions.

Despite this prior experience, or perhaps because of it, Fred was preoccupied with the relevancy of his teaching methods and the materials he used in his classes. He developed his Teaching Associate philosophy of teaching statement around a single question, "Am I doing this right?" (Fred, Philosophy of Teaching Statement, February 14, 2014). According to him, reflection on teaching methods was essential in order to remain pedagogically flexible within the field of composition. He was not afraid to ask fundamental questions of his peers and mentors in the doctoral program, which exasperated some but others in the program found refreshing. Fred often asked questions in class or during a Teaching Associate mentoring session that helped his peers refocus their thoughts on what constituted empathetic, egalitarian, and effective pedagogical practices.

Imani

I travelled to Pittsburgh the afternoon of December 6, 2014, to meet participant "Imani" in a restaurant. Imani was a married African female over 40 years of age with several children. A doctoral candidate in the Writing & Language program, she planned to defend her dissertation the following spring and graduate in May 2015. Similar to most of the Teaching Associates, Imani had taught prior to becoming a doctoral student, teaching English as a Second Language classes in both K-12 and higher education settings. More recently, she taught college writing in traditional and online classroom environments.

In her 2014-2015 philosophy of teaching statement, Imani recalled her high school teachers' encouragement to pursue a career in teaching as being the type of guidance she strived to provide for her students now. For Imani, guidance from mentors was a precious

experience that she felt benefited all students. It was her goal to create an environment in her classroom where her students could develop to their highest potentials. Nonetheless, she also viewed herself as a student of her students, learning from them in ways and things she had never envisioned prior to welcoming them into her classroom. One of the ways she learned from her students was by adopting digital technology in her teaching methodology. Imani viewed such technology as vital for the development of both knowledge and pride in her students.

Jane

Participant "Jane" and I met in the university library the afternoon of December 5, 2014. Jane was a married Asian female over 40 years of age with several children. She was a doctoral candidate in the Writing & Language program. She planned to defend her dissertation during the spring semester in order to graduate in May 2015. Viewing the English language as part of her professional identity (Zheng, 2017), she had many years of experience teaching English in a K-12 environment overseas before enrolling in the doctoral program. She became a teach associate in the Fall 2013 semester.

Jane was the only participant who noted in both her cover letter and teacher philosophy statement her involvement in the university's Writing Center as a tutor for both mainstream and international student writers. Based on her previous experience teaching overseas and especially since working as a tutor, she viewed feedback as a vital pedagogical practice offering her students spaces for individual expression while still mastering the conventions of several genres of academic writing.

Kelly

Participant "Kelly" and I met in the university library the afternoon of December 5, 2014. Kelly was a Caucasian female between 25 and 29 years of age. She was not married and did not have any children. She was a doctoral candidate in the Literary Criticism program, having completed all program requirements except the final dissertation defense. She expected to finish at the end of the Spring 2015 semester. Prior to becoming a Teaching Associate in 2012, she had no teaching experience.

Kelly's role in my research was far more important than she could imagine. As we closed the second interview, Kelly worried that her first interview had been "more interesting," stating, "Maybe my lack of responses will give you fodder for some major issues" (Kelly, Second Interview, March 12, 2015). What neither Kelly nor I could foresee was that due to the vagaries of scheduling and the timing of responses from other participants, hers were the first interviews I fully transcribed. As a result, during the transcription and ultimate coding of the other participant interviews, Kelly's responses influenced the overarching structure of my writing by providing a foundation to organize the coded data.

Linda

Participant "Linda" and I met in her classroom the afternoon of December 5, 2014. Linda was an unmarried Caucasian female between 25 and 29 years of age without children. She was a doctoral candidate in the Literary Criticism program. She had passed the candidacy exam but had not yet developed her research proposal. Because of her program requirements, she did not plan to finish before the end of the 2015-2016 academic year. Prior

to enrolling in the doctoral program, Linda had taught English at the middle school level for five years.

Her prior experience teaching children featured prominently in her application cover letter, dated March 3, 2014. It was written in a narrative describing her first day of teaching. Recounting one of her first classroom activities, a personal letter written by each student addressed to her, Linda recalled that the students' output expressed typical pre-teen concerns, such as being late for the school bus and fighting over access to the family computer. She identified two common concerns expressed in her students' writing: trust and risk. According to Linda, these concepts formed the pedagogical foundation of her classroom, creating an environment where children could feel they were in a place where they could experiment without negative repercussions.

Like Anne, Linda referenced specific digital technology in her cover letter, describing the database she developed as part of her graduate assistantship at PCU and prior experience teaching middle school, where the curriculum prescribed the utilization of digital technology as both a learning tool and a medium to be learned. She highlighted in particular her experience in multimodal composition featuring video production as one of the forms of student self-expression.

Mike

I met participant "Mike" in his apartment the evening of Saturday, December 6, 2014. Mike was an unmarried Caucasian male between 35 and 39 years old without children. He was a doctoral candidate in the Literary Criticism program. He had completed all program requirements except the final dissertation defense. When we met to complete the first interview, Mike was planning on another year of research and writing before he would finish.

Prior to becoming a Teaching Associate in the fall of 2014, Mike had many years of teaching experience, having taught English literature and composition both at the high school and college levels. He was another participant who had experience teaching online as well as in a traditional classroom.

As part of his Teaching Associate application, Mike submitted a philosophy of teaching statement dated February 21, 2014. In his statement, Mike described being raised in a poor, rural region where education was not valued. As a child, the imaginary worlds found in books were an escape from a community where being "different" was viewed negatively. Reading his statement reminded me of both my own upbringing in northeastern Pennsylvania and the white community "Roadville" described in Shirley Brice Heath's *Ways with Words* (1983). In a few sentences, Mike was able to both define his childhood and describe how his experiences in this environment shaped his teaching philosophy. For him, diversity and individuality were key pedagogical features that he employed as a means to encourage collaborative learning and foster a sense of community in the classroom.

Sandy

Participant "Sandy" and I met in a restaurant outside of Pittsburgh the afternoon of Saturday, December 6, 2014. Sandy was not married and she did not have any children. She was a Caucasian female between 30 and 34 years old. She was a doctoral candidate in the Literary Criticism program and had not yet defended her research proposal. She did not plan to complete her degree for several years. Prior to becoming a Teaching Associate in the Fall 2013 semester, she did not have any teaching experience.

While not as developed as Anne's philosophy of teaching statement in terms of referencing digital technology, Sandy referenced several types of collaborative technologies,

including wikis and blogs in her statement. Similar to Alana, she noted in her cover letter dated March 3, 2014, that one of the reasons she applied for a second year in the mentoring program was the guidance she had received from her program mentor. Sandy's statement was unique in that she directly referenced her experience as a research assistant in the university's graduate school, an experience she shared with another participant. She noted in her statement that she had incorporated what she had learned in the graduate school into her curricula, which she believed offered her students avenues to further pursue composition in their respective fields of study.

Moving from a general description of each participant, in the next section, each participant provided a personal definition of the term 'digital technology.'

Participants' Definitions of 'Digital Technology'

At the start of the first interview, I asked each Teaching Associate to define the term 'digital technology.' Several participants focused their responses on technology in a pedagogical environment, while others expressed views that were more general. Participant age did not appear to be a factor in their definitions as the two youngest and the three oldest participants provided similarly general definitions.

General Definitions

In my first interview with Alana conducted in the university's student center, she provided what was the most broadly Internet-based response. She defined 'digital technology' by stating

> I think that it is any technology where you can use online sources, or anything that can be used online. So, I was thinking about this earlier. Microsoft® Word isn't technically an "online" thing, but you can use files from it online. So, I think that in that sort of "wibbly-wobbly" definition, it's something that you can just use online. (Alana, First Interview, December 6, 2014)

While other participants' responses did not define 'digital technology' in terms of pedagogy, their responses focused more on computers and other types of hardware than on the Internet.

Anne was one of the participants who focused on general hardware rather than the Internet. She explained, "That's a really hard question, but I would define it as using a computer, word processors, phones—tablets. Any medium that's plugged in and beyond paper and pencil, essentially. Really broad" (Anne, First Interview, December 6, 2014). Anne's response reflected her interest in technology and how people used it to consume information in a textual format.

Fred shared Anne's view of digital technology as being computer-based. While he made a cursory reference to computer software, the examples he used to support his opinion were all types of computer hardware. He stated

> I guess I would have to say, "using some form of an electrical machine, software as a—for lack of a better word—'prosthetic' extension that I would use." Probably examples are easier: computers, laptops, some sort of form of a computer. I think maybe that's easiest: some form of computer. (Fred, First Interview, December 6, 2014)

Fred's response was unexpected, as he had used technology-based projects in his classroom for many years, and with different student age groups. I assumed at the start of the interview that his response would be more focused on education, rather than on broad technology.

In my interview in Pittsburgh with Imani, she responded focusing on computers, but also with audiovisual tools. She explained, "Well to me, digital technology is any technology that is through the computer or Internet or—also tape-recording or video of some kind" (Imani, First Interview, December 6, 2014). Imani's long history of teaching prior to enrolling in the doctoral program is evidenced in her reference to audio technology that university IT support staff would probably dismiss as being "outdated."

Jane shared a similar broad view with Anne, Fred, and Imani. She defined 'digital technology' as "anything that involves some type of machine, including phone, computer, or any kind of this thing like a voice recorder, or PowerPoint®, or something like that" (Jane, First Interview, December 5, 2014). Both Jane and Imani included audio recording devices in their definitions. This can be attributed to both Teaching Associates' prior experience teaching English as a second or foreign language, where such equipment is frequently used to assist students in self-evaluating their language acquisition processes.

Lastly, Linda had a broader definition of 'digital technology' than her peers did in the Teaching Associate Mentoring Program. Seated in her classroom, surrounded by empty student chairs and desks, Linda stated, "I would define it as anything I need to turn a power switch on. To me anything I need to access by turning the power switch on—or if I could get to it without electricity" (Linda, First Interview, December 5, 2014). It is possible that her view could be attributed to her age, as she was one of the youngest participants in the study. In spite of her age, she had prior teaching experience before starting graduate studies.

While six of the interview participants defined 'digital technology' in terms of either hardware or software, four expressed their views involving interaction between instructors and students. Previous pedagogical experience did not seem to factor into the responses as the two Teaching Associates without prior teaching experience defined the term focusing specifically on pedagogy.

Definitions with a Focus on Pedagogy

In our first interview, Bruce provided a definition focused on the interaction between instructors and their students. He stated, "To me, it seems that the digital technology covers all social media and, you know, learning device—online facilities for students and instructors

to use to communicate, to operate their learning and teaching activities" (Bruce, First Interview, December 6, 2014). This view, while broad in terms of technology, yet at the same time limited to pedagogy, was shared by Kelly, Mike, and Sandy.

Kelly defined 'digital technology' as "…things that use the computer…projection systems…going beyond books and handouts. I know it can encompass probably more than what I put to, but in my world, it's primarily computer-based" (Kelly, First Interview, December 5, 2014). Although she did not identify the environment as a classroom, it is clear from the details she included in her response that Kelly defined the term with a classroom in mind.

Similar to Bruce and Kelly, Mike defined 'digital technology' in the realm of pedagogy. He stated, "Any sort of media being used in the classroom…the Internet, radio, music, TV, film...any sort of electronic device. I mean, it's a pretty broad definition" (Mike, First Interview, December 6, 2014). Mike's response was interesting as he was a heavy user of technology outside the classroom, owning several computers, gaming devices and a smartphone.

Over lunch in a restaurant outside Pittsburgh, Sandy also couched her definition in a pedagogical context. She maintained

> I would define digital technology as anything that either the instructor or the students would be using in the classroom to further their education, i.e. anything me as an instructor would use, from a SMART Board® to D2L—Blackboard—anything like that, that I would prepare and use for the classroom. And then anything my students would use outside the classroom—library resources, and things like that. (Sandy, First Interview, December 6, 2014)

Sandy's pedagogically focused response was particularly interesting, as she did not possess teaching experience prior to becoming a Teaching Associate. It is possible that her lack of

prior experience compelled her to "overcompensate" in focusing her views on pedagogy. Another reason could be the common belief held by Sandy and her peers in the Literary Criticism program that they were "behind the times" in terms of acknowledging teaching and research methods beyond the field's traditional focus on paper-based resources. This perception of the field of literary studies as being deficient in terms of technological knowledge (Shulman, 1986) would be expressed again in their evaluation of the importance of digital technology in their research.

In the next section, I report the participant responses from the first and second interview sessions. While the interviews themselves were held individually with each participant (and participants were not aware of the identities of each other), I have threaded the responses together as a whole using my recollections and the audio recordings of each participant's interviews as a foundation.

The Influence of Digital Technology in Pedagogy

This section organizes the Teaching Associates' beliefs of the importance of digital technology in pedagogy, and its effect on their perceived authority in the classroom. Participants described the digital technology they used in the classroom, expressed their views of their students' preparedness to use digital technology in their knowledge acquisition processes, and shared their opinions about the department's efforts to prepare them to integrate digital technology in their pedagogical practices.

Pedagogical Use of the University's Learning Management System

In terms of pedagogy, Kelly noted that her use of digital technology in the classroom was impacted by the classroom space. During the Fall 2014 semester, she taught two courses, one in a computer lab and the other in a traditional classroom. Since it had become a

requirement for Teaching Associates at the start of the Fall 2014 semester, Kelly relied on the university's learning management system, Desire2Learn (D2L).[14] In both classes she used D2L for assignment submissions, posting content (e.g. syllabi, course calendars, etc.), as well as the attendance and grading modules.

According to Kelly, in the computer lab she ran the course entirely electronically, with no paper submissions or content distributed on paper. Time in class was reserved for student writing and research using the lab's computers. For class discussion, she used the overhead projector to display materials posted on D2L. In her eyes, she was using digital technology as both an instructional tool (i.e., the projector and D2L) and as a repository of content that students were expected to master.

At first, while describing her use of digital technology in the traditional classroom, Kelly maintained that she was using it less, having to rely more on paper handouts as individual computers were not available to each student. The traditional classroom precipitated a need for more cooperative learning, and the example she shared was projecting a blank MS Word document and compiling lists of students' responses during class discussions. She explained

> So, when we started argumentative genre, I asked them to think about characteristics of what makes a good argument; or, 'What type of documents do we see that emerge out of this mode of writing?' So, we'll just compile lists, especially when we transition to a new idea…just things to think about. (Participant Kelly, First Interview, December 5, 2014)

She did not use this activity in the computer lab, as she posted the daily course materials she planned to use in advance, allowing students individual access to them. Nevertheless, she

[14] While it may not have been mandated by the department, doctoral candidates in the Teaching Associate Mentoring Program uniformly maintained that they had been required to use the university's learning management system as part of their participation in the mentoring program.

managed the course in D2L using the same functionality she used to manage the course housed in the computer lab. However, as she described her interaction with students, she realized her use of the teacher's workstation and projection equipment, in addition to managing the class online through D2L, was more extensive than she had initially acknowledged.

During the Fall 2014 semester, Mike used D2L to manage his classes. He posted the syllabus and other content on the system, including useful links to other websites, and a running list of links and questions students posted themselves. In addition to the discussion board for out-of-class collaborative learning, students submitted their assignments using the drop box feature. To ensure original submissions, Mike used Turnitin®, the web-based plagiarism-prevention service integrated into D2L, for each assignment submitted in the drop box. To manage the formative assessment process, Mike built quizzes in D2L. He was the only participant who reported using the quiz feature. For the final summative assessment, he also used the grading module.

Imani used D2L to manage her classes, maintaining her course documents and requiring that her students submit assignments online. In addition to the syllabus and assessment rubrics used to assess writing submissions, she posted her presentation materials online for students to access outside of class. She stated, "I do it mainly all my teaching [sic], including all of my PowerPoints. I use PowerPoints, but I upload them for the students to use at their own time on the delivery method called D2L" (Imani, First Interview, December 6, 2014). She also managed the electronic gradebook through D2L. While she was not using the discussion board in either of her classes, she stated that she had used the feature teaching online at another institution of higher education.

While Teaching Associates maintained that adopting D2L had been a requirement in order to implement in their courses, which features they used were not mandated. Having previous experience using a different learning management system, i.e., Moodle, Anne was more selective in the D2L features she adopted for her courses. She explained during the first interview that she posted her daily course plans, syllabi, handouts, links to external websites, peer review materials, etc., on D2L, viewing the site as an important tool for course management. She noted, "Especially for the writing classroom, where most of my students are doing their writing on computers in the first place, it's really essential to what we're doing in the classroom" (Anne, First Interview, December 6, 2014). In addition to managing course content, Anne stated that she used the online discussion board feature and maintained the course gradebooks for her classes on the system.

Although Anne's use of specific features of D2L was interesting, what was more interesting was what she was not using. Unlike the majority of her peers, Anne had elected not to use the drop box for writing submissions. Understanding that the drop box also offered optional originality checking through Turnitin, Anne still preferred to collect student essays on paper. When I asked her about possible instances of plagiarism in her classes, she responded that she felt confident in her ability to identify such cases based on her prior teaching experience.

While Anne still did not accept electronic submissions in her classes, Jane had made a change to her course management practices for the Fall 2014 semester by requiring all student submissions in digital format. Jane's rationale was that having moved to a portfolio-based summative assessment model, carrying her students' submissions would be cumbersome. She noted, "Well, this semester I started getting only digital copies. I don't

collect hardcopies anymore because it's very hard to carry all of the papers around. So, students are going to submit their portfolios in digital form this semester" (Jane, First Interview, December 5, 2014). As for D2L functionality in addition to the drop box, Jane reported using the system to maintain course materials but not other features, such as the discussion board or grading modules.

In his first-year writing classes, Bruce also shared Jane's limited use of D2L; however, unlike her, he reported using the grading module and discussion board. In terms of student-centered tools, Bruce encouraged students to use the Internet as a resource. He stated, "I also encourage my students explore [sic] their ideas by using online sources, using the Internet, because it might be the easiest way for them to start their writing projects" (Bruce, First Interview, December 6, 2014). He felt his approach was justified as he only graded their final submissions. Nevertheless, he noted that this approach predicated that he first teach them how to use the Internet to research topics.

Teaching two sections of the first-year composition class, Sandy felt confident of her ability to integrate technology in her pedagogical practices (Harris, Koehler, & Mishra, 2009), posting general course content on D2L; she even posted the first few chapters of the assigned texts to ensure students were able to complete early semester reading assignments. In addition to posting such content, Sandy had integrated the discussion board in her curricula, and to support student assessment, she was using both the grading module and drop box feature.

As a follow-up question regarding assessment and originality, I asked Sandy if she had enabled the Turnitin option on the drop box. She responded emphatically, "I do! Every single time! Every single time I use the drop box, I click for Turnitin" (Sandy, First

Interview, December 6, 2014). Her response was in contrast to Anne's decision not to use the drop box and originality checking features. While Anne was confident in her ability to identify instances of plagiarism in her students' essays, Sandy felt compelled to adopt the tools in her pedagogical practices. However, Sandy maintained that her decision was not based on her lack of prior teaching experience, but instead because she wanted to protect herself if one of her students was accused of an academic misdeed in another faculty member's course. Viewing herself as being accountable for what occurred in her classes, she felt that she would be able to demonstrate that she was in control of the situation in her classroom by using D2L's Turnitin feature.

The concept of accountability featured prominently also in Fred's response to the question of integrating technology in his pedagogy. Regardless of the programmatic mandate to use D2L in his classrooms, Fred believed that even features such as posting homework assignments on the learning management system positioned students to be more responsible for their academic experiences. Seated across a table from me in the student center, Fred explained his rationale. "Because if I post things on D2L, it's out there. The instructions are written down. So, if the student misses something, then that's their responsibility" (Fred, First Interview, December 6, 2014). Fred felt that using D2L for this posting meant students did not have an excuse for missing assignments or submission deadlines due to illness or any other reason for missing class.

Lastly, while describing her use of digital technology in the classroom, Linda reported a problem that occurred, albeit infrequently, in the department. Assigned to teach in one of the campus computer classrooms, Linda's original schedule of two sections of the

first-year composition course was changed one week before the start of the semester to two sections of the introductory research writing course. She recalled

> I was given my teaching schedule kind of late. So, I was told I was gonna have 101 and about a week and a half before classes started they said, “No, it’s 202. But you’re in a lab.” So, it was kind of a trade-off for telling me a week and a half before I started. "Oh, but don’t worry, you’ll have a lab to help you out." And I did use the computers every single day in class. (Linda, First Interview, December 5, 2014)

Because of the late change to her course assignments, Linda reported using D2L heavily for both her classes. She posted the course content online, reducing her time spent formatting and printing class handouts. Students submitted the majority of their assignments through the drop box and participated on the course discussion board. Linda’s use of the learning management system figured prominently in her description of a technical problem and its effect on her classroom authority later in this chapter.

Other Forms of Digital Technology Used in the Classroom

Other types of digital technology featured heavily in Mike’s classroom activities. Frequently using videos or presentations as advance organizers (Merrill, 2002), Mike viewed the media as useful tools to help students understand complex topics or as a means to activate the students’ prior knowledge of an issue to be investigated in class. He stated

> We look at something on the Internet, or sometimes I play music, or sometimes we watch a film clip—stuff like that. I use it for motivation and a warm-up activity after writing prompts, but also to explain things in the classroom that I think students would get better visually, or if it would aid in their understanding. (Mike, First Interview, December 6, 2014)

Mike reported also leveraging technology during unplanned teachable moments (Havighurst, 1953) in the classroom to illustrate or accentuate concepts students were having trouble grasping through traditional textual or verbal means.

Imani noted that she often used external sources, including content-relevant websites and TED Talk videos, in her teaching. She explained, "I sometimes use TED talks when I need to. Especially when I'm teaching them things that concern culture, because I actually like incorporating culture in my teaching" (Imani, First Interview, December 6, 2014). Imani viewed such digital technology as tools to engage students through "real world" examples from outside the classroom.

In addition to using several features in D2L, Bruce frequently used PowerPoint presentations, videos, movie clips, and other online sources as advanced organizers prior to group and whole-class discussions or in-class writing assignments. He explained, "Sometimes I use PowerPoint to teach my students because I find it very useful for me to control the ideas and control the contents that I'd like to deliver to the students" (Bruce, First Interview, December 6, 2014). He asserted that incorporating digital technology in his lectures also kept his students focused much more effectively than if her were to deliver the content by lecture only.

While not in a computer lab, Sandy had been assigned to a classroom equipped with a SMART Board®, an interactive whiteboard connected to the Internet integrating access to multimedia and web-enabled content with the annotative functionality of a traditional whiteboard. In describing how frequently she integrated technology in her classroom activities, Sandy explained

> I think almost every class period, unless there's presentations—and even then, students are using PowerPoints and Prezis, and things like that. If they're not in class writing or doing something where I'm using—integrating—my SMART Board, I'm using something I've posted on D2L. We're actively using the computer to go into the library and look up databases and resources, if we're doing in-class workdays on our laptops. So, I think we are doing it quite often. (Sandy, First Interview, December 6, 2014)

New to teaching, she had eagerly embraced digital technology as a core component of her pedagogical practice inside and outside the classroom.

While Sandy and Fred were the only participants to cite accountability as a benefit for using digital technology in their classrooms, Alana viewed it as a "must" for connecting with today's students. She stated, "I feel it is a really great way to engage with students, because that's what they're used to. So, I try to always incorporate some type of 'digital thing' into a lesson plan" (Alana, First Interview, December 6, 2014). Alana felt that the "digital thing" did not have to be anything as technically complex as a learning management system or interactive whiteboard for her students to make a connection with the content she was delivering in the classroom. Similar to Anne, Fred, Kelly, and Mike, Alana frequently led whole-class discussions at the instructor podium while typing student comments in MS Word and projecting them on the screen, then after class posting the compiled document on D2L.

In the next section, participants share their views on the concept of authority in the classroom and the influence technological knowledge (Harris, Koehler & Mishra, 2009) had on their classroom interaction with their students.

Digital Technology and Authority in the Classroom

During the first interview, each of the ten interview participants described their students' mastery of digital technology. As with the distribution of responses to their definitions of the term 'digital technology' and their views on its importance in academic research, age again did not appear to be a factor. Three participants stated that they believed that their students were more knowledgeable about digital technology; five stated that they were as knowledgeable about digital technology as their students were; while the remaining two participants reported being more knowledgeable about digital technology than the

students in their classrooms. While the participants' views (and the distribution of them across the three categories) were not surprising, what was unexpected was the overall comfort level of the entire group with their knowledge of digital technology in comparison with the knowledge they believed their students possessed. Even the participants who felt they were less knowledgeable than their students were generally unperturbed by the situation.

Less knowledgeable than their students. While three participants responded that they felt they were less knowledgeable about digital technology than their students were, two of them, Jane and Bruce, were accepting of the situation and reported that they focused their attention on the course content rather than the technology used to deliver it.

Seated across the table from me in a group study room in the PCU library, Jane stated that she was confident her students knew more than she did. In response to my question, she replied, "I'm sure they do. Yeah, I'm sure they know more about technology than I do. No! No, I think it's natural, you know?" (Jane, First Interview, December 5, 2014). She explained that she felt comfortable asking her students for help if she encountered a problem using digital technology in the classroom. For Jane, content knowledge was her primary concern; the technology used to deliver it was a much lower priority.

Similarly, Bruce focused his energies on the course curriculum. He stated that he fully expected his students to be more knowledgeable about digital technology than he was. Seated at his kitchen table, he explained, "I'm not worried because I'm very acutely aware of it! Some of them know more than I do" (Bruce, First Interview, December 6, 2014). He stated that his students were welcome to adopt any tool during the drafting process; his priority was the final submission of the assignment. He elaborated, "They can use anything they want. But, the most important thing is the final product. I don't mind if they use

technology or any other things to construct their works" (Bruce, First Interview, December 6, 2014). Both Bruce and Jane shared their opinions without expressing any concerns about their perceived authority in the classroom. While Sandy did share their opinion regarding student knowledge of digital technology, she did express more concern about her interaction in the classroom with her students.

Unlike Jane and Bruce, Sandy was more sensitive to her students' reactions in the classroom, especially when problems arose which involved digital technology. She asserted

> Sometimes it's frustrating when you're in the classroom, when you're trying to use something, and you can just tell that students know, because they've been in similar classrooms, and they just have that exasperated sigh of, like, "Miss, you forgot to click that button there." (Sandy, First Interview, December 6, 2014)

While Sandy expressed a strong interest in creating a student-centered classroom where students were encouraged to be authorities in a topic of their selection, she did feel that students were comparing her with instructors in their other classes, especially in terms of integrating digital technology into her curriculum. This sensitivity was particularly interesting since Sandy taught in the only classroom in the English department equipped with a SMART Board; she believed most faculty members in the department did not take advantage of its potential. Her heightened sensitivity to comparisons with other instructors likely can be attributed to her status as one of the two participants with no prior teaching experience.

Also of interest was Sandy's estimation that her students had gained knowledge of digital technology in their other classes. Her opinion was not shared with the other study participants who viewed themselves equal in knowledge with or more knowledgeable than their students.

Equal in knowledge with their students. In the first interview, Kelly estimated that her students were as knowledgeable about digital technology as she was, but in different areas. While she was more familiar with D2L than the majority of her students, some knew more about various software packages and apps than she did. She elaborated

> So for instance, my 101 students were writing about social trends and one student chose an app that I never heard of, "Fade," which is apparently kind of a new emerging Facebook/Snapchat/Meet up only for college students. I hadn't heard of it but he did write his trend paper about the effects that it's having on college society. He knew more about it, but I don't think that was an issue. (Kelly, First Interview, December 5, 2014)

In situations such as this, Kelly did not feel that her authority in the classroom had been compromised as the assignment guidelines required students to choose a social trend and describe it. She felt she knew enough about the technology in general to assess the student's work. In this situation, Kelly's status as a 'digital immigrant' (Prensky, 2001) in a classroom of 'digital natives' was not a factor in her interaction with her students.

Sitting across from me in a downtown Pittsburgh restaurant, Imani shared with me her teaching philosophy and why she was not concerned about any difference in levels of knowledge she may have had with her undergraduate students. She felt there were some programs, such as PowerPoint, that she knew better than her students did, and she fully expected that her students knew some Internet sites better than she did. Imani explained

> I don't feel like it's more of a worry, because I feel that it is—we are partners in this. I feel like there are certain things I know that some of them don't and I feel like there are certain things they know that I don't. And so, I—we take from one another. (Imani, First Interview, December 6, 2014)

Imani's egalitarian philosophy of classroom interaction between instructor and student was shared by several other participants.

Anne shared Imani's belief that she and her students were equally knowledgeable in digital technology, but in different tools and their usages. She stated that she viewed the classroom as a space where students could share knowledge with her and the other students. In responding to my question about having concerns about students being more knowledgeable than she was, Anne maintained, "No, I don't. Not because I think I am more knowledgeable than them on everything, but because if they are more knowledgeable about something, that's just an opportunity for them to show that they're an authority in something" (Anne, First Interview, December 6, 2014). As an example of a situation where a student knew more than her, Anne shared with me an instance involving the program Zotero ™.

She recounted to me a class session where students were sharing their knowledge about specific programs and website applications as part of a discussion about the importance of citations. One of her students brought up Zotero, which she stated she did not know. Anne's reaction was not embarrassment; instead, she reported feeling guilty. She explained, "If we had had more time in the syllabus, I would have used that as an opportunity for him—that he could do a mini-lesson on Zotero to me, and to the rest of the class" (Anne, First Interview, December 6, 2014). Unfortunately, because of timing in the semester and the content she felt she had to cover, she was not able to modify her plans for the class period that day to accommodate him.

The two youngest participants, Alana and Linda, both responded that they felt they were as knowledgeable as their students, but perhaps in differing technologies. Alana stated, "There are definitely some students that know more about it. There are some students who know less than I do. So, it depends upon the student; it depends upon the technology" (Alana,

First Interview, December 6, 2014). Using feminist pedagogy as the foundation of her classroom management style, Alana felt she had been successful creating a student-centered classroom where she and her students could learn from each other. For example, Alana was willing to ask for help from her students if a problem occurred using digital technology in her classes. She stated, "I gladly will admit to my students on occasion that I do not know how to use certain things. So, if they have the knowledge, to please let me know" (Alana, First Interview, December 6, 2014). Similar to Sandy's account of students offering solutions in the classroom, Alana related an incident using the latest version of MS Word. Since the program had been changed, she was unable to edit a file until one of her students raised his hand and offered her the solution.

Linda shared Alana's ease with asking her students for help, but Linda attributed her ease in such situations to her age. Seated beside the instructor podium in her classroom, she mused, "I bet if there were certain topics that came up, I'm sure they would be more knowledgeable than me. I don't think I'm really afraid of it because I would ask them for help" (Linda, First Interview, December 5, 2014). Nevertheless, the same factor—her age—frustrated her when dealing with some departmental faculty but it was still an asset when dealing with her students. She explained

> Because I'm twenty-nine at the moment and I kind of feel like I'm up-to-date on technology and that there's not a huge gap between me and the 20-year-olds yet. Not yet, but I need to stay up on it so that it doesn't really affect me too much. (Linda, First Interview, December 5, 2014)

Linda related an incident in class similar to Alana's encounter with an upgrade in digital technology. In her case, she had planned to present a YouTube video in class but could not increase the volume. Without the sound, the students would have been unable to grasp the

full meaning of the content, yet even after adjusting the volume on YouTube, she was unable to resolve the problem. Ultimately, her students guided her through adjusting the volume controls in the operating system itself.

Alana and Linda were comfortable with the varying awareness of digital technology in their classrooms, as demonstrated by their willingness to confer agency with their students when situations arose that they could not resolve themselves. For Fred and Mike, the knowledge gaps their students demonstrated in the classroom necessitated that they maintain authority while still offering their students opportunities for self-expression.

More knowledgeable than their students. Of the ten participants, Fred was the most confident in his knowledge of digital technology. When I asked if he worried that his students had more knowledge about digital technology than he did, he quickly responded, "I find that most of them don't. There are some always, but I always have this sort of 'Hollywood version' of these kids that knew everything, and I find a lot of them aren't very good at it" (Fred, First Interview, December 6, 2014). His comment echoes my own observation of adolescent computer skills. Numerous times in the past, I have noted that being able to use a gaming handset is not adequate preparation for the computer skills expected in higher education.

While American K-12 educational systems have incorporated computers into the curriculum in many school districts across the country, the skills that I learned in typing class in high school are not being presented to high school students today. Starr (2011) noted this change in focus, stating, "Unfortunately, as schools have concentrated on teaching students how to use computers to obtain and produce information, they have paid little attention to teaching them how to type on the keyboard quickly, accurately, and with correct technique"

(para. 5). This lack of preparation has produced a generation of students who are impeded from writing efficiently and accurately in a milieu where both skills are highly necessary to master.

In comparison with young adults today, Fred believed that his experience over the past thirty years using digital technology had prepared him better for future enhancements to both computer hardware and software. Moreover, he felt his age had given him two other advantages over his students: patience and the ability to follow directions. He asserted

> I mean, I started with computers in ’83, so that accumulated knowledge—even though I can’t do "what’s the hottest trend last week?”—that accumulated knowledge and awareness, I think, it does build up. And I might not know the exact way, but I do know there’s ways out there. And also just being able to—being patient enough—to read the instructions helps, too. (Fred, First Interview, December 6, 2014)

Fred explained his previous experiences learning new software as being on an “as needed” basis. He noted that he had taught himself how to use a variety of software platforms, including Adobe Premier, which he had used in class to teach students how to create videos. While he may have learned these applications in order to incorporate them into his curricula, he learned them on his own outside of the classroom.

Similarly, the world of bits—zeros and ones—featured so prominently in Mike’s personal and professional identities that it was unsurprising when he reported feeling he was generally more knowledgeable about digital technology than his students were. He maintained that he did not feel threatened if a student in one of his classes appeared more knowledgeable. Mike’s positive attitude regarding technology influenced his reaction to these situations, which had happened on occasion in his classes. He explained that he felt no threat to his authority in the classroom when a student knew more than he did. He stated

> Usually I have to teach them a lot about our platforms, like D2L for instance, y'know. But sometimes they'll know something more about information on the Internet, or they'll take me to a site that I didn't previously know about, y'know. And I'll share that with the class—right in class, actually. (Mike, First Interview, December 6, 2014)

I asked him if in such situations he ever felt uncomfortable, having to cede control of the classroom to his students. Similar to Anne, he responded that he was not concerned about developing an authoritarian presence with his students as he felt the learning space should be more egalitarian and student-centered. He stated, "I try not to have a lot of authority in the classes, to begin with—I try to make myself seem like I'm a peer amongst the class. I sit with the class in a circle all the time" (Mike, First Interview, December 6, 2014). For Mike, a student-centered classroom was a cornerstone of his pedagogical content knowledge (Shulman, 1986). Nonetheless, he stated that when he felt he needed to be the authority figure in the classroom, he was able to assume that role comfortably.

In the next section, the participants describe the importance digital technology played in their interaction with students both inside and outside the classroom. Unlike their estimations of the importance of digital technology in research, their responses regarding its pedagogical application were more situational or passive in the sense that their responses were predicated by their classroom assignments and by the mentoring program mandate to implement the learning management system into their course management practices.

Pedagogical Challenges, Achievements, and Unexpected Concerns

In this section, I report the Teaching Associates' exposure to digital technology and its influence on the development of their professional identities, categorizing the exposure as pedagogical disappointments, hardware failures, achievements, and unexpected concerns.

Pedagogical disappointments. During the first interview, Mike and I discussed his experiences with disappointments in the classroom. When asked to recount a situation where digital technology was the cause of a lesson's misstep, he recalled a class period where he used a video clip of a famous African-American author describing her upbringing in a family that held prejudices against Caucasians. Mike stated that the students did not understand the author's explanation of her childhood, nor how she had learned "to navigate the distances between the two races." Surprised and disappointed, he decided he had presented the video too soon in the unit and that students had not been sufficiently prepared to internalize the topic. He stated, "I was surprised that a lot of them didn't understand that clip, because I thought that I had chosen it very carefully, and it would have been a great supplement" (Mike, First Interview, December 6, 2014). When asked how he recovered the situation, he stated that he had simply turned the students' attention back to the text he had asked them to read prior to class.

When I asked Anne whether she could recall a situation where a lesson had not gone according to plan, she quickly responded, but with a course activity that was problematic for an entire semester. She recalled that in her first semester as a Teaching Associate she had been assigned a section of the first-year composition course. As part of the coursework, she had developed an activity relying on the discussion board in D2L. Students were required to post comments prior to attending class, which she had planned to use as a foundation for classroom discussion. Unfortunately, students frequently responded just prior to class, submitting rushed posts, or they forgot to post altogether. As a result, her plans for whole-class discussion were impacted severely. She recalled

> I realized that it just didn't work. I still feel like it was good in theory, but if the students don't do it—and if the vast majority of students don't do it—then I feel that means something's not working, and that's a valid concern. So, the next time I taught that class, I actually cut that out. (Anne, First Interview, December 6, 2014)

Even more troubling for Anne, she felt that the failure of the activity had undermined authority in the classroom for the rest of the semester. When she revised her curriculum for the following semester, omitting the discussion board activity, only then did she feel more confident about her control in the classroom.

In a similar situation, Jane reported a classroom activity that did not go as she had originally envisioned it would. She had scheduled an in-class writing session for students to revise their essay drafts. Her plan was to individually conference with students during the session, which she hoped would afford her the opportunity to interact with her students as they wrote. While most of the students remained on-task and used their time effectively, she recalled that some did not. She explained, "But, there was some—few students—who didn't use that time very well. And I can—well, I was able to notice they were pretending to work on their draft, but I knew that they were doing something else" (Jane, First Interview, December 5, 2014). After that incident, Jane revised her lesson plans to remove the in-class writing activities from the course schedule.

For other Teaching Associates, the use of technology also did not guarantee full student engagement. Sandy related an experience earlier in the semester in her first-year composition course. As part of a lesson to encourage students to use reliable sources in their writing, Sandy had developed an activity comparing the search results from Google Scholar with those found using the university library databases. Just prior to the composition class,

she had used the same activity successfully in a section of the research writing class. This time her students were resistant to the activity. She recalled

> They didn't want to give topics, they—like, it took minutes for, like, "Give me a topic, any topic. It can be anything—food." And they didn't want to give a topic…finally I think somebody said, "Chicken nuggets." And that's what we had to go with. I mean, it was rough, y'know? (Sandy, First Interview, December 6, 2014)

Despite the struggle to engage her students, Sandy believed that her authority in the classroom had not been compromised. She felt that her enthusiasm for the topic aided her ability to manage the situation, despite the disappointment she felt in her students' lack of enthusiasm for the activity.

Alana also reported instances where students pursued unplanned classroom trajectories, to both negative and positive temporal outcomes. She used YouTube videos in class to supplement the course content and engage students beyond the printed text. Yet at times, this engagement became unpredictable as students followed their stream of consciousness thinking into territory that was off-topic. Having shared the situation in Teaching Associate mentoring sessions, Alana recalled being advised to treat these occurrences as teachable moments. Repeating the advice she had been given, she explained, "'Follow them along and then start to steer them back.' So, I'll follow where they're going with that and we'll take where they're going and try to bring it back around to my point" (Alana, First Interview, December 6, 2014). Alana had incorporated the advice from her peers and mentor in her pedagogical approach to classroom management. While opportunities for such teachable moments encouraged student agency in her classroom, Alana stated that each one affected her goals for the semester.

Linda recalled a lesson where students misunderstood her assignment goals and planned use of the social networking platform Twitter®. In a section of the introductory research writing class, Linda assigned a project for students to complete in class. Based on a topic of their choosing, they were tasked with locating online sources before class and then posting links to them on Twitter. According to Linda, students behaved as if they expected class to be over once they posted their links. She stated

> They posted it and they all thought they were leaving. And I said, "No, I want you to read the other peoples' posts and respond." Nobody really responded to them. I think unless I had assigned points to it or made some kind of, like, y'know, either a reward or punishment for not doing it. I guess I should've thought about that a little bit more before I went into it. (Linda, First Interview, December 5, 2014)

Linda remembered being disappointed that her students were not interested in reading each other's posts. She recalled feeling that she had lost control of the class and had to make a concerted effort to restore order in the classroom. Later, upon reflection, she realized that not all students would be as engaged in her coursework as she would have liked. She had to implement additional incentives in the form of grades or points in order to encourage their full participation.

Hardware failures. Not all problems involving student participation can be avoided by careful assignment planning. When asked if they could describe classroom experiences when their lessons had not gone as planned due to technical problems, Alana, Linda, Kelly, and Imani each stated that they had experienced problems with faulty overhead projectors.

Kelly recalled a session when the overhead projector had malfunctioned partway through class. She stated that during a whole class activity, the overhead projector had shut itself off and she had to wait for the bulb to cool down before she could restart the projector. She recalled being angered by the situation; however, she was teaching in the computer lab

and she was able to recover the lesson after a few minutes. Since she loaded all presentation materials and handouts on D2L for students to access before and after class, she instructed the class to log into D2L and display the materials on their individual computer screens while she continued teaching.

Similarly, the overhead projectors failed during both Linda and Alana's presentations. To circumvent the problem, Linda also opted to post the presentation materials on D2L. She was able to continue the activity with her students following her on their own computer screens. Alana's backup plan relied on printed copies of her PowerPoint slide deck. She was able to recover her class momentum by having students read the handouts as she spoke. Like Kelly, Alana complained about the amount of time she wasted trying to resolve the situation before resorting to her handouts.

Imani also related an incident involving the overhead projector that had occurred at the start of the fall semester. Unable to resolve the situation, she had to telephone the IT Help Desk for support. Time again was a factor, but a help desk technician quickly visited her classroom and solved the problem. She recalled being impressed by the help desk technician's sense of urgency in resolving the situation. When I asked Imani if she felt her authority in the classroom had been diminished by the incident, she disagreed. She explained, "When it comes that even the students you know that are quite technological also can't solve it, then you know it's something beyond both of us and then you just…ummm…go with it and continue there" (Imani, First Interview, December 6, 2014). On a daily basis, while she felt she fostered a student-centered classroom experience, because of her age and previous teaching experience, she felt her authority in the classroom was clearly defined. Nonetheless, in this instance Imani's sense of identity with her students had been altered. Since no one was

able to resolve the problem, she felt the atmosphere in the classroom had changed with her students becoming her peers in this situation.

Lack of Internet access negatively affected Anne's class on a day when she had scheduled a peer review session for her students' group presentations. Because she had encouraged them to post their materials on D2L, her students were unable to access them. Anne recalled feeling frustrated, as she could not implement one solution for all of the groups. She explained

> It basically became, "What do you need to do with your peer group in order to get this accomplished?" So, some of them elected to go to the computer lab and print things. Invariably some people don't have cash on their cards to do that. Others decided that they would do it out of class; in that case, I let them go, and—but they still had to have their notes for the peer review completed and turned in. (Anne, First Interview, December 6, 2014)

Anne's plan for the following class had to be changed as a result; some student groups had to wait until the next class period to receive the notes their peers produced while viewing their presentations, postponing the material she had originally planned to cover.

While Internet access was not the impediment in Bruce's case, one specific website was. Bruce's problem involved a video he had located on the website YouTube. While the video itself played, students were unable to hear the audio portion. He described his attempts to resolve the audio problem, expressing his frustration with the situation. Trying to keep the classroom pace as he had planned, he continued the lesson by showing the video without sound, but it was unsuccessful. He stated, "I just played it without sound. I tried to solve the problem, but I couldn't solve it. And, I don't know who should I contact in that case. And, I need that person immediately" (Bruce, First Interview, December 6, 2014). Unlike Imani,

Bruce did not know to contact the IT Help Desk for support. As a result, Bruce abandoned that activity and proceeded to the next that he had planned for that class period.

Jane recounted a situation that also involved problematic Internet access, but to a lesser degree than Anne and Bruce experienced. Students were making their final presentations using PowerPoint as the presentation tool. One student opted to use Prezi, a web-enabled platform instead. While her classmates were able to complete their presentations, she was not. Jane stated, "I was worried about her, but I was thinking about a way for her to do this, 'Maybe we can—we might have to wait for her presentation for the next meeting, or something'" (Jane, First Interview, December 5, 2014). Fortunately, the Internet outage was short-lived and the student was able to complete her presentation that day.

Alana, Imani, Kelly, and Linda each recounted technical problems related to classroom hardware; i.e., the overhead project. Their reports underscore the reliance instructors have in using it to deliver audiovisual content to satisfy students' differing learning styles (Gardner, 1983). Nevertheless, other types of hardware, not in the form of digital technology, may also impede classroom activities.

Sandy described a class period from the Fall 2013 semester involving a battle between autumn leaves and the campus groundskeepers. Laughing, she recalled

> We were looking at audio and video files, personal memoirs, examples. And, they were doing, like, leaf blowing outside, so we couldn't hear a thing. And so, the technology—the lesson that I had planned—students are trying, they're saying, "What?" "Huh?" And everyone's shouting over each other, and you can't hear a blessed thing. (Sandy, First Interview, December 6, 2014)

Sandy found that closing the single pane windows provided little relief from the external noise. She simply muddled through her class, attempting as best she could to interact with

her students over the noise. Ultimately, she completed the activity and assigned a second viewing of the YouTube videos as homework.

Unfortunately, Sandy experienced more noise during her subsequent class, but from a different source. Continuing to recount her story, she recalled, "and then the doors kept slamming, so we had this whole conversation about ghosts in Leonard" (Sandy, First Interview, December 6, 2014). In the end, Sandy was able to laugh about the day, attributing it to a series of annoyances mounting to what seemed at the time to be a formidable challenge to effective classroom instruction.

Finding the humor in situations, especially those that are not in our control, is common practice for many adults. Experience and planning also diminish the effect uncontrollable events potentially may have on instructors' classroom activities. For Fred, planning alternate or additional activities was a habit he had developed resulting from being embarrassed as a student during a presentation. He maintained, "I always have a backup plan. I always count on technology failing. So, I always have an extra lesson; I always have an extra way to do things" (Fred, First Interview, December 6, 2014). According to Fred, what made that long ago presentation particularly embarrassing was that his presentation topic was the effective use of sound and video files in PowerPoint presentations.

While the participants were each prompted to recall instances where technology impeded their abilities to deliver the course content in the manner in which they had planned, they were also quickly able to describe successful experiences incorporating digital technology in their classroom practices.

Achievements. When asked to describe a situation where he thought digital technology had been an effective instructional tool, Mike recounted a class earlier in the fall

semester where he focused on developing students' critical reading and annotation skills. Teaching a section of the first-year composition course, the content he covered that day to promote the use of the skills was the construct of the American family and its transformation in recent decades. To supplement an article on the topic he assigned to be read outside of class, Mike presented a video clip on the subject prior to the whole-class discussion. He recounted how successful the lesson had been, stating, "They appreciated it, and got into a great discussion about diversity and it set the tone for the whole class" (Mike, First Interview, December 6, 2014). Mike added that the video clip acted as an advance organizer to help students remain attentive to the lesson.

Imani also recalled a lesson involving video clips that she felt had been particularly successful. As part of a lesson examining cultural diversity, Imani incorporated a TED talk video and external web links in her PowerPoint presentation. She stated that it was one of the first times she included multiple types of media in her lessons. She had been very pleased with both her execution of the lesson, moving from medium to medium without mishap, and her students' interaction with the lesson content. Being one of Prensky's (2001) 'digital immigrants', this was particularly important for her. She maintained, "Being the person that I am, and especially the fact that I actually started using technology in my adulthood—after my Master's degree, then I feel really everything I do, I feel like I've achieved highly" (Imani, First Interview, December 6, 2014). Despite her feeling that she had been successful at incorporating digital technology in her curricula, her sense of authority in the classroom came from her knowledge of the content, rather than a knowing how to present it through any technologically enhanced medium.

Several participants recalled using presentation tools successfully to deliver course content in their classrooms. Jane and Bruce both identified PowerPoint as a program that they believed was an effective instructional tool in their classrooms. Despite the initial confusion over class participation involving Twitter, Linda still felt the lesson had been effective. Both Alana and Anne identified Prezi as a web-enabled application they frequently used in their classrooms.

Anne recalled using Prezi to aid her students in identifying a research topic. She stated that this was often a troubling point for students, yet she did not want to rob students of their senses of agency in her classes. Projecting a Prezi presentation she created as part of the class preparation, she used it as a brainstorming tool as a way to gather videos, websites, and other textual resources and modeled for her students her own processes for developing ideas to pursue through research. She explained

> I showed them little clips of things I was interested in and I worked on how we could narrow that down to something that we want to share with other people, something we have an argument about, something of significance in some way…And then we worked on a topic together as well, and I was able to put those notes into the Prezi. So, that modeled the whole thing… (Anne, First Interview, December 6, 2014)

Another benefit for students was that by using Prezi as her modeling tool, she was able to save it and post links to in from D2L. Students were able to reference the presentation outside of class to refresh themselves as they developed their own research topics.

Mastery of the SMART Board in Sandy's classroom became a priority for her after she was unable to use it effectively in a class on annotating texts while being observed by her program mentor. Embarrassed and angry with herself, she was determined to learn at least its basic functionality before her next class. With fifty minutes free, she remained in the classroom and practiced using the board instead of grading papers in her office. By the next

class, she was able to use the interactive white board to deliver the lesson she had planned. She recalled

> I was actually able to annotate, and I was able to highlight. And I still learned something new from the students and they taught me that if I used the eraser and I go around in a giant circle, and tap the middle, everything I wrote disappeared. (Sandy, First Interview, December 6, 2014)

Sandy's "crash course" on SMART Board functionality created another opportunity where her students were able to experience a sense of agency, of participating as full-fledged members of a community of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002). According to Sandy, the use of the interactive white board had further implications.

She viewed the lesson as a success because not only did students engage with the content, i.e. the lesson on annotations, but also because they were able to demonstrate their knowledge of the technology. She explained

> The students loved that they could see what they were writing, and see how much they all collectively annotated one page of text—they also taught me something at the same time that I was very excited about, and they loved sharing something with me that I didn't know. And so, in that class, of course, since I wasn't being observed, everything went beautifully. (Sandy, First Interview, December 6, 2014)

According to Mishra & Koehler (2006), Sandy's willingness to drop her original plans for the time between her two classes and focus her attention on the features of the interactive whiteboard demonstrated her understanding of what her students knew in terms of technology, and what they needed to know to understand the content and be successful in her class.

Teaching in a technologically enabled classroom also influenced Kelly's relationship with her students. Assigned a computer lab equipped with the NetSupport® School program

(NetSupport Group, n. d.), Kelly was able to integrate technology into the flow of classroom activities, modifying her instructional and communicative approaches to the content through the chat, group discussion, and student progress monitoring features of the system. Using the system, she was better able to assess individual student activities and monitor individual student performance for confusion or loss of focus. The program also influenced how students interacted with her, by allowing students to send questions to her screen rather than having to raise their hands or approach the front of the room. Another way the program influenced her pedagogy was during group discussions. Kelly explained

> That enabled me to do question and answers a bit differently. Because there was a round-robin where I would tell them, "Let's have sixteen students talk." And I would randomly choose the sixteen, and what order they would speak in. So, in my eyes it made it a little more fun than just me saying, "Okay, your turn." (Kelly, First Interview, December 4, 2014)

The dynamic of Kelly's interaction with her students was transformed by the granular control of the chat feature, allowing her to select students randomly to participate in chat sessions. She was able to personalize her exchanges with students through a medium that presented them with the opportunity to ask questions without fear of ridicule from their peers in the classroom.

Unexpected concerns. Despite the many positive things participants identified, Mike noted that using digital technology in the classroom created responsibilities he had not encountered in prior teaching environments, as well as challenges to his use of technology and students' expectations of that use. While they may have identified different programs or platforms, Mike's concerns over equity to access were shared by several of his fellow Teaching Associates.

In describing the responsibilities instantiated by the use of digital technology in his coursework, Mike noted that not every student had experienced a learning management system prior to starting their academic careers at PCU; or if they had, the system had not been D2L. Thus, he felt it was his responsibility to show them how to use the system, taking class time to review the features of the platform, especially at the start of the semester.

Jane, Bruce, Sandy, and Fred also identified students' prior knowledge of D2L as a source of concern that they felt they had to address at the start of the semester. Fred's approach to explaining the role of D2L in class was representative of their views. Fred stated, "I'll say, 'This is D2L.' at the beginning of the class. 'We're gonna use it. Here's how you access it. If you have questions, you need to come to me, or you need to go to IT'" (Fred, First Interview, December 6, 2014). Reflective of the NCTE position paper, *Beliefs about Technology and the Preparation of English Teachers: Beginning the Conversation* (Swenson et al., 2005) not to turn the composition classroom into a computer training laboratory, Fred's explanation illustrated the focus on course content he shared with his peers and not on digital technology. However, this was not the approach adopted by others in the Teaching Associate Mentoring Program.

Similar to Mike, Sandy devoted almost an entire class period to reviewing the features of D2L at the start of the semester. She felt that it was imperative, as her students were first-semester freshmen. She recounted her demonstration of the system, stating

> I went over, "Okay, if I assign you a discussion, this is where the discussion threads are. And this is how you post." If I'm assigning you—if you want to know where your content is for your reading, or your book's not here, here's how you get it. (Sandy, First Interview, December 6, 2014)

Regardless of the program or website, Sandy maintained that she would spend time in class to ensure that all her students were prepared to complete assignments unimpeded by unfamiliar tools. As both she and Mike were doctoral students in the Literary Criticism program, their views on preparing students to use instructional technology may have been influenced by the MLA's recommendation that students and faculty have training as stated in the *Guidelines for Information Technology Access and Support for the Modern Languages* (Committee on Information Technology, 2013). Unfortunately, neither Teaching Associate directly referenced the association guidelines. Their concern may have been based solely on personal experiences as students themselves, a concern that was shared with their peers in the Literary Criticism program.

According to Kelly, the majority of her students already were somewhat familiar with D2L but they were much less knowledgeable about Turnitin. In addition to reviewing the functionality of NetSupport School, Kelly also spent time explaining how Turnitin analyzed their papers and how the students themselves could benefit from the service. She stated, "I did explain Turnitin.com because I realized that some—they mostly seemed to be familiar with it, but they didn't really know what happened or what my side of the program looked like" (Kelly, First Interview, December 5, 2014). For Kelly, once she explained how both she and her students could benefit from classroom and course management tools like NetSupport School and Turnitin, students no longer had excuses if problems were identified using either system.

Anne devoted class time to ensure students were familiarized with all of the software and web-enabled solutions she had incorporated into her teaching. One example she shared

with me was her approach to introducing Prezi by assigning a simple in-class activity to acquaint her students with it. She explained

> Before we really get into, like, the meat of an assignment using a new technology, we baby-step through it together with a much, much simpler assignment. So, if I use Prezi, the first thing I do is, "Show me three awesome things that you like." That's it. And they have to use video, a picture, and a hyperlink. That's so they know how to use the basics, but the content of it is very low stress. (Anne, First Interview, December 6, 2014)

Because Prezi featured heavily in Anne's instructional methods, she felt it was necessary that her students learn to use the application in order that they could focus on the assignment rather than the tool used to complete it.

Alana expected her students to have the basics of word processing mastered when they entered her classroom. Her expectation, while not always accurate, was based on the assumption that students encountered word processing in high school. In addition to needing to learn new general features such as setting margins and tabs, left-aligning text, and centering titles, she believed that they had never been in a class where the teacher used the Track Changes feature in MS Word. Paraphrasing one of her classroom explanations, she stated, "I've had to teach some students. 'Okay. Well, this is what the track change does. This is how we're gonna use this. This is how you do this'" (Alana, First Interview, December 6, 2014). Because she used Track Changes heavily with her students in the drafting process, Alana devoted time in class to review the functionality of the feature with her students prior to assigning work involving her feedback.

Lastly, Linda encountered a number of students familiar with the social networking site Twitter in her classes, but far fewer who were familiar with the link management platform known as Bitly™. As part of her process of introducing new instructional tools, she

frequently asked students to raise their hands if they knew how to use or do something. It was her experience that she could expect only half of the class to have any prior knowledge, and as a result, she built time into the class session for demonstrations. However, as Linda learned when her students assumed class was over after posting their comments on Twitter, digital technology frequently encouraged unexpected outcomes and behaviors.

Mike shared a situation in his classes that he had not anticipated; namely an expectation among his students that he would use digital technology in each class. As the fall semester progressed, Mike used PowerPoint at the start of class periods to introduce new content in a condensed and organized manner. He felt it was more engaging than having students interact solely with textbooks. Nevertheless, students came to expect a PowerPoint presentation at the start of the class periods, and then some would lose focus of the lesson particulars during the presentation. Mike observed, "When I had a presentation, they came to expect it. But the presentation—the PowerPoint presentations—seemed a little boring and outdated, so I'm going to try to use Prezi more" (Mike, First Interview, December 6, 2014). As Mike took into account his students' growing awareness of digital technology and its use in delivering educational content, he adjusted his pedagogical delivery of the course content, demonstrating his ability to incorporate the tenets of TPACK (Mishra & Koehler, 2006) in his pedagogical toolkit.

Recalling Harris, Koehler and Mishra's (2009) focus on the physically limiting influence of a whiteboard in the classroom (but not in a business environment), Anne shared her discomfort with using the instructor workstation during her lesson introducing Prezi. She recalled feeling "tied to the computer" (Anne, First Interview, December 6, 2014) and unable to walk around the classroom and individually interact with her students. I recall one of my

professors, now since retired, who never used the workstation during the two semesters I was his student. His rationale was similar to that of Anne: the instructor workstation prevented him from fully engaging with his students.

Mike was concerned about a different technology in his classroom. Despite his embrace of technology, there were limits to what he was prepared to do in his classroom. For example, despite their relevancy to his students, Mike was not prepared to incorporate smartphones into his pedagogy. He even used the word "fear" to define his level of apprehension, while acknowledging their potential usefulness from a pedagogical standpoint. He maintained, "I'm trying to break that fear, because, y'know, I'm afraid that I'm going to be teaching in a classroom and the students are going to have the phones out, and they're not going to be on task" (Mike, First Interview, December 6, 2014). This concern frustrated him because he strongly believed that there was a place for smartphones in the classroom; he just was not ready for them to be in his classroom.

Teaching Associates' Pedagogical Preparation to Use Digital Technology

In this section, I report the Teaching Associates' understandings of the pedagogical role digital technology played in their doctoral programs, and their perceptions of faculty's valuation of it in the department.

Preparation to use digital technology for teaching in the Literary Criticism program. Kelly stated that she felt there was no organized approach to ensuring graduate students were exposed to the pedagogical uses of digital technology in the Literary Criticism doctoral program. In responding to the interview question, she stated, "We are told that Moodle and D2L are available to us, but from I'd say my program or even department, I haven't gotten any instruction, or…I haven't even had really too many professors at the

doctoral level using it" (Kelly, First Interview, December 5, 2014). Furthermore, she noted that in her program's mentoring sessions, the situation was similar: faculty involved in mentoring the Teaching Associates were not actively using or promoting the use of digital technology for pedagogical purposes.

However, Alana noted that some discussion of digital technology as a pedagogical tool did occur in the mentoring sessions. She recalled, "We had a mini-lesson, mini group meeting, on 'how to use technology and the benefits of using technology in the classroom'" (Alana, First Interview, December 6, 2014). Beyond this, the mentors advised Teaching Associates to attend the university IT training sessions scheduled throughout the academic year.

Anne responded to my question by identifying several courses offered in the Literary Criticism program that focused on the explicit instruction of pedagogy. She recalled

> As far as our explicit instruction courses go—Teaching College Writing, Teaching College Literature—I can't recall technology being a significant topic that we discussed. And it wasn't even modeled very much. I mean, it wasn't used in their classrooms as a tool that we could see it being illustrated and utilized ourselves. (Anne, First Interview, December 6, 2014)

Her evaluation of the situation, that current faculty believed that digital technology was not necessary to teach literature, was shared by others in her program. Linda articulated this opinion in her response to my question. "We're lagging behind on the Literary Criticism[15] side. I know we are. I did have certain professors that were effective with it, and then I had ones where, nope, all we did was talk about the printed book" (Linda, First Interview, December 5, 2014). Linda's response illustrates her peers' heightened expectation that they were "behind" in terms of technological knowledge and its effective use to teach content.

[15] Alternate program name replaced text in participant quote.

Mike shared Kelly and Anne's opinion that there had not been an organized, program-wide effort to teach doctoral students how to use digital technology for classroom instruction. He stated

> We're not taught how to use digital technology to do any teaching that I've come across and we're not taught how to use digital technology at all. We're just expected to know how to use it if we want to use it. (Mike, First Interview, December 6, 2014)

Mike's description of the expectation among many faculty members that students already knew how to use computers and other electronic devices was shared by several of his peers.

Identifying the course "Teaching College Literature" in particular, Bruce shared Mike's opinion that faculty in his doctoral program expected students to have already acquired the technological knowledge necessary to teach literature. He explained

> Maybe because my program is quite traditional, even the way I took the "Teaching College Literature" class. We didn't talk much about online technology in class…I think the professor had a high expectation of the students know to how to use technology. (Bruce, First Interview, December 6, 2014)

Bruce viewed his program as being "traditional" in its focus on content; however, others in the Literary Criticism program described electives that did promote digital technology in the literature classroom.

Preparation to use digital technology for teaching in the Writing & Language program. In the Writing & Language program, one course was offered at the start of the doctoral student's academic career, entitled "Technology and Literacy." The purpose of the course was to introduce different kinds of digital technology and demonstrate their pedagogical uses. The applications and websites covered were developed originally for non-academic purposes, but later were adopted by instructors as the types of technology that

students should learn for the experience of knowing them, and also as tools for acquiring other knowledge.

In the fall of 2010, "Technology and Literacy" was a required course. The technology examined included asynchronous (i.e., communication as turn-taking) web platforms including blogs and wikis; content authoring tools including podcasting (audio recordings) and videos (made with Microsoft Movie Maker); and synchronous communication tools (i.e. two-way communication occurring in real-time) primarily in the form of social networking sites such as Facebook, MySpace, Second Life, and Twitter. However, as the course was not always taught by the same faculty member, its content—and its status as a required course—varied.

Fred started the program in the fall of 2011, and thus his experience in certain coursework was different from the previous year's cohort of new doctoral students. According to him, the course "Technology and Literacy" was an elective course the year he started, but had since been reinstated as a program requirement. He stated, "There is one class that used to be mandatory, but now it's not—but, I think it's mandatory again. When I took it, it wasn't" (Fred, First Interview, December 6, 2014). As an elective and not a required course, students in his cohort had the choice of opting out of a course designed to assist their development of technological knowledge and its pedagogical use to deliver course content (Harris, Koehler, & Mishra, 2009). Its status as an elective during Fred's first year in the Writing & Language program may have affected the technologies covered in the class and his opinion of the relevance of the class. He maintained

> Nothing against the instructor—but he was busy and the technology was very old. Was it helpful? Have I used anything from his class?...I did really learn how to use PowerPoint more than I've ever. I don't think I've actually used it in class. Other than that? Theory of technology? You know some of the readings were interesting. (Fred, First Interview, December 6, 2014)

Fred's previous experience using digital technology in the classroom gave him an advantage in the class, as most of the programs and websites covered were familiar to him. Nevertheless, even the programs that he felt he knew well, such as PowerPoint, were covered in more detail than he had previously experienced learning on his own.

Similarly, Imani, who started the program in the same cohort as Fred, recalled the course as being more of a review for her, having previously taken online computer classes. Because of her past training, she was able observe how the professor interacted with the students in the classroom. She explained, "Some people know more and others know less. But, the ones who know less just keep on lagging behind, because the ones who know more, the teacher—or the person who's delivering—goes with their pace" (Imani, First Interview, December 6, 2014). Imani's observation of the pace of her class and her professor's interaction with the students offer another facet of the dynamic digital technology injects into the rate of delivery of course content.

Changing Usage of Digital Technology over Time

In this section, I report how the participants' pedagogical usage of digital technology changed over the course of the academic year. The responses were gathered from the transcripts of the participants' second interviews, scheduled between March 10, 2015, and May 31, 2015.

Use of technology in teaching. I connected with Kelly remotely via Skype on March 12, 2015. She was teaching two sections of a 200-level literature course, which pleased her

because she felt that the students wanted to take the course. When asked how she felt the Spring 2015 semester was progressing, she stated, "I'm afraid I'm probably using less technology. I'm finding less uses for technology in the literature classes than I was in the writing class. I don't know if that's because there isn't or I'm just not aware of them" (Kelly, Second Interview, March 12, 2015). She continued to use D2L to manage the course, but the primary anthology she was using was a traditional paper textbook. Kelly noted that digital technology had afforded her access to an out-of-print book on Google Books, which she had printed and distributed as part of the course packet.

As for Mike, whom I interviewed on March 13, 2015, he noted that he had not modified his use of digital technology in his pedagogical practices for practical reasons. He explained that since he was teaching two sections of first-year composition as he had in the fall semester, he was able to reuse assignments and materials reducing his class preparation time. He noted, "I'm recycling most of my lesson plans, and some things are changing, but I'm using the same methodology I used for every lesson plan last semester, because I already have things prepared" (Mike, Second Interview, March 13, 2015). This semester he continued to use D2L to manage the courses and he incorporated digital technology in each lesson, frequently using YouTube videos, short writing prompts at the start of class sessions, and MS Word to gather student responses during whole-class brainstorming sessions, which were subsequently posted on D2L.

During my Skype interview with Jane on March 23, 2015, she described a library-focused lesson she implemented involving the use of smartphones. As part of a scavenger hunt in the library, students were required to take photos of resources in key parts of the building, such as journals in the back stacks. Jane also noted that she had increased her usage

of D2L to manage her classes, including the grading module. Moreover, while she had used the drop box feature in the past to collect assignments, she connected it to the grading module for the first time. This allowed her to simplify the grading process as she only had to enter the grades in the drop box and they would automatically appear in the grading module.

Similar to Jane, Anne also noted an increase in her reliance on D2L to manage her courses in our second interview on March 11, 2015. One reason was that she was teaching two sections of the first-year survey of literature course, which had a cap of forty-five students. Describing her assessment process for her students' reading journals, she explained, "I have them just submit them through the drop box and I can comment on them and grade them all electronically. It's much easier than lugging around the reading log journals every time I want to collect them" (Anne, Second Interview, March 11, 2015). Nevertheless, not all of her experiences using digital technology were executed as planned.

Unexpected challenges in the classroom. In one situation where Anne's lesson did not proceed as planned, she described her students' reaction to a piece of digital literature. She assigned "88 Constellations for Wittgenstein (To Be Played by the Left Hand)" by David Clark (2008) as part of an in-class activity focusing on literary analysis. Surprised by her students' negative reactions to the piece because she viewed them as "New Media people," she recalled

> I expected them to really enjoy it—they became "Grumpy Old Men" immediately. They didn't like that it wasn't linear, they didn't like that there was text and audio and visuals. It was far, too far beyond what they expect literature to be. They really rebelled. (Anne, Second Interview, March 11, 2015)

She maintained that the students did understand why she had assigned the piece, as it was part of the theme of the course, "technology in literature." She felt that it was the piece itself

they did not enjoy. She explained, "I think that they saw why I was assigning it, so they didn't rebel in that sense. It was just so far beyond what they expected" (Anne, Second Interview, March 11, 2015).

Fred also reported a challenge in his classroom during our second interview, held on March 10, 2015. He reflected on the unexpected physical aspects of teaching in a computer laboratory as previously he had been assigned to traditional classrooms. As this environment promoted small group discussion and free movement around the classroom, he viewed the computer hardware as a barrier to group work and student interaction. He maintained

> When I walk in, I see very large monitors and little heads above them. So, it's like a series of walls in front of me. It's like a fortress…all I can see is about this much of the students—just their eyes—some of the shorter ones, I can't see anything. So, I thought there would be some advantages, but immediately I saw that the way I was teaching before, where I would use a lot of group discussions, break into small groups…ummm…it just wasn't gonna work. (Fred, Second Interview, March 10, 2015)

His solution to what he described as the "wall that separated me from the students" (Fred, Second Interview, March 10, 2015) was to instruct the students to form a group at the front of the classroom with their chairs. While he felt this alleviated the barrier-like atmosphere created by the computer monitors, he did not use whole-class discussion as a teaching technique as much during the spring 2015 semester as he felt that time was wasted in gathering the students together in the front of the classroom.

Distractions to implementing more digital technology in their pedagogy. Not all of the Teaching Associates had increased their usage of digital technology in the classroom since the previous semester. Imani, Bruce, and Alana reported that they had not modified their curricula. Both Imani and Bruce were nearing the end of their doctoral journeys and were focusing their energies on completing and defending their dissertations.

Alana shared with me a common complaint expressed by graduate students in both doctoral programs. Facing the competing demands of teaching and conducting research, doctoral students reported a general lack of time to experiment with new technologies. She explicated

> I would say that time really does affect my ability to incorporate new technologies. Because, I mean, home life and academia—and the job—trying to balance all of those, there's not a lot of outside time to really explore new possibilities with technology. So, if somebody's able to explain it to me really quickly, and give me a five-minute tutorial, I would—and it seems like it was something that I could do very easily, I might then incorporate it. But, for the most part, I would just not do that. (Alana, Second Interview, March 21, 2015)

Time was a problem for all of them, expressed in different ways and at different occasions during the process of conducting the interviews. As such, several participants, Imani and Linda in particular, postponed their second interviews and I had to respect their wishes.

By the time I connected with Linda, the spring semester was finished and she was already thinking about the pedagogical changes she planned to make for the following semester. She explained

> I'm playing around with the idea of doing a course pack for next semester instead of a textbook, just because I made them buy like a $50 textbook this semester and I really only used it probably…every time we started a unit, for that first week, but then there was like two or three weeks where we were working on a project, I wasn't using it in class, so they stopped bringing it. (Linda, Second Interview, May 31, 2015)

Linda also described her experience during the spring semester using the grading module in D2L. Unlike their limited use of the textbook she had selected, Linda reported that her students' access to their assessment information was frequent, perhaps too frequent.

Mutual visibility in the university's learning management system. Linda had implemented the grading module first using the points-option the previous fall semester. She recalled that her students that semester had struggled with understanding what the points

represented in terms of overall course assessment. In an attempt to address this confusion, she changed the grading model from a points-based system to one based on percentages prior to the start of spring semester.

Instead of solving the problem, the change in grading schemes had precipitated a different problem. Linda felt that students had become preoccupied with the numbers rather than on her feedback. She maintained, "I have people who have 88% who are asking me for extra credit, and I'm going, 'There is no extra credit. Just do better on everything!'" (Linda, Second Interview, May 31, 2015). During my last two semesters teaching with D2L at my previous institution, I had noted a similar problem with my students. I noticed that they paid attention to the overall course grade, which was an interim grade but they reacted to it as if it were the final grade. I configured the system to hide the final grade field so that students were forced to track their academic performance through each assignment grade.

Discussing the ability to hide the course grade altogether, she stated she planned to adopt this feature in the future. "I think that's what I'm going to do this next time because I had the same experience this past semester. It just seemed like too much—they were too focused on that rather than doing well in the class" (Linda, Second Interview, May 31, 2015). Linda's plan reflects the concern expressed by Swenson et al. (2005) regarding student round-the-clock access in online coursework, where students would come to expect faculty to be available continuously in an online educational setting. In addition to Linda, several other participants noted this in their discussions of the influence the university's learning management system had on their interactions with their students.

For example, during the first interview Fred noted that D2L held him to the same level of accountability as his students, using the grading module as his example. In his

classes, students earned participation points, which he posted daily on D2L after class. If he made a mistake, his students quickly brought it to his attention and expected him to rectify the situation just as quickly. He explained

> My students can see their up-to-date grades anytime they want. And so, if—and I use participation points for, sort of, absentees. So, they can check and they'll—some of them do daily—and they'll tell me if I made any mistake. (Fred, First Interview, December 6, 2014)

In the past, the instructor could admonish students to maintain their own records, thus deflecting questions about specific grades. With the implementation of the grading module, the dynamic of the exchange is shifted back towards the instructor. According to Fred, this two-way visibility of the grading process ensured that both he and his students were in agreement over their grades on a daily basis. Fred stated that he appreciated this, recalling that in the past disputes arose weeks after assignments were submitted. This delay at times put him in a defensive situation, as he had to "prove" to the student that his assessment was not a transcription mistake.

In the next section, participants expressed their views of the importance of digital technology in the scholarly research.

The Influence of Digital Technology in Research

In this section, I examine the participants' views of the importance of digital technology in their research. I divide the ten participants into two groups, those who rated digital technology as being important to their research and those who did not. As with their definitions of the term 'digital technology', age did not appear to be a factor in formulating their responses. During the interviews, I asked the participants to rate on a scale of one to ten the importance digital technology played in their research. I assigned those who scored it a

"seven" or higher to the "High Importance" group; while those who rated it lower I recorded in the "Low Importance" group. As is frequently the case in research involving human beings, several participants reported nuanced responses based on the contexts of their choosing.

High Importance Responses

When asked to rate on a scale from one to ten the importance of digital technology in her research, Imani considered access to sources on the Internet in her response. Rating it a "seven," she stated

> Although it's very important for my research—because a lot of the information I need for my research I find it in there, even if it's…ummm…when it comes to journals, they are easily accessible from the Internet—but at the same time, I would still need to get certain books or some things that are not there, so that will give me the other percentages. (Imani, First Interview, December 6, 2014)

Imani estimated she spent four to five hours per week researching and reading digital sources. Several other participants also noted access to resources and the amount of time spent consuming them as reasons why they rated it so highly.

In keeping with the heavy use of digital technology he reported in his personal life, Mike added that it featured prominently in his research. When asked to rate his usage of digital technology on a scale from one to ten, Mike also responded that he rated it a "seven." He explained, "I'm constantly using digital technology. I mean, I rarely sit down with just a book anymore. I use e-books, I use digital archives, articles—so I rated it a 'seven' for that reason" (Mike, First Interview, December 6, 2014). Since his topic focused on very recent social issues, their publication format was frequently digital rather than on paper. He estimated that he spent eight to ten hours per week interacting with such sources in electronic format.

As we ate lunch, Sandy ruminated on the topic of digital technology and the rating she would assign its influence on her research. After I clarified that the focus was on research and not classroom practices, she estimated

> I would say probably seven. Six or seven. Why? More and more what I'm noticing is that there has been a push towards things being digital and online and—instead of, like, print journals, things like that. And so, more and more things are becoming digitized as well: texts that I didn't have access to—that I now have access to online. (Sandy, First Interview, December 6, 2014)

Her response was notable as she also noted that she only spent one to two hours per week using digital technology to research her dissertation topic.

Similar to Sandy, Alana viewed digital technology as a means of accessing sources that either no longer existed or were extremely difficult to examine physically. Because of these issues of access, she rated the importance of digital technology in her research as "a six to an eight." In order to examine the sources she planned to use as the basis of her research, she noted, "I would have to go overseas and it's a lot easier to just look at digitized, or microfilm versions, of the manuscripts. So, in that sense, I would have to go there" (Alana, First Interview, December 6, 2014). Moreover, traveling to the locations where her research sources were maintained did not guarantee Alana access. At this point, she stated that access was not a priority as she had taken a break from research because of the competing demands of teaching and parenthood. She expected to resume actively pursuing her research agenda in the near future and predicted she would spend between five and ten hours each week interacting with her sources in electronic format.

Anne rated the importance of digital technology even higher than her peers, but for a different reason. Elaborating on her dissertation topic, she explained, "For me, I would give it a 'ten', because in my particular research, I'm focused on technology and how it affects how

we read, and how we interact with different texts. So, that's my particular research interest" (Anne, First Interview, December 6, 2014). The focus on technological content knowledge (Harris, Koehler, & Mishra, 2009) in her research was unique among her peers in the Teaching Associate cohort in her program.

Low Importance Responses

Fred rated the importance of digital technology in his research a surprisingly low "four." This was not an expected response based on his past research interests. However, he based his answer on the issue of accessibility to technology in his teaching, rather than his research. He maintained

> Everything I do could be done without it. It's all support. And it could be a lot more. If I was given a room with computers, I would utilize them a lot more than I do now. And I would build a syllabus around it. However, I just don't have it. And I feel like asking students to bring in technology, it's too much chance. You don't know who's going to bring in what. What's gonna not work and what's gonna. It's just not reliable enough. (Fred, First Interview, December 6, 2014)

Fred's rationale for elaborating on the importance of digital technology in his teaching was because he felt he was no longer actively conducting research. He noted, "My research is similar to yours: interviews and then transcribing and then coding, and then interpreting coding. Of course, everything is on the computer. But it comes and it goes. The transcribing is intensive!" (Fred, First Interview, December 6, 2014). As for the number of hours he spent each week using digital technology in his research, Fred stated that it varied. If he were transcribing interviews, he could spend twenty to thirty hours in a week; when he was researching and reading sources, he believed he averaged five hours per week.

In terms of her research, Kelly's view of digital technology and its importance was limited as well. When asked to rate its importance in her research, Kelly responded with

"five." She explained, "In my personal research, I wouldn't rate it very high, because in my research…technology isn't a big focus. But, technology is allowing me to read things and have access to things that I wouldn't have." Her summation of its importance in her research was, "It gives me access but it doesn't do too much else for me" (Participant Kelly, First Interview, December 5, 2014). Similar to Alana and Sandy, it was a means to acquire copies of texts previously unavailable or extremely difficult to access. However, unlike Alana and Sandy, access to sources electronically did not have a pronounced influence on her rating.

Based on her age, Linda's response was interesting in that she viewed "literature" as being paperbound rather than available in digital format. My expectation was that she would have rated it higher. However, her choice of research topic influenced her rating. She maintained, "I think that I would only go with a six, more because it's literature rather than online. And a lot of what I study is honest-to-goodness old books, so I'm very much working with print text" (Linda, First Interview, December 5, 2014). According to Linda, the concept of "digital technology" in this context was related to journal articles maintained in online databases accessible through the university's library systems. She estimated that she only spent two to three hours per week accessing digital sources as half of her sources were in print format.

Bruce's response to the question about the importance of digital technology in his research was intriguing in that he rated it a "seven" but he viewed this as low. His rationale was that electronic sources were not valued by some faculty in his program. He explained

> Nobody suggest me to use online sources or digital technology to complete my dissertation, on my work. I even used to—when I wrote papers during my coursework and I try to incorporate online sources in my papers, it seems that some professors—most professors—didn't like it. And they just asked me to remove them from "Works Cited" page. (Bruce, First Interview, December 6, 2014)

However, he felt that digital technology in the form of Internet-based resources was extremely helpful for him as an English language learner. Lacking the embodied cultural capital (Bourdieu, 1979) possessed by his American-born peers in the doctoral program, at times he needed help understanding the cultural references alluded to in print sources authored and published in the United States; thus, the explanations he found online were invaluable to him. As a result, in terms of direct resources for research, he rated digital technology low; yet he rated it highly for background knowledge aiding him to comprehend scholarly texts.

Similar to the response offered by Bruce, Jane's response to the question was also two-fold; however, she qualified her rating by the tool rather than the purpose. She responded

> If this is about, like, MS Word or using a laptop, then I would say "ten." But, if this technology is something else, then maybe "five." Well, usually PowerPoint or MS Word, or EndNote program, or—those programs are the basic programs I use for my research and my teaching. So, in that sense, I'm not technology smart, like others, like you—So, that's why I—well, I can rate it as "five." (Jane, First Interview, December 5, 2014)

Nevertheless, since the majority of her dissertation sources were stored as PDF files on her laptop computer, and because she hoped to defend and graduate the following semester, she estimated that she spent on average ten hours per week using digital technology to complete her research.

In the next section, I describe the ten participants' perceptions of the status of training on the use of digital technology for research purposes. Unlike their responses regarding its incorporation in the two doctoral program curricula, there was no division of response by program.

Departmental Training on Digital Technology for Research

Regarding the use of digital technology in research, Linda stated that she felt faculty members in the Literary Criticism program were not actively providing instruction on the use of digital technology to conduct research. She stated, "Nobody here actually told me how to use anything on the databases here. I think it was pretty much 'figure out on your own' or 'talk to somebody from the cohort ahead of you'" (Linda, First Interview, December 5, 2014). While there may not have been a departmental or programmatic approach, several participants noted that individual faculty members were interested in digital technology and its use in the field of literary studies.

Unfortunately, not every student had access to those professors. Kelly noted, "We have some professors who use technology and are into digital texts and things of that nature, but I don't work with them—I don't know what they're doing exactly, I just know of it" (Kelly, First Interview, December 5, 2014). Kelly's response to this question was similar to her peers in her doctoral program; a belief that digital technology had value as a tool for research but it was not being pursued at the programmatic level.

Like Kelly and Linda, Mike maintained that there was no programmatic approach to training doctoral students on digital technology for conducting research in their doctoral program. Nevertheless, he noted that there were several faculty members who had e-mailed students with instructions for using the university library databases. He recalled that another professor had shared online resources with students in class; however, that was the extent of explicit instruction on digital technology in his program.

Alana also reported a less formalized approach involving advice from her advisor and individual faculty members. She noted, "My advisor would say, 'Oh! Go check it out.' Or

whenever I would meet one-on-one with a professor, they would say, 'Hey, have you found this useful? Have you—Go look at this. This might be helpful'" (Alana, First Interview, December 6, 2014). This individualized approach may also be attributed to the singularized nature of research in the literature field. As doctoral candidates pursue highly individualized research agendas, faculty in the program may perceive "across-the-board" solutions as being unresponsive to their students' needs.

Sandy had a different explanation for the weak focus on instruction of digital technology for doctoral research. She believed that faculty in the Literary Criticism program expected students to have already learned how to use scholarly databases for research before starting in the program. She noted

> It's not really in the PhD program—I think they kind of expect that you learn most of that in your Master's. So, the Master's program, now there they do have a methods course, where you learn a lot about, like, library resources and things like that, and how to use those. (Sandy, First Interview, December 6, 2014)

While this may be viewed as a reasonable assumption, it is based on the erroneous expectation that the Master's degree was earned at the same institution and that all doctoral program applicants had earned their Master's degrees in the same discipline. Doctoral candidates who earned their degrees at other institutions and/or in other disciplines would not have been exposed to the same coursework.

Fred felt the situation was similar in the Writing & Language program. He maintained that digital technology was not promoted by faculty in the program as a tool for conducting research. Fred viewed his knowledge as being primarily self-taught. He explained

> What was I taught for technology in my research? I'm trying to think any time the subject ever came up. No, I just did it on my own. I mean, like, buying a recorder, getting a pedal to transcribe, getting the software, using Excel—actually, I asked my wife. She was in a business program and they studied Excel, and she knew a lot about it. (Fred, First Interview, December 6, 2014)

Fred identified hardware and software frequently employed in the analysis of qualitative research in his response to the question. It was apparent that the department as a whole preferred qualitative over quantitative research. As a result of this preference, faculty may have been reluctant to teach research methods more traditionally connected to quantitative research.

This does not mean that the interview participants were prevented from acquiring technological knowledge and its pedagogical and research uses. Both Imani and Bruce recalled attending database workshops at the university library. Anne benefited from attending library workshops with her undergraduate students. Jane attended a departmental workshop on EndNote® (Clarivate Analytics, 2016) taught by another doctoral student. She and Fred also recalled attending workshops on securing graduate research funding and on formatting research writing following the American Psychological Association (APA) style guide offered each semester by the research assistants in the university's graduate school.

Changing Usage of Digital Technology in Research over Time

In this section, I report how the participants' usage of digital technology in their research efforts changed over the course of the academic year. The responses were gathered from the transcripts of the participants' second interviews, scheduled between March 10, 2015, and May 31, 2015.

In a discussion about the status of her dissertation research during our second interview, Kelly noted that she had not modified or added any new digital technology in her

research process. In addition to the university library databases for materials still in print, she continued to use Google Books to access those sources no longer in print. As she had completed three chapters and planned to finish in the coming months, she did not have time to experiment with any new technologies in her research. This would be a common response for those participants who were attempting to complete and defend their dissertations by the end of the semester.

Bruce, Fred, Imani, and Jane also reported that they had not investigated any new digital technology as part of their research. All three were in the final stages of preparing their dissertations for defense and were more focused on finishing. Fred explained, "I would say my research is done, and I am defending at the end of the month. So, most of what I have been doing with the dissertation was proofreading and cleaning up some things" (Fred, Second Interview, March 10, 2015). Similarly, Imani responded that her focus for the final semester was her dissertation and the courses she was teaching. She stated, "Except my teaching—just focusing on my teaching—I've not been doing anything else outside. Just my teaching and my dissertation" (Imani, April 9, 2015). It is interesting that the closer a doctoral student came to finishing, the less time they felt they could spend on investigating new technologies.

Alana, Anne, Linda, and Sandy were all actively researching their topics for their proposals, and each reported that the PCU library databases and ILLiad (Online Computer Library Center, 2016) and EZ-Borrow (Pennsylvania Academic Library Association, n. d.) interlibrary loan systems were vital tools in their research processes. According to Sandy, "I feel like I've been utilizing more of the databases, doing more, like, searches, things like that, just to try to add a cross reference of authors who talk about other authors in texts, and things

like that" (Sandy, Second Interview, March 17, 2015). Sandy stated that she expected to use more digital technology as her research progressed and identified EndNote (Clarivate Analytics, 2016) as one she planned to investigate in the near future. She explained, "I know I'm gonna want to use some sort of program, like EndNote or something, to keep all of my citations—all of my things—in one place. House them. Keep them safe; keep them together" Sandy, Second Interview, March 17, 2015). Anne reported that she had been considering as well a tool for managing her research data. She identified a competing tool in our conversation. She noted

> I keep meaning to look into Zotero or a note-taking program, but I haven't done it yet. So, I feel that once I get further into the process, I'm gonna make that a priority. But, I'm just not there yet. (Anne, Second Interview, March 11, 2015).

It is noteworthy that in contrast to Fred, Imani, and Jane, who were near the completion of their dissertations and who felt they did not have time to experiment with new digital technologies, Alana, Anne, Linda, and Sandy all reported feeling that timing was also an issue for them, but from the opposite perspective, i.e., they felt they had not progressed far enough yet in their research to justify devoting time to new applications.

Further along in the process, Mike was still at a stage where he felt that he could implement new and different digital technologies in his research. He stated that he had begun to use several different applications as his research proposal had only recently been approved by his committee. One application was Scrivener (Blount, 2006), a program developed by writers for writers to manage drafts and disparate resources in one workspace, which his dissertation advisor recommended he use to organize his dissertation notes. He also started using Endnote (Clarivate Analytics, 2016) for creating and maintaining his bibliography. To assist the brainstorming process vital to the dissertation process, Mike added that he had

begun to use an application called CmapTools (Florida Institute for Human & Machine Cognition, n. d.). With his research proposal approved, Mike felt that he needed to organize his research before launching the full dissertation process.

Teaching Associates' Use of Digital Technology in Other Scholarly Realms

In this section, participants described their use digital technology in other scholarly realms. In particular, they discussed their observations of the use of digital technology at conferences, by the scholarly organizations in which they maintained membership, and in the job postings they viewed online.

Conference Presentations and Digital Technology

Early in Mike's Ph.D. career, one of his professors advised him to present at a minimum of two conferences per year, advice that he had tried to follow. When I asked him if he participated in conferences without presenting, he stated that if he were attending a conference, it was to present. According to Mike, "I've actually never gone to a conference that I didn't present at, because I feel that if I'm going to go, I should present" (Mike, First Interview, December 6, 2014). He viewed conference participation as a chance to interact with peers in his discipline as both pedagogical and professional networking opportunities. He added that he was required to earn twelve hours of professional development credits each year by the online university where he taught part-time, and conference participation counted towards those credits.

Despite working to defend by the end of the semester, Kelly still planned to attend the 2015 College English Association (CEA) conference later in March. Kelly did not plan to use digital technology for her presentation; instead, she planned to read her paper, a traditional approach at literary conferences. She noted, "Actually, they tend to discourage technology,

on the Lit side. Especially that conference. They actually have very few rooms that are even equipped, because—I mean, I guess they don't, and most of us don't really see the need" (Kelly, Second Interview, March 12, 2015). She elaborated that at past CEA conferences she had only seen a few scholars incorporating digital technology in their presentations.

Bruce, Alana, and Linda also presented at the 2015 CEA conference, each using digital technology to varying degrees. Bruce reported following the traditional approach at a literary conference, and read his paper. Expressing his discomfort with reading papers at conferences, he explained, "To be honest, I feel uncomfortable with doing this. And most of the time, when I present my paper, I just, y'know, talk. I don't like to read. Y'know, it [reading a paper] is really common in the field of literature" (Bruce, Second Interview, March 12, 2015). Nevertheless, he printed his paper and used it as a guide during his presentation.

Alana chose a "middle approach" for her presentation at the CEA conference. Still intending to present a paper she had crafted, she also planned to provide a hand-out for her audience. While she did not express a negative opinion of reading papers at conferences, she also made a point to describe her presentation style, indicating she did not strictly follow her printed words. She stated

> In both situations where I've used technology and I haven't used it, and I feel as though I'm able to riff off of my paper enough and bring the sort of level of performativity… having something, like, for people to look at—they don't have a handout, so I feel like having a handout will probably help a little bit. So, that way they have something to look at there. (Alana, Second Interview, March 21, 2015)

Although she planned to read her paper, she shared Bruce's concern that reading papers was not sufficient. Thus, she felt that her hand-out helped her audience comprehend her topic.

The third presenter at the CEA conference, Linda, used the most technology in her session. Despite the conference preference for reading academic papers, Linda presented her research topic rather than reading a paper aloud. Maintaining that it was the first time she had not simply read her paper, she explained how she felt afterwards. She recalled

> It did feel a lot more, like, informal. And I felt like they were listening to me talk about something, and I finally had gotten to the point where the research that I was doing was…I could put it in conversational terms for people. (Linda, Second Interview, May 31, 2015)

Of special interest was her description of her audience's reaction to her three-panel presentation. According to Linda, only one panelist in her presentation followed the traditional paper read format for presenting at their session. It was Linda's opinion that the reader fielded fewer questions after speaking than she and the third presenter did.

Kelly noted that she had never used any digital technology, not even PowerPoint, at any past conferences, although she had seen other people use digital technology at the Mid-Atlantic Popular and American Culture Association (MAPACA) conference the previous year. However, she qualified that the MAPACA conference had been out of the norm for her since it "wasn't solely English or literature-based" (Kelly, Second Interview, March 12, 2015). She stated that while seeing other scholars use PowerPoint had been interesting, she felt her research was better presented as a paper read since she would have to revise her presentation to include visual elements or even present a different topic. She added that for some session attendees, visual support could even be viewed negatively, as a distraction.

Similarly, at English literature conferences he previously attended, Mike observed that the standard practice had been to read papers rather than use technology to present ideas

and supporting data. Nevertheless, he did see a change in presentation styles, especially when he attended multidisciplinary conferences. He stated

> In English literature, I have noticed most conferences do not incorporate technology and it's usually papers read verbatim. That's standard practice still in English literature. But, it is changing and when I go to interdisciplinary conferences, I see more digital technology used, and less reading. But, it's almost as if you're going to go to just a literary–based conference, it's almost expected that you read your paper. (Mike, First Interview, December 6, 2014)

Mike's response to my question asking for final thoughts about digital technology and its influence on how he perceived himself as a professional in academia was notable as he focused on his participation at conferences and his use of digital technology. He stated, "I definitely think that I cannot resist digital technology anymore. I have to make it become part of my life" (Mike, Second Interview, March 13, 2015). When I asked him to explain in more detail, conference participation was the focus of his response. He explained, "In past conferences I've gone to in the humanities, digital technologies were even frowned upon. We were told, 'We prefer that you don't use digital technology in the presentation.' Now I'm seeing the trend being that it's promoted" (Mike, Second Interview, March 13, 2015). Mike's assertion that he felt had to stop "resisting digital technology" was striking since during the first interview he stated that he used digital technology in every class, and earlier in the second interview he described his approval of the usage of it at the conference he attended just prior to the second interview. However, his willingness to include digital technology in future conference presentations demonstrated that he was ready to move beyond what he and other participants viewed as the standards of the literary fields they pursued.

During the second interview, Linda, the youngest participant in the study, also reflected on her own increased usage of digital technology at conferences. Amazed that she now had followers on Twitter, she explained

> Okay, this has changed quite a bit since I talked to you last time. I tweet like crazy at conferences now and I never thought I would do that. I always thought, "Oh, that's so rude. People think you're on your cell phone the whole time they're talking." But, then you go back later and you have, like, an entire list of things that I was interested in that these speakers said. And I have, like, their names attached to it and exactly, like, where I heard of it. (Linda, Second Interview, May 31, 2015)

Of particular note was her use of Twitter to record and subsequently research presenters' ideas and incorporate them into her own work. Linda's adoption of Twitter and maximizing its limited functionality to further her research demonstrated Koehler and Mishra's (2009) view of digital technology aiding a user to achieve a particular goal.

Views of Organization Websites and Social Media Presences

As a member of the community of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) of the CEA organization, I asked Kelly if she found the organization's web presence a useful tool for networking or searching of jobs. She stated that the organization maintained a website and a presence on Facebook, but there was not a great deal of activity and information on either. Job advertisements were not available on the website and Kelly only used the website to submit proposals, register for the conferences, and check the accommodations. She added that the Facebook page was populated primarily with infrequent postings about upcoming events.

Alana had a similar opinion of the CEA website. Also noting that there were no employment advertisements online, she described the website as being "weird." Reviewing the website's homepage while we skyped, Alana asserted

> It's not the best website. It's very disjointed—so, you have membership, there's conference, but you go to the main conference website, and you have "register" and the draft program is on the main page. And then on the side, it has the membership thing, and then it has for under "Conference"—but the only bullet points under the conference are the awards. So, you can't even, like, look up where the conference is under that sidebar. (Alana, Second Interview, March 31, 2015)

This lack of robust online activity by organizations such as the CEA prevents newcomers and marginal players from moving from the periphery to active membership within the community of practice.

Yet a poorly designed website or infrequently updated social media site were not the sole culprits. At times, it was a lack of Teaching Associate awareness. As a member of the national Popular Culture Association / American Culture Association (PCA/ACA), Anne was surprised by my question about the social media presence of her scholarly organization. While she used its website to check for national conferences, she had not considered its presence on social media sites such as Facebook and Twitter. She stated, "I honestly wasn't even aware, I hadn't even thought about them having a social media presence until I saw this question. So, now I might check on that on Facebook" (Anne, Second Interview, March 11, 2015). Anne's response was interesting as her research focus was on digital technology and its pedagogical applications.

Mike maintained membership in both the Modern Language Association (MLA) and the National Council of Teachers of English (NCTE) organizations. Time constraints prevented him from fully benefiting from the content and functionality hosted on the organizations' websites. While he did not follow NCTE on social media, he did receive frequent e-mails from the organization. For Mike, social media was still primarily an outlet for social expression. However, he did add people he met at conferences as Facebook friends

and even learned about upcoming scholarly events, such as a recent conference he attended in New Jersey. Unfortunately, he felt that making scholarly connections through social media had had a limiting effect on his general self-expression online. Since using Facebook to connect with scholars in his field of research, he had become careful of what information he posted online. Moreover, he did not frequently participate in online discussions unless he felt that he could add substantially to the conversation.

Alana's view of scholarly organizations using social media differed somewhat from Mike's view. While Mike used Facebook as a means for connecting with conference participants, Alana viewed Facebook as solely a social venue. However, her view of Twitter differed. In her opinion, Twitter was a space for both social and professional communication. She described tweeting to conference hashtags in the past to express her excitement about an upcoming conference and monitored the Twitter feeds from several literary organizations in which she maintained membership.

As for contributing to scholarly conversations on Twitter, Alana reported not being intimidated by posts from scholars she viewed as leaders in her field of research. According to Alana, she felt comfortable responding to tweets from her academic community. Nevertheless, there were times where she did not participate, but for a different reason. She explained

> Sometimes, y'know, conversations come up that I think to myself, "One: why is this conversation even happening? Two: Should I tweet back? Do I have anything constructive to add?" And if it's "No," then I just kinda let it go. I'll check on it, and see what's going on. If I feel that I need to chime in, then I will. (Alana, Second Interview, March 21, 2015).

Alana's confidence in her ability to identify what constituted relevant exchanges in social media demonstrated her ability to participate fully in the community of practice (Lave &

Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) within her realm of research. Nevertheless, not everyone shared her confidence.

Sandy expressed Mike's concern regarding self-censorship online. She stated, "You still need to be aware of being professional and not just, y'know, hashtagging something inappropriate when using Twitter" (Sandy, Second Interview, March 17, 2015). Sandy also shared Mike and Alana's view that full participation in the communities of practice that scholars had created in Twitter did not mean that they felt they had to respond to every tweet. Sandy attributed her confidence to a generational gap, stating

> I personally feel that as a newer faculty member, sometimes it's less intimidating using a format like Twitter or Facebook than in person or, y'know, in an email, in a listserv, or something like that. I think it's probably because, as a generational thing, social media is something we're more comfortable with. (Sandy, Second Interview, March 17, 2015)

Sandy's self-reported status as a 'digital native' rather than a 'digital immigrant' (Prensky, 2001) may explain as well the attitudes towards social media expressed by the older interview participants.

Imani, Bruce, Fred, and Jane stated that they were not using social media, for neither personal nor professional purposes. Jane stated, "I'm not a big fan of social networks. It takes—I think it takes a lot of time. Well, I think I can use my time for more useful things than social networks" (Jane, Second Interview, March 23, 2015). Also citing time constraints, Fred stated that his usage of the Internet in general was based on need. He maintained

> It's all based on need. It's not a habit. If I need information, I look and find it wherever it is. The one Facebook page I'm active on is our own program's…and I do check it out periodically, but again, now it's dwindled down to need. I used to look at just to see what was going on—but, now if I need something, I check it out. If I don't, probably not. (Fred, Second Interview, March 10, 2015).

While Jane and Fred reported that time and need were their primary reasons for not using social media, Imani and Bruce resisted adopting social media because they simply lacked interest in the technology.

While Jane may not have felt social networking was a productive use of her time, she was very active in scholarly organizations. Perhaps unsurprising based on her previous teaching experience, Jane maintained memberships in more organizations than any of the other participants. She reported being a member of AAAL, CCCC's, MLA, NCTE, TESOL, and the Council of Writing Program Administrators (WPA). While she noted that she used the organizations' respective websites for conference information and registration, she looked for job postings as well.

Digital Technology and the Job Search

During our second interview, I asked Mike if he was actively following job postings. He responded that since he was teaching two classes on campus as well as teaching for an online university, he was not actively searching for employment. Nevertheless, he did subscribe to the *Chronicles of Higher Education* employment postings, which he received every week via e-mail. His reason was that he wanted to understand what requirements employers were including in their postings. He explained

> I really don't have much more time to do more than that because I'm not seriously looking for a job right now. But, I just want to know what people are looking for, so I can be prepared when I do get on the job market. (Mike, Second Interview, March 13, 2015)

Mike noted that he believed his experience teaching online would be beneficial when competing for employment in the future. Mike's plan to transition from online to traditional classroom-based instruction matched a trend reported in the U.S. Bureau of Labor Statistics'

Occupational Outlook Handbook, 2016-17 Edition (2105), which identified a downward trend in student enrollment in online educational institutions. With lower numbers of students, these facilities will not need as many instructors.

Instead, Mike noted a trend to the "hybrid" model, where some course materials were delivered online while the majority of the educational experience remained situated in a traditional classroom setting. He stated, "A lot of the job postings I'm seeing recently are asking for people to have experience teaching online, and to incorporate digital technologies into their classrooms" (Mike, Second Interview, March 13, 2015). Similar to several other participants' observations regarding the wording of the employment advertisements, Mike stated that frequently they were not very detailed. In terms of scope and responsibilities, he recalled that many of the posts required applicants to be able to teach multiple genres and even disciplines, such as both composition and literature. He felt they were specifically written that way in order to elicit a large number of responses.

Regarding calls for experience teaching online or in a hybrid environment, the majority of interview participants, including Anne, Jane, and Imani, shared Mike's observations. Focusing on finishing her dissertation, Imani was not actively pursuing employment at the time of our second interview. Nevertheless, she stated that she had checked the postings earlier in the year. Recalling the requirements identified in several job advertisements, she noted, "They were stating more about teaching in an online environment. And if you—if you have taught, if you are aware of mixed methods. Yeah, face-to-face—both face-to-face and online" (Imani, Second Interview, April 9, 2015). Several other participants reported infrequently researching employment advertisements while attempting to reach milestones in their doctoral journeys.

During our Skype session, I asked Kelly if she had been looking at job postings and if she was worried about her future prospects for employment as she neared the end of her doctoral studies. She responded that she had infrequently checked online for positions as she was focusing on her immediate responsibilities of teaching two classes and finalizing her dissertation (Kelly, Second Interview, March 12, 2015). Nonetheless, Kelly maintained that she believed that, when she was actively pursuing employment, presenting herself as possessing knowledge of digital technology would demonstrate to those within the educational community that she was a dedicated professional. She stated

> I think it's important and it shows a willingness to adapt and be with the times and not get stuck in a pattern or way of teaching...I think it is increasingly important. I think even if I move outside of academia, or to a lower level, that it's important. (Kelly, Second Interview, March 12, 2015)

Anne, Fred, and Sandy echoed Kelly's thoughts on a growing expectation that applicants have experience teaching with technology. Citing digital technology in job postings was more than just a gatekeeping tactic, according to Sandy. She maintained, "They want to make sure that you are gonna be proficient and, y'know, be comfortable with digital technology" (Sandy, Second Interview, March 17, 2015). Yet for some, referencing specific tools seemed to be more scare tactic than actual information.

Fred described a position advertised at a small arts-oriented college in Florida. At first intrigued by the description of the college, the further he read the job requirements, the more unprepared he felt. Fred described the position requirements, stating

> It was a small college; Ringling, I think it was called. And they wanted somebody who would do—it was really unique—it was composing multimodally for international students. And it was quite a combination of a bunch of things. It was rather eclectic. It was like, "You are gonna make multimodal projects with international students with a stress on"—I can't remember, something like "social equality." It was some mixture of, like, critical studies with digital composing and international students in a first-year class. And I really thought about it, and I thought "Someone is gonna be better qualified than me and I've got other jobs to apply to." So, I didn't apply to it. I just didn't feel like I could compete there. (Fred, Second Interview, March 10, 2015)

While the humorous expression "too much information" is applicable in Fred's situation, other Teaching Associated reported advertisements omitted important information about the availability of the positions themselves.

Although still early in her doctoral career, Alana expressed frustration with those advertisements that were not for actual positions. She submitted online applications to several institutions only to discover afterwards that they intended to higher adjuncts based on undergraduate enrollment. Although disappointed to discover the institutions were building a pool of applications for future reference, she did note at least one that also referenced a requirement for knowledge of digital technology. According to Alana, "one of the ones that called for—it was just sort of like a call for applications—did mention digital technology and staying up with academic trends. So, I'm assuming that would mean digital technology" (Alana, Second Interview, March 21, 2015). In this instance, Alana's experience represents another use of digital technology in higher education, one that is similar to the Human Resources departmental practices followed in enterprises outside of academia: building a pool of potential talent. While Alana noted institutions were advertising for positions that required a knowledge of digital technology, other Teaching Associates reported job postings requiring multiple responsibilities.

Multiple Responsibility Positions

Mike, Imani, and Jane reported noticing a trend beyond teaching with digital technology in positions advertised looking for candidates with experience teaching either multiple disciplines, or managing multiple programs. During our second interview, Mike recalled a number of advertised positions requiring applicants to teach multiple genres and disciplines. He stated, "Usually, all the job ads that I see ask for you to teach writing and literature humanities courses, and possibly even media communications courses. So, they want you to be able to cross over all those areas" (Mike, Second Interview, March 13, 2015). Beyond teaching first-year composition and literature courses, several other Teaching Associates noted dual responsibilities, but in pedagogy and program administration.

While discussing the situation during our second interview, Imani reported noticing a similar trend in the positions she had examined. She recalled

> Yes, those are more common than anything else, especially the writing center ones—which I disqualify myself from, because I don't have any experience with writing centers. But, I also saw some that were multiple—it's like most of them are multiple responsibilities. Teaching English—teaching mainstream English and also ESL knowledge, that's also common. (Imani, Second Interview, April 9, 2017).

Supporting Imani's observation of dual responsibility positions involving English as a Second Language (ESL), Jane reported reading job postings that identified up to three disciplines. She stated

> They were looking for someone who can teach first-year composition classes, but both to traditional students and international students. And also, they want someone who can teach scientific writing. So, they have very specific specifications. They want someone who can do all three things. (Jane, Second Interview, March 23, 2015)

Based the descriptions of the positions themselves, those making the hiring decisions at these institutions communicated a message to the Teaching Associates about the importance of

being prepared to teach multiple genres and to maintain responsibility for programs beyond their expected focus on pedagogy and research.

Conclusion

The ten Teaching Associates who volunteered to participate in my research described their use of digital technology and its influence on their professional identities in more complex, yet more nuanced, terms than I anticipated at the start of this study. Furthermore, their participation demonstrated the dangers of generalization in non-empirical research and the wholesale adoption of such generalizations in academia. Throughout the course of gathering data, my assumptions and expectations were frequently at odds with my peers' opinions and experiences. In the next chapter, I review and reflect on the study, my participants' contributions to it, how my participation in it may have influence them, and how my own expectations were both confirmed and refuted.

CHAPTER FIVE

CONCLUSIONS

"I would say that time really does affect my ability to incorporate new technologies. Because, I mean, home life and academia—and the job—trying to balance all of those, there's not a lot of outside time to really explore new possibilities with technology."

~Alana, Second Interview, March 21, 2015

Introduction

The recent Ph.D. I described in the first chapter who feared others would discover she knew little about digital technology inspired this study. My research interest was fueled first by my own expectations and assumptions, then later by those of the doctoral students in the English Department's Teaching Associate Mentoring Program at Pennsylvania Commonwealth University. Ultimately, I have these ten colleagues to thank for the outcome of this often interesting, at times exhausting, once-in-awhile frustrating, and ultimately (and happily) surprising endeavor.

Review of the Research Questions

The questions I hoped to answer at the close of my study focused on the influence digital technology had on the professionalization of Teaching Associates in a departmental teaching mentoring program. My research questions investigated the influence digital technology had on these identities as the doctoral students interacted with their undergraduate students and departmental faculty members. The three questions I hoped to answer through my research were:

1. What were the Teaching Associates' views of the influence of digital technology on their pedagogical practices?

2. What were the Teaching Associates' views of the influence of digital technology on their research practices?
3. What were the Teaching Associates' views of the influence of digital technology in their respective disciplines?

Three years after starting the empirical segment of this study, I have answers—but ones that were counter to my expectations. In the next section, I analyze the data and draw my conclusions from them.

Data Analysis

The opinions the Teaching Associates expressed in the interviews, especially those they shared during the second interview's open-ended questions, were more individualized than I expected. Striving to maintain their anonymity proved to be a challenge as they frequently referred to their research, their personal lives, and to each other, references that would have been easily identifiable by others in the department.

Ultimately, my assumptions about the influence digital technology would have on the professionalization of the Teaching Associate Mentoring Program in the English Department at Pennsylvania Commonwealth University were proven incorrect.[16] My first expectation was that Teaching Associates in the Writing & Language program would use more digital technology than their peers in the Literary Criticism program. My second expectation was that those with more experience using digital technology would be more eager to adopt it in their pedagogical and research endeavors. More importantly, not only were my expectations incorrect, the outcomes were entirely opposite, with a perceived stereotype that the field of

[16] When I was a twenty-something building a career in IT and marketing, being wrong professionally was highly embarrassing. Today in my mid-fifties, I am pleasantly surprised when my assumptions are proven wrong.

English literature was "behind the times" (Sandy, Second Interview, March 17, 2015) driving adoption of digital technology by Teaching Associates in the Literary Criticism program. Moreover, older participants in both programs were less willing to embrace fully the concept of TPACK (Harris, Mishra, and Koehler, 2009). In the next sections, I report my observations of the doctoral students in the Teaching Assistant Mentoring Program organized by pedagogy, research, and profession.

Digital Technology and Its Influence on Pedagogy

Age was a factor in the acceptance of digital technology as both a pedagogical tool and content to be learned itself. Older Teaching Associates used less digital technology in their pedagogy yet had more formal training in software and design. Bruce, Fred, Jane, and Imani viewed digital technology as being a secondary concern, expressing a "take it or leave it" attitude regarding its use in their fields of inquiry and curricular goals. Bruce described his use of digital technology in the classroom, stating

> I think I'm a little bit outdated in technology in education. Because compared to other colleagues, it seems that they use more technology than I am using. I'm fine with it. Not always happy, but I don't regret that I'm not using digital technology as much as possible. (Bruce, Second Interview, March 12, 2015)

Bruce expressed his view of digital technology in terms of teaching literature; nevertheless, several Teaching Associates teaching first-year composition and research writing in the Writing & Language program shared his view. Both Fred and Imani shared Bruce's lack of urgency in adopting digital technology in their classrooms. Maintaining that he was not opposed to using digital technology in his composition courses, Fred explained

> I see technology as a tool that can enhance things, like in the writing class now. I feel like there could be innovations and I know I've talked to people who teach only online, and they come up with some really cool things. But again it's, y'know,

> "necessity is the mother of invention." I just don't need it at this point—but I'm certainly open to it. (Fred, Second Interview, March 10, 2015).

Sharing Fred and Bruce's view of technological knowledge as a secondary concern, Imani noted that she was resistant to using digital technology in her classes simply because it was available. She reflected

> I don't know if it's how I see myself, because it's more of how it is serving me. It's not me serving it. So, I feel like—I feel like I'm there, and I want to work with it to better myself, but if it's not there, it doesn't really bother me that much. (Imani, Second Interview, April 9, 2015)

While Bruce, Fred, and Imani's attitudes regarding digital technology had been expressed in terms of technological knowledge, Jane focused on content knowledge (Mishra & Koehler, 2006; Shulman, 1986) as being her primary concern in terms of professionalism in academia. While acknowledging digital technology had an influence on her opinion of herself as a fully participating member of her academic community (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002), she stated, "I don't think it's an essential component of being a professional in academia. At least, I think the most important thing is the content, the substance, rather than technology itself" (Jane, Second Interview, March 23, 2015). Because the older Teaching Associates had more prior teaching experience, they had already established their professional identities prior to participating in the mentoring program. Those participants with extensive prior instructional experience had developed stronger identities as teachers than those in the program with less or no prior experience.

Kelly and Anne felt that their perceived lack of technological knowledge (Mishra & Koehler, 2006; Shulman, 1986) was their responsibility to address. According to Kelly, **"**I definitely see plenty of room for improvement in myself, although I think compared to some people, I think I've gotten a little further than others. I don't know if that's knowledge, or

willingness, or what…" (Kelly, Second Interview, March 12, 2015). Similarly, when acknowledging that she had not profited from every available opportunity to integrate digital technology professionally, Anne stated, "It's pretty much solely my own fault. But I would like to get experience with online teaching—I haven't see any programs, like, if they had, like, a workshop or something on online teaching here…I would definitely attend that" (Anne, Second Interview, March 11, 2015). Several participants perceived more acceptance in their respective fields in literary studies, which they felt would influence their competitive chances when applying for jobs.

During both rounds of interviews, Teaching Associates in the Literary Criticism program expressed the view that their discipline had been "behind the times" in terms of accepting digital technology in both pedagogy and research. To rectify this situation, Sandy noted what she perceived to be a growing institutional practice in combining college writing and introductory literature courses. As part of this growing practice, she observed that more English departments were encouraging the use of digital technology in literature classrooms. Sandy stated

> I feel like we're starting to see more of a shift on our side to 'not falling behind the times,' making sure that we're up on these—starting to do more e-journals, starting to implement more digital technology in literature using digital literature—digital humanities. (Sandy, Second Interview, March 17, 2015)

Perhaps because of this acknowledged change in their discipline, the seven participants in the Literary Criticism had adopted more digital technology in their classroom practices than their peers in the Writing & Language program.

Prior teaching experience also was a factor in acceptance. The participants with less-established professional identities were more willing to adopt new forms of digital

technology and adapt their instructional methods to profit from these new technologies. Kelly and Sandy, who had not taught courses prior to entering the doctoral program, gave more consideration to technology and its impact on the delivery of content and student uptake of that content than their older peers and even younger peers with more teaching experience in both doctoral programs. Viewing digital technology as discreet tools that required work-arounds in the event of technical failures, older participants such as Fred and Jane were less willing than their younger peers to contemplate the scope of changes required to integrate TPACK (Mishra & Koehler, 2006) into their instructional methods.

Moreover, there was a difference by doctoral program in the Teaching Associates' opinions of their students' technological knowledge. While Linda, Sandy, Kelly and Mike described the integration of digital technology in their pedagogy to the point where they considered what their students already knew about digital technology in complex forms, e.g., Desire2Learn (D2L), NetSupport School, SMART Boards, etc., their peers in the Writing & Language program commented more on their students' basic skills, such as keyboarding and online research abilities. This may be attributed to the manual aspect of typing engendered in the field of composition itself, yet the difference in focus was noteworthy.

Only two participants, both in the Literary Criticism program, reported changing their pedagogical practices during their participation in the mentoring program. Of note were their prior teaching experiences: they represented both ends of the experiential range. One of the two was Kelly, who had no prior teaching experience before entering the mentoring program. The other Teaching Associate who reflected on changes in his pedagogical approach was Mike, who was one of the most experienced instructors in the program.

In the teaching philosophy statement Kelly submitted as part of the 2014-2015 Teaching Associate application, she demonstrated growth in her assessment of her previous classroom performance. She wrote that her interaction with students in previous academic years had not been as enjoyable as she had expected. She noted

> Over the past years, one of the greatest lessons that my students taught me is the importance of how I present myself in the classroom. After considering their evaluations and becoming more comfortable teaching, I have let go of my prior artificiality and adapted a more authentic classroom personality by incorporating humor that breaks down the division between myself and my students. Additionally, through my interactions with my students, I have learned the significance of communication, feedback, adaptability, interactive learning, collaborative learning and "takeaway" skills. (Kelly, teaching philosophy statement, April 2014)

Based on the comments included in her students' course evaluations, she had modified her classroom demeanor. Classroom demeanor also featured prominently in Mike's reflection.

Reflecting on his teaching style since becoming a Teaching Associate, Mike noted how his pedagogy had evolved. Teaching high school, he focused on texts; however, in the longer college class periods, especially the 75-minute classes on Tuesdays and Thursdays, he discovered that relying solely on a text was a challenge to keep students on task. Explaining the change in his teaching style, he recalled

> I taught my classrooms very rigidly, and so I want to make sure things fit in. And so I try to break up the activities; they're moving around a lot and so they're also doing different things, different learning activities. Sometimes they're watching something; sometimes they're listening to people. So, I try to mix things up a lot. (Mike, First Interview, December 6, 2014)

Mike's break with his pedagogical past was further demonstrated by his decision to encourage students to examine course content through their own prior experiences and interests. According to him, this change in teaching style had resulted in more engaged students as the topics were oriented in contexts that were relevant to them.

In the next section, I review the influence of digital technology on the Teaching Associates' research methods and practices.

Digital Technology and Its Influence on Research

While the perception of literary studies not keeping abreast of trends in digital technology had resulted in the Literary Criticism Teaching Associates' concerted efforts to utilize it in their pedagogy, this reaction masked a fundamental difference in their views of the use of digital technology in research. In comparison to that of their peers in the Writing & Language program, the Literary Criticism Teaching Associates fundamentally viewed digital technology as a tool for personal research. For them, it was a means to acquire copies of texts previously unavailable or very difficult to access. Conversely, Writing & Language Teaching Associates viewed digital technology as a pedagogical tool, albeit a tool less important than the content being taught. This group had not made the connection between technology and its as both tool and content as defined by Mishra and Koehler (2006).

Paradoxically, despite their view of digital technology as primarily a tool for individual research, the seven Teaching Associates in the Literary Criticism program relied far less on research-focused software such as EndNote, NVivo, and SPSS than their peers in the other doctoral program. During the second interview, Mike was the only Literary Criticism doctoral candidate to describe adopting applications (i.e., Scrivener, Endnote, and Cmap) in his research process. Both Sandy and Anne acknowledged the need to implement EndNote in their research, but neither had done so at the time of their second interviews.

Regardless of the doctoral program, participants uniformly reported a lack of explicit instruction on the uses of digital technology for scholarly research. Linda reported learning how to use databases on her own; likewise, Fred reported learning how to use transcription

hardware and software outside of the program. He recalled, "I just did it on my own. I mean like, buying a recorder, getting a pedal to transcribe, getting the software" (Fred, First Interview, December 6, 2014). This was partly based on the faculty expectation that doctoral students already knew how to use digital technology for research. Both Anne and Sandy stated that they believed faculty expected doctoral students to know how to use digital technology for research, assuming that graduate students were taught how to use it in their Master's programs.

Other Teaching Associates reported more personalized instruction through faculty members. Alana reported guidance from individual professors when she met with them. Similarly, Mike recalled his dissertation advisor recommending specific databases to find journals on the latest scholarly publications in his research interest. He recalled his advisor saying, "You should go to this is the site. You should look at this journal, and this journal. This journal has the most up and coming research." (Mike, First Interview, December 6, 2014). While individual help may have been available in the English Department, several Teaching Associates reported acquiring more knowledge about the uses of digital technology in research outside the department.

Imani and Anne learned how to use the university library databases when they scheduled a training session for the undergraduate students in their first-year composition and research writing courses. Anne stated, "I think the only real, direct instruction I've had would be taking my own students to the library instructional days and having the instructional librarian walk them through the databases and everything" (Anne, First Interview, December 6, 2014). Anne also benefited from her experience working in PCU's graduate school.

Both she and Sandy had worked for the graduate school prior to being selected for the Teaching Associate Mentoring Program. Part of their responsibilities was to manage the annual research awards luncheon, which was part of the university's Research Appreciation Week. In addition to coordinating student poster sessions promoting original undergraduate and graduate research, Anne and Sandy had to learn how to use Qualtrics software to track the faculty invitations and acceptances to the awards luncheon. Unfortunately, neither were able to profit from this software in their own research, as they had not included surveys in their dissertation research.

Ultimately, this limited exposure to organized instruction in the use of digital technology in doctoral student research can be attributed to the department's preference of qualitative research over quantitative research. Outside of the department, teaching associates observed how digital technology was used by other institutions of higher education and professional organizations.

Digital Technology and Its Influence in Their Disciplines

While age may have been a factor in willingness to adopt new forms of digital technology in their pedagogy and research, it was not a factor in observing references to digital technology in job postings. Eight of the ten participants reported reading postings that referenced some form of technology, from general terms such as "digital literacy" to more specifically worded posts referencing experience teaching online environments. Participant Mike reported, "Usually it will always mention online, in the job ads. 'We're looking for people with experience teaching online and who are using digital technology in their classroom.' Something like that." (Mike, Second Interview, March 13, 2015). Under 35-years old, Anne recalled job postings requiring online experience. She stated, "A couple of

them have been asking for online teaching experience, which I thought was really interesting" (Anne, Second Interview, March 11, 2015). Similar to other observations from her peers in the study, Anne recognized the growing importance of prior TPACK experience (Harris, Koehler, and Mishra, 2009) in the development of her professional identity prior to entering the job market.

Several other participants shared Anne's view. Specifically identifying her previous experience teaching online as an advantage when competing for jobs, Imani explained, "I don't have a problem, because I have experience teaching online. To me, that is something that has come. It's not—I don't find it a complexity when you're provided with a platform to teach online" (Imani, Second Interview, April 9, 2015). Sandy shared Imani's view on the expectation that being well versed in teaching using digital technology was becoming a prime hiring consideration. She stated

> I feel like it's getting to the point now where you need to start integrating it. And you need to make sure that you're proficient. And you know how to use it and implement it. Otherwise, you might not be considered for as many job postings as you could be. (Sandy, Second Interview, March 17, 2015)

However, not all of the participants shared Imani and Sandy's views on the necessity of having experience teaching with digital technology before completing their doctoral careers.

Describing her use of digital technology, Alana described herself as being in a "weird middle space" where she felt her current level of technological integration in her pedagogy and research was appropriate. Nevertheless, she expected this would change in the future. She stated, "When it comes to going on the job market and being more, like, being able to spread myself out and see where I can find a job, I probably need to step up my game a little bit" (Alana, March 21, 2015). Alana's observation of her need to integrate more digital

technology prior to actively searching for employment was tempered by the methods universities were using to attract applicants. Beyond the descriptions of the positions themselves, those making the hiring decisions institutions communicated a message about their views on digital technology through the submission processes they expected applicants to follow.

Submission instructions that hopeful scholars are expected to follow to apply for positions provide a glimpse into the computing culture of the hiring institution. In several instances, the instructions were for positions that did not exist. According to Alana, "I sent a few applications off—found out later that three of them were just calls for applications so that they could create a database of applicants, as opposed to an actual job posting. That was fun. Yeah!" (Alana, Second Interview, March 21, 2015). Alana reported feelings of frustration after taking the time to complete the application process for the positions only to learn afterwards that the institutions were collecting applicant information in the event enrollment required additional hires.

The submission process itself also sent a message to prospective applicants. Positions requiring paper submissions—and to a lesser extent those with an e-mail submission option—sent a message to 'digital native' (Prensky, 2001) applicants that the hiring department had not kept pace with advances in digital technology.[17] Beyond submission guidelines, Teaching Associates reported being frustrated by the amount of information in

[17] In my prior professional experience outside of academia (See Chapter Three), I only dimly remember a time early in my career where digital technology was not the preferred medium of application submission. Later, as a hiring manager for several employers, I accessed applicant portfolios (i.e., cover letters, résumés, and references) through the companies' computer networks, which in early positions were maintained internally and later in my career were hosted on web-enabled platforms. Especially in large organizations, the use of what is today called "talent management software" to manage the hiring process has been commonplace since the turn of the millennium.

the job postings they reviewed, in terms of both responsibilities and the computing cultures of the institutions themselves.[18]

Anne, Jane and Kelly noted the wording of some postings, which they felt were lacking the information to help them decide if they should apply. Anne recalled seeing an advertisement that she thought was poorly written. She remembered, "One was experience with global literature, British literature, and online teaching.' Yeah, I thought it was strange, because obviously two are subjects and last one is kind of a whole different ball game" (Anne, Second Interview, March 11, 2015). Jane offered a similar impression of the posts she had examined, recalling, "Usually, job postings are not that detailed. It's only one page—or half a page—of specifications about the job, so sometimes you are not really sure what they are looking for" (Jane, Second Interview, March 23, 2015). Even those positions that referenced "knowledge of digital technology" in the requirements section of the job description were a source of frustration for several participants.

Recalling a specific job advertisement that included a requirement for experience with digital technology, Kelly explained that she was unsure of the purpose of including it since there were no details. She stated, "It seems very school specific, and sometimes I almost think that maybe they don't know what they want, but that's an easy 'go to' term—that's fairly trendy" (Kelly, Second Interview, March 12, 2015). Her opinion was that the author of the job posting did not possess a clear definition of 'digital technology', which frustrated her. She maintained that even her advisor had been unable to decipher the posting.

[18] While employment is the ultimate goal, I expect that a perception of the scholarly community at a hiring institution being progressive in its outlook on pedagogical technology may also give the impression that it was not progressive in other pedagogical aspects. In the eyes of some applicants, it may perhaps even temper their enthusiasm in pursuing the position in full vigor.

She questioned how she should develop her skillset, and subsequently her curriculum vitae, if those making the hiring decisions were unsure of the desired skills themselves.[19]

While institutions expect candidates to meet experiential and specialization criteria, candidates should formulate expectations of their own regarding the quality of support they would receive after hire. In the "Guidelines for Candidates and Faculty Members" section of the *Guidelines for Evaluating Work in Digital Humanities and Digital Media* (2012), the MLA advised candidates to ask questions about technological support after being hired. According to the association

> When candidates for faculty positions first negotiate the terms of their jobs, they should ask how credit for digital work will be considered in terms of teaching, research, and service in the reappointment, tenure, and promotion processes. In addition, candidates should confirm that they will have institutional support and access to facilities so that they can work creatively and productively in digital media or digital humanities. (2012, para. 9)

The MLA reasoned that candidates should inquire during screening process about faculty support for the use of digital technology in both their pedagogical and research endeavors. According to the association, candidates had a right and a responsibility to ensure that they would be provided substantive support from departmental and institutional administration.

Regarding professional organizations such as the MLA, NCTE, and TESOL, the Teaching Associates had limited views of the organizations' online presences and position statements about digital technology. Alana and Kelly were members of CEA but only used

[19] While some may suggest that this uncertainty could benefit applicants by creating opportunities for them to define constructs on their own terms, in reality appearing to know more than decision makers in the hiring process is most often a deterrent to offers of employment.

the organization's website to register and submit proposals for conferences. Older doctoral students (Iman, Bruce, Fred, and Jane) were not following their organizations on social media. Mike was a member of both the MLA and NCTE but reported not having time to use the full functionality of the organizations' web presences. He and Sandy shared a concern about self-expression online, both selectively choosing limited information to post on Facebook and Twitter.

Lastly, while most of the Teaching Associates felt preparing their undergraduate students to use instructional technology such as D2L was important, none of them referenced their professional organizations' standards and position statements to support their views. However, the participants did express factors beyond digital technology that they viewed as real barriers to developing their professional identities in higher education.

Perceived Barriers to Professionalization

The ten Teaching Associates in the study reported that technological knowledge (Mishra & Koehler, 2006; Shulman, 1986), or more correctly, the lack of technological knowledge, was not a perceived barrier to professionalization in their respective fields of inquiry. Instead, they identified the following factors as influencing their progress in becoming fully contributing members of the departmental community of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002): limited access to departmental meetings and on-campus opportunities for professional development; low graduate assistant and Teaching Associate remuneration; restricted participation in scholarly organizations; and their perceived treatment within the departmental community of practice.

Limited access to opportunities for professional development. A complaint shared with doctoral students outside the mentoring program, Teaching Associates noted their

limited access to departmental meetings and on-campus opportunities for professional development. In order to accommodate as many full-time and tenured faculty members in departmental meetings as possible, frequently Teaching Associates were assigned to teach those courses scheduled concurrently with the meetings. As a result, few Teaching Associates were able to benefit from exposure to this administrative responsibility. Moreover, doctoral students in general were under the impression that they were not allowed to participate in departmental meetings even as silent observers.

Nevertheless, participation in departmental meetings does not guarantee doctoral students equitable treatment by departmental faculty. While Lave and Wenger (1991) described an environment where novice members of the community of practice were encouraged to contribute as legitimate participants to further their professional development, other scholars reported a different situation. Hume (2005) described department meetings as spaces where new faculty members were effectively silenced. She explicated that novice members were often ignored in meetings, as they did not understand the departmental culture. Even if given the opportunity to speak, their words frequently fell on deaf ears since they did not understand the 'real conversation' taking place. She noted, "One thing that new faculty rarely understand is that department meetings often talk around a subject rather than address it directly" (p. 108). Hume maintained that as the newcomer had not yet been inured into the local culture, contributions of ideas and experience could be viewed as self-promotion and detrimental to the other members of the community. While being on the periphery of department meetings may offer doctoral students and newly-minted Ph.D.'s opportunities to acclimatize to the interaction of their seasoned colleagues, effective

formation must be offered to these novices so that they can recognize the interaction that occurs during such meetings.

Another situation where full participation could be similarly impacted was pedagogy and research. Early in their careers, first as doctoral candidates, then later as adjuncts or early in tenure-track positions, fear of transgressing often murky standards in protocol at their institutions inhibited new members of the department in their pedagogical approaches and research agenda. Quoted in an interview with Tony Cox on National Public Radio, sociologist Andrew Hacker described the perils of the tenure system, stating "the system 'works havoc on young people,' who must be incredibly cautious throughout their years in school as graduate students and young professors, 'if they hope to get that gold ring'" (Cox, 2010, para. 15). Fear of missteps inhibited choices in both pedagogy and research, ironically freedoms that the tenure system is supposed to uphold.

Low graduate assistant remuneration. The majority of Teaching Associates during the 2013-2014 and 2014-2015 academic years had previously been employed by the university as graduate assistants. During the two years they served in this capacity, the university waived the doctoral tuition and provided a small stipend. Despite this generous academic support, doctoral students still had academic expenses, such as purchasing textbooks. Moreover, they were required also to pay all university fees, totaling over $1000 per semester.[20] These fees, along with living expenses, required that most Teaching Associates live frugally. This budgetary awareness extended into their opportunities for

[20] For example, for the AY 2017-2018, an in-state doctoral student registered for two courses will pay $1143.80 in fees per semester. These fees include: Technology Tuition Fee ($26.00 per credit); Doctoral Instructional Fee ($101.80 per credit); Activity Fee ($28.00 per credit); Registration Fee ($32.00 flat fee); Wellness Fee ($14.50 per credit); Student Services Fee ($12.00 per credit); and Transportation Fee ($18.00 flat fee).

professional development, most frequently in terms of participation in scholarly organizations and conference attendance.

Financially, things improved for graduate students hired as Teaching Associates, as they were paid the same per credit rate as temporary faculty. The pay rate for these teaching positions was more competitive and helped to offset the lower graduate assistant stipends. Unfortunately, due to fluctuating student enrollment each semester, Teaching Associates were not evenly assigned courseloads, with some assigned two courses per semester, some assigned one course per semester, and others assigned two courses every other semester. Restricted and unpredictable funding subsequently affected some of the graduate students' choices about participation in scholarly organizations due to the costs involved.

Treatment within the departmental community of practice. Age factored in participant responses; however, it was with divergent reasoning. Older Teaching Associates reported frustration at what they viewed as a lack of recognition of their lives outside of academia; whereas the younger participants were aware of an inability or refusal of some faculty members to view them as legitimate members of the department's community of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002).

Responsibilities off-campus. Older Teaching Associates were frequently frustrated by faculty members who did not take into consideration the responsibilities and concerns that they had off-campus. Three of the older participants, Fred, Imani, and Jane, had children and another, Mike, faced long-term family health issues. They reported instances where faculty members were not as supportive of these responsibilities and concerns as the participants thought they should have been. Recalling the demands of teaching classes, participating in the Teaching Associate Mentoring Program, conducting research for his dissertation, and all

the while contributing to the scholarly discussion in his field by publishing articles in scholarly journals. Fred expressed his frustration eloquently, stating, "People say, 'Go publish! You need to publish!' And you're like, 'Great! I'll do that tomorrow!' Or I buy milk" (Fred, First Interview, December 6, 2014). At times, Fred felt his responsibilities as a parent and spouse were overlooked by faculty in the department.

While the NSF Survey of Earned Doctorates reports no change in the median age (31.6 years old) of earned doctorates between 2010 and 2015, the percentage of Ph.D. candidates over the age of 40 years old increased from 9.6% to 10.4% respectively (Miller, 2016; National Center for Science and Engineering Statistics, 2012; National Center for Science and Engineering Statistics, 2016). Older students have established lives and careers prior to pursuing terminal degrees. Even if this aging trend does not continue, faculty mentors in doctoral programs should reflect on the off-campus responsibilities of their students prior to providing guidance to them.

Unequal treatment by faculty members. Younger Teaching Associates reported that some faculty did not treat them as equals, either by mistaking them instead for undergraduate students, a rather common occurrence (Hanlon, 2016) for doctoral candidates who looked "young", or by not acknowledging their transitions from undergraduate to graduate student, a problem reported by several (i.e. Alana, Linda, and Sandy) who previously had pursued their Master's degrees in the same department. Others, such as Kelly and Anne, felt they were still viewed as junior members of the department's community of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002), especially in the eyes of faculty members not directly involved in the Teaching Associate Mentoring Program.

Sandy recalled a session when she offered to help a professor using a doc-cam. The professor struggled to position the doc-cam manually by placing books under it. Sandy volunteered to demonstrate its "still image" feature, which allowed users to hold documents in their hands while projecting them on the screen. As a result, she found herself positioned as an assistant for the rest of the session. She recalled, "I basically just stood up there for the rest of the class period. And so, every time they needed to project a new page, I was just there basically working. I was a doc-cam worker for the day" (Sandy, First Interview, December 6, 2014). She recalled that the professor was grateful for her help, thanking her repeatedly, but all the while expected her to stand by the doc-cam and wait for the next page to project.

A connection can be made again to Mishra and Koehler's (2006) focus on the physically limiting influence of a whiteboard in the classroom. Sandy's reaction to the situation was similar to the discomfort Anne expressed about using the instructor workstation. Sandy asserted

> It sort of hindered me a little from participating. Because when you move from classroom seat to behind the desk and the podium, and you're doing that, you don't really feel like you can interact as much. So, I kind of felt like I lost a little bit of class participation time from being an assistant. (Sandy, First Interview, December 6, 2014)

As Sandy's classroom participation shifted from doctoral student to classroom assistant, her ability to profit fully as a student had been affected. While she had been pleased to assist her professor in presenting the planned content, her role as a "doc-cam worker" (Sandy, First Interview, December 6, 2014) discomforted her. Another source of discomfort for some Teaching Associates was their relationships with faculty off-campus.

Limited social interaction with faculty members. Observations about their social interactions with faculty off-campus varied greatly between the ten participants, ranging from little to no interaction (e.g., Imani, Anne, and Linda) to short but cordial exchanges in public settings, such as restaurants and grocery stores (Fred, Jane, Kelly, Sandy, and Mike). Several Teaching Associates, including Kelly, reported not knowing how to act when encountering faculty in non-academic settings. Kelly's response was representative of those who expressed a desire for a more established relationship with faculty members. She stated

> I'm not expecting that we're gonna hang out like we're friends, or go drinking at a bar, or anything like that. But, just interacting with people who are kind of coworkers—but not really. People who are kind of above you—but not exactly. Just that kind of realm, getting more comfortable. And I could see that helping with professional development. Or, even just talking with professors more about their own research and what they're doing and how they go about doing it. That would be encouraging. (Kelly, Second Interview, December 5, 2014)

This situation is not unique to the English department of PCU. In a National Research Council study of over 5,000 doctoral programs in 62 fields at 212 U. S. universities, doctoral students reported similar responses regarding social interaction with their professors (Ostriker, Holland, Kuh, & Voytuk, 2006). Of the 16,439 doctoral students surveyed, 2,544 respondents were in English doctoral programs. While 63% of the English doctoral program respondents reported satisfaction with the intellectual environment that their programs fostered, only 28% reported being satisfied with the social interaction they had with faculty in their programs. Therefore, more opportunities for doctoral students to interact with faculty members should be organized in non-academic venues.

Alleviating the perceived barriers to full participation. One way barriers to legitimate participation as peers in the department could be alleviated is by increasing the graduate assistant stipend to a livable wage, perhaps equivalent to the amount earned by

Teaching Associates assigned two courses per semester. A higher stipend during the first two years of doctoral studies would result in doctoral students being less reliant on student loans and having more disposable income to invest in association memberships, journal subscriptions, and travel grants to participate at conferences. Faculty members also have access to travel grants from the PCU's faculty-led research committee and administered by the university's graduate school. To achieve this goal, increased university funding by the state government would be needed to provide the budget resources to increase graduate assistant wages.

Nevertheless, Teaching Associates themselves missed opportunities to further professionalize as well as acquire more knowledge about digital technology and its application in the realm of higher education.

Missed Opportunities for Further Professional Development

In this section, I describe the "missed opportunities" of doctoral students in the English department, regardless of their involvement in the Teaching Associate Mentoring Program. While I quote the Teaching Associates participating in my study, the decisions reported in the following paragraphs are common among all doctoral students in the two programs.

Reduced participation in scholarly organizations. Because doctoral students had limited incomes, this influenced their decisions not to join professional organizations, even if discounted student rates were available. For those who did maintain professional memberships, their prior pedagogical experiences in the field necessitated memberships in more than one organization. Linda and Mike in the Literary Criticism program reported more than one membership (CEA & NCTE and MLA & NCTE, respectively). Teaching

Associates in the Writing & Language program gravitated to more than two professional organizations. Jane reported maintaining memberships in the American Association of Applied Linguists (AAAL), Conference on College Composition & Communication (CCCC), MLA, NCTE, TESOL, and the Council of Writing Program Administrators (WPA). Fred reported membership in AAAL, TESOL, and the Symposium on Second Language Writing. Maintaining multiple memberships increased the costs involved in participation in these competing communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002). Therefore, conference presentations factored into the timing to maintain membership in scholarly organizations.

Out of the ten Teaching Associates, only Jane stated that she would attend a conference without presenting or acting as a session chair. Fred's response to the interview question about memberships in academic organizations and conference participation best illustrated the situation. In describing his rationale for maintaining memberships in TESOL, AAAL and the Symposium on Second Language Writing, he explained

> I've joined groups to be at the conferences. Basically, I was in TESOL for a few years, and slightly active in it. I was in AAAL because it was the same price to join the group as it was to join the conference. I also was in the Symposium of Second Language Writing. If I was to maintain any sort of group like that, it would probably be AAAL or Symposium on Second Language Writing. They seem to be who I read the most. Y'know, mostly just to look at job postings. (Fred, Second Interview, March 10, 2015)

Organizational memberships for access to conference registration were articulated clearly by other Teaching Associates as well. Sandy, Jane, and Bruce, waited to learn if their presentations had been accepted before joining organizations. Bruce reported joining CEA so that he could present at the 2015 conference; Imani stated that she had joined the Conference on College Composition and Communication (CCCC's) for the same reason. Ultimately,

limited sources of income influenced professionalization by restricting membership in scholarly organizations such as the Modern Language Association and the National Council of Teachers of English.

Limited funds also reduced participation at regional and international scholarly conferences due to the combined costs of registration fees and travel expenses (e.g. transportation costs, meals and lodging). According to Sandy, the university's graduate school offered graduate students up to $750.00 per academic year for conference travel. However, simply attending conferences did not qualify for financial support; students were required to present or act as a session chair to qualify for support. With graduate student registration fees ranging from $45.00 (Conference on College Composition and Communication, 2016) to $225.00 (Teachers of English to Speakers of Other Languages, 2016), Sandy felt that the travel grant did little to cover the cost of travel, lodging, and fees associated with conference participation (See Appendix B for details on selected 2014 conference fees). Moreover, the $750.00 maximum award was restricted to presentations at out-of-state conferences; only $375 was awarded for chairing a session at an out-of-state conference or for presenting at an in-state conference. Conference participation was not the only organizational benefit limited by restricted funding and income.

Participants also limited their subscriptions to the scholarly journals published by the organizations in which they maintained membership. Regardless of distribution medium, i.e. paper or electronic publications, the majority of the participants relied on the English department's journal subscriptions for access to the latest scholarly publications in their respective fields. Only Anne and Linda reported personal subscriptions to the publications of

the Modern Language Association (*PMLA*) and College English Association (*CEA Critic*) respectively.

Moreover, the Teaching Associates frequently limited their online activities on the websites of the scholarly associations in which they maintained memberships. Several organizations, including CEA, MLA, NCTE, and TESOL, maintained online interactive communities for their members. Yet, few of the Teaching Associates took advantage of these benefits of these scholarly organizations. For example, although Jane maintained memberships in the MLA and NCTE and used the organizations' websites to submit presentation proposals, register for conferences, and search employment opportunities, she did not participant in the organizations' online communities, the *MLA Commons* (https://mla.hcommons.org/) and the *NCTE Connected Community* (https://ncte.connectedcommunity.org/). Alana and Kelly reported membership in the CEA but neither followed the organization's blogroll (i.e., a series of blogs published by CEA members). Imani, Bruce, and Anne did not maintain memberships in any national organizations during the 2014-2015 academic year and thus were not able to participate in any online communities. Only Fred, Linda, Mike, and Sandy reported accessing their scholarly organizations' online communities (TESOL, MLA, and NCTE). This limited or non-existent participation in these online communities represents another missed opportunity to expand knowledge in digital technology and its uses in pedagogy, research, and service.

Another opportunity from which Teaching Associates did not fully profit was on-campus training. While conflicting teaching schedules were frequently the cause, there were other, less concrete, reasons as well.

On-campus professional development. Opportunities to learn about digital technology and other educational techniques are offered throughout the academic year at PCU. Some events are scheduled as 60- to 90-minute workshops through the university's graduate school, some by the university's librarians, and others by members of the English department. Imani and Bruce attended a database workshop at the university library. Jane attended a departmental workshop on EndNote® (Clarivate Analytics, 2016) taught by another doctoral student. She and Fred also attended a workshop on formatting research writing following the American Psychological Association (APA) style presented by the university's graduate school.

The university's Department of Education also offered a full-day series of information sessions and workshops called "Technology Day" prior to the start of each semester. Unfortunately, few of the participants attended the sessions during the 2014-2015 academic year, for several different reasons.

While she had attended Technology Day sessions in the past, Kelly did not attend them this year because she had decided that the material covered in previous sessions was not relevant to her pedagogical situation. She stated

> For instance, I know that one of the things that seems to be fairly trendy there are tablets or apps. Whereas, in my experience, students don't all have those things, or don't come with those things. Or, they'll show things like clickers, or things like that, which I wasn't really sure how that would be applicable in something that's not factual based. (Kelly, Second Interview, March 12, 2015)

Other participants felt the Technology Day sessions were useful, even if they were not able to attend. Fred stated, "Usually I do go if I get the chance. Lots of good stuff. A lot of what Technology Day was for me was just learning what's out there. That was a big deal" (Fred, Second Interview, March 10, 2015). Several participants cited additional reasons for not

attending Technology Day and other workshops offered during the rest of the academic year.

Bruce reported that he had not been able to attend workshops during the semester because he had been too busy working on his dissertation. Sandy had not been able to attend because they were scheduled at the same times she was teaching. In addition to focusing on her research proposal, Alana's early class schedule also affected her ability to participate. She stated, "Admittedly, once it gets past a certain point on a certain day, especially if I'm up super early because I teach at 8:00 AM, I—not having it. I just go home" (Alana, Second Interview, March 21, 2015). Alana acknowledged the importance of the workshops offered on campus but had not yet prioritized them high enough that she would make time for them.

Attitudes towards publications focusing on digital technology in education. Another missed opportunity for learning more about digital technology and opportunities to implement it in an educational setting were technology publications. Several publications, such as *Campus Computing*, *EDUCAUSE Review*, and *Technology in Higher Education*, are free digital downloads broadcast via e-mail. While a few Teaching Associates acknowledged the existence of publications focusing on digital technology in higher education, none of them reported reading them. Moreover, their ambivalence to subscribing to publications focusing on technology in education was evident.

For example, Alana stated that she did not know of any publications focusing on technology in education. As far as her willingness to read such publications, she stated, "Probably not regularly—well, it depends. It would depend on whether or not it focused on something I was teaching" (Alana, Second Interview, March 21, 2015). While not aware of any specific publications, Sandy shared Alana's view that they would be useful if she could use them as pedagogical resources. She also noted her willingness to use them to support her

research efforts, stating, “I don’t know about ‘on a regular basis’, but I definitely would use it if I’m teaching a new course, trying to develop something new, trying to integrate it more in my research” (Sandy, Second Interview, March 17, 2015). Ease of access—in differing fashions—also factored into other participants’ responses.

Similarly, Mike maintained that he was willing to periodically read an online journal focusing on digital technology in education. He offered, “I probably would. Yeah, because it would be acceptable to me and easy to get to. And something I could read quickly, from time to time. Yeah, that sounds easy, that way” (Mike, Second Interview, March 13, 2015). Linda noted that she although she was aware of such publications as *College Composition & Communication (CCC)* (http://www.ncte.org/cccc/ccc), she did not read them. Instead, ease of access for her took a different form. She explained, “I don’t keep up with it, I don’t. I rely on my colleagues to tell me what’s cool and how I can do things on D2L. So, so far that’s played out pretty well” (Linda, Second Interview, May 31, 2015). Linda’s response implies that doctoral students in the English department were frequent sources of support for acquiring more knowledge of digital technology; however, the situation was again more complex than I expected.

Limited use of digital technology to collaborate with peers. Collaboration using digital technology with peers in the Teaching Assistant Mentoring Program was limited for several reasons. At times, it was limited due to traditional approaches to interaction at scholarly venues. Other situations limited the use of digital technology because of a lack of resources, time, and participation.

Imani presented at the 2015 CCCC with two colleagues from the English Department at PCU. While they were assigned to present during the same session, they did not

collaborate to develop the presentation. Instead, each of the three presented individual PowerPoint slide decks. She recalled, "We presented together, but each of us had our own different PowerPoint. Yeah, we had a panel, but each of us had our own presentation" (Imani, Second Interview, April 9, 2015). Imani noted that she and her colleagues had not coordinated their presentations' slide layouts and color palettes.

Another Teaching Associate reported having more control of the design of an event she was tasked with producing. Anne had assumed production responsibility of an English Department annual event normally guided by a faculty member. She stated, "I've been helping trying to get that organized a little bit to carry on this semester. I took over the advertising…the posters, reserving rooms, making sure we have the equipment, that sort of thing" (Anne, March 11, 2015). Nevertheless, although the event heavily featured digital technology in the form of video games, she focused solely on the promotion and venue coordination of the event.

Sandy described a digital publication that she and another Teaching Associate attempted to produce, but were thwarted by a lack of submissions. She explained, "We collaborated on an online special edition journal for a center and institute. There was not enough submissions to warrant a full publication." Noting that the submissions would be included in an online campus publication, she described her new role in the project. "So, we're sort of like—we're like a blog collaboration now" (Sandy, Second Interview, March 17, 2015). While the final publication was in electronic format, the blogging software used promoted a continued participation of submission, the lack of which was the original reason for changing the medium of publication and Sandy's changed role in the project.

Linda collaborated with an English Department faculty member during the departments' "New Hires Day" at the start of the Spring 2015 semester. Newly-hired faculty members participated in a day-long orientation program that was "low tech" in terms of the use of digital technology. Describing their session activity which focused on responding to student writing, she stated, "Very low tech. 'Here's a student paper, mark it up, then we'll talk about, like, what are your go-to strategies, and why we don't correct grammar on student papers'" (Linda, Second Interview, May 31, 2015). The only digital technology used for the session was MS Word, which Linda used to author the handout for the new faculty members.

While study participants may not have taken advantage of every opportunity to further expand their knowledge of digital technology, they did build relationships with their peers in the doctoral programs as well as leaders in their fields of pedagogy and research.

Making Connections in the Discipline's Community of Practice

In this section, I review the role digital technology played in building doctoral students' professional identities through their interpersonal relationships with their peers.

Meeting "rock stars" and making connections. As noted in Chapter Four, all of the Teaching Associates participated at conferences during the data gathering period of the study. The majority of them used the events to develop their professional identities with established leaders in their fields of study. Several, including Imani and Jane, used personal connections (i.e. language abilities and previous introductions) to spark conversations with these full participants in their respective communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002). Fred and Sandy used conference participation to pursue employment, with Sandy securing work as a book reviewer and Fred interviewing for several faculty positions.

Describing his experience at the Symposium on Second Language Writing, Fred recalled, "I actually interviewed there—kind of a spontaneous thing—met the director, Maria Zlateva from Boston University, director of their ESL writing program. And just set up an interview right there—sat down and talked" (Fred, Second Interview, March 10, 2015). At a conference devoted to her specific field of inquiry, Linda attended book signings with several of the "rock stars in her field." She noted that she was even able to exchange personal e-mail addresses with one of them based on her description of research interests (Linda, Second Interview, May 31, 2015). While other Teaching Associates (e.g. Anne and Kelly) were less secure in their interaction with key stakeholders in their disciplines, they did converse socially with other conference participants.

These interactions with full participants in their disciplines' communities of practice (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) demonstrate the Teaching Associates' burgeoning professional identities within their fields. It was clear during the interviews that these exchanges had been positive experiences based on the excitement in their voices as they recounted the experiences. Nevertheless, the positive experiences the Teaching Associates shared with me were not limited to meeting "rock stars" in their respective fields of study.

Friendships fostered. In an essay reflecting on the professional journeys graduate students undertake as they pursue their graduate careers, Nyquist et al. (1999) reflected on their own experiences and the "lifelong friendships that are associated with graduate study" (p. 19). They noted that seasoned researchers often chose to suppress memories of negative experiences and only focus on the positive aspects of their doctoral formation. Several of the Teaching Associates demonstrated the same desire to focus on their positive experiences in

the graduate and mentoring programs. Friendship was one topic several Teaching Associates recognized as a treasured outcome of participation in the doctoral program.

While investigating the professional identity development of Teaching Associates and the influence digital technology has had on their identities was a rewarding experience in itself, I was struck as well by the emotional ties the participants expressed during their two interview sessions with me. During the course of these interviews, they repeatedly used words and expressions such as "friends," "friendships," "being 'friendly'" when describing their relationships with their fellow doctoral students in the English department.

For example, both participants Alana and Linda used variations on the word "friend" seven times in interviews lasting only 31 minutes (Alana, Second Interview, March 21, 2015; Linda, First Interview, December 5, 2014). In her second interview as well, Linda referenced friendships with other doctoral students an additional five times. Likewise, Kelly discussed friendships five times in her second interview, which lasted 47 minutes (Kelly, Second Interview, March 12, 2015). Anne was the most introspective of the group, discussing the friendships developed by doctoral students. She reflected

> We all come from different places and we're together for this period of time that we know is…ahhh…indefinite. We're not going to be here forever; we are aware that we have to travel to other places to essentially set up our lives. So, it's strange because we form these bonds and relationships with people that get very strong because you're all, y'know, in this ordeal of sorts together, and you rely on each other to help get you through. But you know that, a year or two years, three years down the road, these people are gonna be across the country, probably. (Anne, Second Interview, March 11, 2015)

Elaborating on the unusual situation that doctoral studies create in terms of life choices, Anne surmised that most of the doctoral students in the program felt that Indiana, Pennsylvania would not be their home in the future. Describing graduate students as "gypsies of sorts," she

stated that participation in the doctoral programs had created intense friendships based on their research passions. These friendships would endure after they had separated and pursued their individual academic careers. She explained

> We've lost most of the friendships that we built when we were, y'know, younger, from our hometown, whatever—they were based on circumstance, essentially. Where the friendships that we form in grad school—it's partially circumstance in that we all happen to be enrolled in the same place—but, we also all share the same passion and the same drive towards the same goal, basically. So, I feel like sometimes those relationships last longer, because you have…ummm…more in common than where you just happen to be at the time. (Anne, Second Interview, March 11, 2015)

It is through these friendships that digital technology can assist doctoral students in their professional development. Maintaining professional and personal connections over long distances through digital technology such as Skype, text messaging, Facebook posts, etc., doctoral students can share job postings, pedagogical innovations, research results, as well as life events such as wedding and birth announcements, home purchases, and vacation photos.

In the next section, I identify limitations of my study, suggestions for future research, and my thoughts on my research experience.

Limitations of the Research

While I hope that I have sufficiently described in detail the organization and parameters of my study in order to satisfy concerns of credibility, dependability, and confirmability, there could still be concerns regarding the transferability (Lincoln & Guba, 1985) of my research, due to the following limiting factors: size and scope; participant gender; doctoral program; and participant familiarity with the researcher.

Limitation of Scope

This study was limited to one English department on one university campus, with a small number of participants. Thirty-six doctoral students participated in the 2014-2015

academic year as Teaching Associates; ultimately, ten of the thirty-six Teaching Associates volunteered to participate in the study.[21]

Although the study size was limited, the goal was not to survey 1000 people. Instead, depth of understanding was aimed at through an examination of multiple data sources gathered from the cohort of Teaching Associates as part of a qualitative research approach. I believe the closeness of the comparative sizes of the population and subsequent sample (i.e., the interview participants) (Mertens, 2009, p. 326) was counterbalanced by the examination of the mentoring program application materials and an examination of employment advertisements for references to a knowledge of digital technology as a requirement or desirable skill to possess. Similarly, in a quantitative study of twenty doctoral students participating in a mentoring program in the Education Department at the same institution, Corbett and Paquette (2011) justified their choice of small populations, stating, "The researchers wanted to focus on this particular mentoring program" (p. 290). Like Corbett and Paquette, I view this study as an opportunity for others to conduct future research involving other institutions and their mentoring programs.

Limitation of Gender

Another limitation was in the gender proportions of the interview participants, with only three male Teaching Associates participating. A second factor of gender was the age of the male participants, with each of them being 35 years old or older. A larger cohort of males, and more males under the age of 35 years old, may have expressed different views to

[21] As previously stated, thirty-six doctoral students in the Teaching Associate Mentoring Program were sent the survey and nineteen responded to it. While some may think this a low response rate, in my previous professional experiences at Ford Motor Company and Fiat S.p.A., a survey response rate of more than 6% was considered successful. Several Teaching Associates later apologized for missing the survey deadline, explaining that they had deadlines of their own to meet, and even one survey respondent later contacted me and offered to be an interview participant if I "needed more people."

the interview questions. Nevertheless, I believe that the data I gathered from the male participants and presented with their female peers in the Teaching Associate Mentoring Program *en masse* mitigated any imbalance in participant gender.

Limitation of Program

Program participation was skewed as only seven doctoral students from the Writing & Language program responded to the survey, and only three of the respondents volunteered to participate in the interviews. A more balanced cohort by program may have generated a more positive view of digital technology for students in the Writing & Language program.

Limitation Due to Participant Familiarity with the Researcher

By focusing my research on doctoral students in the English Department's Teaching Associate Mentoring Program at PCU, my role as a qualitative researcher influenced their participation. Noting the possible effect of the researcher, van Manen maintained, "The research methods used may have lingering effects on the actual 'subjects' of the study. For example, intense conversational interviews may lead to new levels of self-awareness, possible changes in life-style, and shifting priorities of living" (1990, pp. 162-163). While some may construe this familiarity to be overly influential, Nyquist et al. (1999) stated that the relationships they developed with the doctoral students in their study fostered both a high level of self-reflection and a willingness to speak freely.

During the second interview, participant Linda acknowledged the influence the study had had on her, demonstrating the "self-awareness" van Manen (1990) had described. When I inquired how she viewed digital technology affecting her professionally, she quickly responded, "Okay, this has changed quite a bit since I talked to you last time. I tweet like crazy at conferences now and I never thought I would do that" (Linda, Second Interview,

May 31, 2015). Fred also acknowledged my presence by freely expressing his disappointment with the behaviors of some faculty members in the department. During our conversation about his frustrations as a doctoral student, he responded

> I gotta say, it's the power structures, the hierarchies, the head trips, the weird personality clashes. You talk to one person and they're all upset about somebody else, and they tell you exactly what to do. Then you go to another person—they have a completely different opinion. Somebody badmouths one person, and then they turn around and do the same thing. (Fred, Second Interview, March 10, 2015)

Similarly, Alana felt sufficiently comfortable to discuss her dismay with some faculty members not appreciating dissention from doctoral students in her program. She asserted, "…it only applies to, like, certain spheres. 'Critically think about this.' But, it ends there. Yeah. 'Think critically!'—but don't. Don't think critically about what you're given to do" (Alana, Second Interview, March 21, 2015). Not limited to one university, this was a disconnect many in doctoral programs observed about academia in general (Nyquist et al., 1999; Corbett & Paquette, 2011) regarding criticism of the system itself.

Although interview responses may have been influenced by my familiarity with the participants, my selection of a single group of doctoral students was grounded in previous research investigating academic cohorts in the fields of psychology (Bruner & Fleisher Feldman, 1996; Hogan, Norcross, Cannon, & Karpjak, 2007; McKeegan, 2008: Ritchie, 2008), foreign languages (Rodrigues-Sabater, 2005; Youngs & Green, 2001), sociology (Fingerson & Culley, 2001), and in education (Corbett & Paquette, 2011). Thus, familiarity with participants has been seen as a positive aspect in previous research.

In the next section, I offer several recommendations for researchers interested in extending my study across disciplines and to other sites.

Recommendations for Future Research

The purpose of this study was to investigate the influence digital technology had on the professionalization of teaching assistants in the English department of one public university. The results of the participant interviews and document analyses reported a more nuanced picture of adoption of digital technology among the study participants than previous literature investigating the adoption of technology both professionally and personally (Prensky, 2001). While I believe the study results are transferrable (Guba & Lincoln, 1989) to graduate student populations at similar institutions of higher education, it would be very interesting to repeat the study in other academic environments. Pursuing the same research agenda in an English department at a similarly sized public university in another state may generate similar results if the population and sample demographics reflect those of the current study.

It would be interesting as well to conduct the survey of doctoral students in a different discipline. For example, setting the study in a graduate program in one of the physical sciences, such as biology or physics, could generate interesting outcomes since they may be affected by the quantitative mindset of this student population. Such participants may have a very different opinion of digital technology resulting from their own research and teaching in a field where the scientific method of testing a hypothesis to generate a theory is the norm. Moreover, conducting the study involving the same type of population, but in a more "high tech" environment, such as English doctoral students at Temple University or at Pennsylvania State University, to see if the results would be similar.

Lastly, it would be intriguing to revisit the same ten survey participants several years in the future, to inquire how their views on using digital technology in their pedagogy and

research had evolved over time. As older participants had already developed strong professional identities with specific views on the use of digital technology, following their interaction with the latest trends in educational technology would be particularly interesting.

Final Thoughts

Because humanities programs such as English foster degree-seeking students as well as servicing all undergraduate programs, pedagogical excellence should be higher education's first priority. With the ability to change not only institutions but disciplines as well after earning a Master's degree, it is unwise to assume that doctoral candidates have been well prepared in the construct of TPACK (Mishra & Kohler, 2006). The limited view of digital technology by Teaching Associates in the Writing & Language program, as well as the general perception of participants in the Literary Criticism program that their discipline lagged behind in incorporating digital technology, demonstrate the need to provide a more substantial preparation in both pedagogical knowledge and technological knowledge (Shulman, 1986) beyond the traditional focus on content knowledge in doctoral programs. Moreover, the conversation in doctoral coursework should promote the integration of all three knowledge forms (Mishra & Koehler, 2006) in more than just one elective course.

For over one hundred years, voices in the realm of higher education have cautioned that institutions were not focusing sufficient energies in pedagogical preparation (Association of Departments of English, 1998; Baxter, 1939; Beyer, 1974; James, 1903/1987; Jones, Davis, & Price, 2004; Laing, 1930; Nyquist & Wulff, 1986; Strothmann, 1955). With the demise of the Doctor of Arts degree, the completion of the Preparing Future Faculty program, and the heavy marketing of the Ph.D., other voices have warned that American institutions of higher education were producing too many doctors of philosophy (Basalla &

Debelius, 2015; Cohen, 2010; MLA Committee on Professional Employment, 1998; Weibl, 2001) who faced too few tenured—or even just full-time—job opportunities, often due to aging faculty members unwilling or unable to retire.

While the focus of this dissertation has been on digital technology and its influence on the professional development of doctoral students in the English department's Teaching Associate Mentoring Program at Pennsylvania Commonwealth University, I close this dissertation with a broader view on the future of doctoral studies. Revisiting the epigraph I positioned on page one of this dissertation (Fuller, 1982), I restate my belief that if the Ph.D. is to remain the sole terminal degree in English doctoral studies, more consideration needs to be expended on elevating the other two responsibilities of the academic triad: service and teaching.

Recently, physicist Andrew Robinson from Carleton University (Robinson, 2017) posted on Twitter a photograph that resonated with me. In a photograph taken on an unknown urban street, a young man labelled "Universities" wolfishly admires a young woman labelled "Research." He holds the hand of another young woman—I assume she is his girlfriend—labelled "Teaching," much to her evident displeasure. What makes the image even more compelling for me is its composition: the young woman identified as "Teaching" is in sharp focus (along with the young man); the other woman, "Research", is out of focus. The color palette is also notable; "Research" is wearing a bright red dress, while "University" and "Teaching" are in muted shades of blue. In my mind, the flashy, unfocused red represents the individual and institutional allure of research versus the coordinated, crisp blues representing the basis for institutional existence—students and teaching. For me, and apparently others based on the responses online, this is the situation as we see it regarding the

preparation of future faculty for their roles in higher education. While "University" may appear faithful to "Teaching", the flash of the red dress of "Research" distracts future faculty preparation from this fundamental relationship. The imbalance of priorities remains.

If universities and colleges in the U.S. equally value teaching and research, doctoral candidates should be involved in campus-wide teaching excellence programs and departmental meetings early in their Ph.D. careers. In these service venues they can observe reflectively and develop a clearer understanding of the responsibilities awaiting them, rather than only gaining access to these experiences and resources when they are already juggling the demands of undergraduate teaching and dissertation research. Universities and colleges should develop campus-wide mentoring programs for doctoral students in all programs, while still offering specialized guidance at the department level. Ultimately, we do not need more researchers who cannot teach; we need more teachers who can research.

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Appendix A

Synthesis Matrix of Academic Organizations & Their Areas of Support

	CCCC	ISTE	MLA	NCATE	NCTE	TESOL
K-12 Student-Centered Outcomes	N/A					PreK–12 English Language Proficiency Standards (2006)
K-12 Student-Centered Outcomes (Technology)	N/A	NETS-S (2007)				TESOL Technology Standards (2011)
Adult & Higher Education Student-Centered Outcomes						TESOL Standards for Adult Education ESL Programs (2006)
Adult & Higher Education Student-Centered Outcomes Technology						TESOL Technology Standards (2011)
Adult & Higher Education Teacher-Centered Outcomes						TESOL Standards for ESL/EFL Teachers of Adults (2008)
Instructor-Centered (Teacher Preparation)	CCCC Position Statement on the Preparation and Professional Development of Teachers of Writing (1982)		MLA Ad Hoc Committee on Teaching: Final Report (2001)	NCTE/NCATE Standards for Initial Preparation of Teachers of Secondary English Language Arts, Grades 7-12 (2012)	NCTE Guidelines for the Preparation of Teachers of English Language Arts (2006)	TESOL/NCATE Standards for P–12 ESL Teacher Education (2010)
Instructor- & Technology-Centered (Teacher Preparation)		NETS-T (2008)				TESOL Technology Standards (2011)
Instructor Centered (Teacher Educator Preparation)			MLA Final Report on Professional Employment (1998)		CEE Beliefs about Technology and the Preparation of English Teachers (2005)	
Administration Centered		NETS-A (2007)	Guidelines for Evaluating Work in Digital Humanities and Digital Media (2012) Guidelines for Information Technology Access and Support for the Modern Languages (2013)			TESOL Technology Standards (2011)

Appendix B

2014 Conference & Membership Fees for Leading Organizations in English and Language Studies

Organization	2014 Conference Location	Membership Required	Membership Fee (Student)	Conference Fee (Student)	Events / Workshops[1]	Total
AAAL	Portland, OR	Optional[2]	$60	$135	N/A	$195
CCCC	Indianapolis, IN	Yes[3]	$25	$45	$40 (each)	$110
CEA	Baltimore, MD	Yes	$50	$112	N/A	$162
MAPACA	Baltimore, MD	N/A	$0	$155	N/A	$155
SSLW	Tempe, AZ	N/A	$0	$100	$110	$210
TESOL	Portland, OR	Yes	$35	$155	$385	$585

Note: The six conferences above were those most frequently cited by participants during the interviews. They are American Association of Applied Linguists (AAAL), Conference on College Composition and Communication (CCCC), College English Association (CEA), Mid-Atlantic Popular and American Culture Association (MAPACA), Symposium on Second Language Writing (SSLW), and Teachers of English to Speakers of Other Languages (TESOL). All figures retrieved from respective organizations' websites. While a number of organizations offered "early registration" reduced fees for conferences, it was difficult for graduate students to meet the early payment deadlines as frequently they were still waiting to learn if their presentations had been accepted. [1]Onsite workshops, institutes, and banquets were ticketed separately. [2]Non-member student rates were higher. [3]Required membership in NCTE.

Appendix C

Semi-Structured Interview Questions

1. How do you define the term “digital technology”?
2. If you were to rate on a scale of one to ten the importance of digital technology in your field of study, what number would you assign it and why?
3. How many hours per week do you interact with information related to your research topic in a digital environment? Less than two? Two to four? Five or more?
4. How do you incorporate digital technology in your teaching? If you don’t, why not?
5. Do you ever worry that your students may be more knowledgeable about digital technology than you? Why or why not?
6. Have you experienced a situation when a student knew more about a specific type of digital technology than you?
    i. If so, how did it make you feel?
    ii. Did you feel your authority in the classroom had been compromised? Why or why not?
7. Can you describe an instance where using digital technology was particularly effective in a classroom activity that you had devised?
    i. If so, how did it make you feel?
    ii. Did you feel your authority in the classroom had been reinforced? Why or why not?
8. Can you describe an instance where using digital technology was not effective in a classroom activity? Nothing went “wrong”; it just didn’t turn out as you had planned.
    i. If so, how did it make you feel?
    ii. Did you feel your authority in the classroom had been compromised? Why or why not?
9. How do you ensure your students are familiar with the technology you use in class and expect them to use to complete their assignments?
10. Have you ever encountered a situation where your planned classroom activity was disrupted by technical failures?
    i. If so, how did you resolve the problem?
    ii. If so, how did you feel during the incident?
11. In your program, how is the instruction of digital technology and its effective use in the classroom accomplished?
12. In your program, how is the instruction of digital technology and its effective use in research accomplished?

13. Describe a specific episode where an IUP professor or instructor effectively demonstrated or modeled combining content, technologies and teaching approaches in a classroom lesson. Without identifying the professor or instructor by name, please include in your description the general content that was taught, what technology was used, and what teaching approach(es) was implemented.

14. Have you encountered a situation where you were more knowledgeable about digital technology than a faculty member in your program (do not identify the faculty member by name)?

    i. If you have, how did that faculty member react?

    ii. If you have, how did that faculty member make you feel?

15. When interacting with faculty in your program on campus, how do you feel you are treated? As an equal? In off-campus interaction, how do you feel you are treated?

16. What kinds of activities for professional development do you participate in, either on-campus at IUP or at other locations?

    i. If you do participate, how do you see these activities enhancing your identity as a professional within your field?

    ii. If you do not participate, why not?

17. Are you involved in any service-related activities in the English department (or other departments) at IUP?

    i. If so, what are they?

    ii. How do you see them enhancing your development of your professional identity within your field?

    iii. If not, why not?

18. What types of activities or opportunities (not necessarily related to digital technology) do you think would help you develop your identity as a professional within your field (not currently available at your current location)?

19. Have you applied for any positions in the last 6 months? If so, are you willing to share your cover letter, modified CV, and job posting for this study?

20. Optional examination of submitted TA application cover letters, CVs, philosophy statements, and syllabi. Dependent on submission of documents at close of structured interview.

Appendix D

Follow-Up Interview

Open-Ended Questions

1. How are things going this semester using technology in your research?
2. Have you experimented with or incorporated any new digital technologies in your research?
3. How are things going this semester using technology in your classroom?
4. Have you experimented with or incorporated any new digital technologies in your curricula?
5. Are you presenting at any upcoming conferences?
    i. If so, will you use digital technology in your presentation?
    ii. Will the necessary technology (computer, projector, Internet access, etc.) be provided for you, or will you have to use your own equipment?
    iii. How does that make you feel?
6. Have you attended any seminars or workshops (on- or off-campus) devoted to digital technology since the start of the semester? Were you aware of any scheduled?
7. Are you aware of any publications focusing on the use of digital technology in higher education?
    i. Do you, or would you, read such a publication on a regular basis?
8. Have you been collaborating with any fellow students or faculty on any projects or presentations where digital technology featured prominently? If no, why not?
9. Have you been checking the job postings since we last met?

a. If so, have you noticed any references to experience with or knowledge of digital technology in the job requirements?

b. Were there any postings that made reference to multiple duties, such as program management plus teaching?

10. Have you considered looking for employment outside of academia?
    i. If so, in which field?
    ii. If so, what type of job do you think you would pursue?

11. Any additional thoughts about digital technology and its influence on how you see yourself as professional in academia?

12. Have you presented at any discipline-related conferences, such as CCCC, Computers & Writing, AAAL, or TESOL? If so, did you have the opportunity to meet with any of the prominent leaders in your field? Can you describe the experience?

13. Do you belong to any discipline-related organizations, such as AAAL, MLA, NCTE, or TESOL? If so, do you use any of the features of the organizations' websites (MLA Commons, ? If so, which features?

14. If you are a member of NCTE, do you follow any of the social networking special interest groups listed below? (Select all that apply)

    i. Facebook
    ii. Instagram
    iii. Pinterest
    iv. Twitter

15. If you are a member of TESOL, do you follow any of the social networking special interest groups listed below? (Select all that apply)

    i. Facebook
    ii. LinkedIn
    iii. Twitter

16. If you are a member of Modernist Studies Association, do you follow any of the social networking special interest groups listed below (Select all that apply)

    i. Facebook
    ii. Twitter

17. If you are a member of PC/ACA, do you follow any of the social networking special interest groups listed below (Select all that apply)

    i. Facebook
    ii. Twitter

18. How often do you visit the special interest group pages on the social networking sites? How often do you participate in the conversation?

19. What aspects of doctoral studies do you find rewarding?

20. What aspects of doctoral studies do you find frustrating?

Appendix E

Informed Consent Form

[PRINTED ON DEPARTMENTAL LETTERHEAD]

As a Teaching Associate in the English Department at PCU, you are invited to participate in a research study about your use of digital technology in both research and teaching and how this use is influencing the development of your professional identity within your field of research. The following information is provided in order to help you to make an informed decision whether or not to participate. Your participation in this study is voluntary. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigators or IUP. Should you request to withdraw, all information pertaining to you will be destroyed. Your decision will not result in any loss of benefits to which you are otherwise entitled.

The purpose of this study is to investigate the influence that digital technology has on Teaching Associate professional identity development in the English Department at PCU. Participation in this part of the study involves two interviews: the first one held today and the second scheduled during the Fall 2014 semester.

The first interview consists of twenty (20) structured questions designed to record your opinion of digital technology, how much you use it in your research and teaching (if applicable). The estimated duration of the interview is sixty (60) minutes. The second interview will include twenty (20) semi-structured questions, which will focus on your experiences using digital technology during the semester. This second interview is estimated to also last sixty (60) minutes.

There are no known risks or discomforts associated with this research. Your responses to both the survey and this interview will be considered only in combination with those from other participants. The information obtained in the study may be published in scientific journals or presented at scientific meetings but your identity will be kept strictly confidential.

If you are willing to participate in this interview, please print and sign your name below.

_____ _____

Your Name (Print) Your Name (Signature) Date

_____

Interviewer

Thank you for participating in this research.

Sincerely,

Project Director:
Mr. John C. Hepler, ABD
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This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).