

TECHNOLOGY AND TEACHER EDUCATION: IS TECHNOLOGY
PROFESSIONAL DEVELOPMENT MEETING THE
NEEDS OF ENGLISH TEACHERS?

by

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ABSTRACT

The definition of a “traditional” classroom has undergone a significant change in the last few decades. The classroom of today in the 21st century provides much more technologically advanced tools. With the rapid advancements made in educational technology every year, teachers have had to learn to change and use new tools in their teaching.

This study used Change Theory as a lens to interpret the ways that teachers are learning about technology through the technology professional development (TPD) programs available to them through their schools and/or districts. This study focused particularly on the needs of English teachers to determine if their needs are being met with the TPD programs available to them.

Six school districts from three different states were included in this study. This research study followed a mixed method model, triangulation, and the constant comparative method to analyze its data. Participants were strictly limited to English teachers. The participants had the opportunity to participate in one or all of the data gathering tools. These tools included an electronic survey, focus groups, and individual interviews.

Results of this study showed that as a whole, English teachers are not having their needs met in technology professional development (TPD). Very few of the schools

represented in this study provided any TPD beyond the standard training for their online grade book programs. Teachers were very disappointed with the lack of effort or consideration their administrators have towards their technology professional development and felt that much of the time they spend in their regular professional development meeting is wasted. Participants criticized the poor quality of their TPD and that very few good teaching methods are ever employed. Teachers asked to be involved in TPD decisions so that they can learn advanced technology skills. Teachers in this study provided several recommendations for their school and district leaders on how to better provide TPD that would meet their needs as well as benefit teachers in all content areas.

For

Brian, Tallin, Tarren, Trevon and Talyssa

and for

Judy, Donald, Kaye, and Blaine

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CHAPTER 1

INTRODUCTION AND RATIONALE

Introduction

In the past 30 years or so, educators have experienced many changes in educational technology, from cassette tape players and film strips of yesteryear, to the digital cameras and computers of today. In the mid 80s, a typical student's computer use usually consisted of attending a computer lab where several Apple computers lined the walls, and the computer instruction was not integrated into any particular content area. The basic purpose of the class might have been just to teach how to use a computer, not necessarily to teach what computers can be used for. Essays and reports were composed by hand or written on typewriters. Computers were not found in classrooms, nor were students expected to use them to complete their homework. Now in a new century, we would be hard pressed to find a classroom without one or more computers (Molenda & Sullivan, 2002).

Student-centered instructional approaches to learning (American Psychological Association, 1997) have encouraged teachers to modify teaching strategies and integrate computer technologies across all content areas. The creation of the World Wide Web, as

well as interactive, educational, and collaborative software, makes technologies increasingly flexible and powerful tools (Wozney, Venkatesh, & Abrami, 2006). In spite of well intended efforts to increase computer use within the classroom, levels of integration among teachers remain extremely varied (Evans-Andris, 1995; Faison, 1996; Guskey, 2002; Hadley & Sheingold, 1993; Spicer & Dede, 2006).

In an era of ongoing school reform, many researchers and administrators consider the education and professional development of teachers as the keystone to educational improvement (Hawley & Valli, 1999). Initiated by an urgent need to meet state and national student achievement goals mandated by the Elementary and Secondary Education Act as well as the No Child Left Behind legislation, an overabundance of professional development programs have been initiated, such that school districts have added workdays devoted solely to professional development, with a large part of the day(s) dedicated to technology professional development (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009). Quite often, professional development days are scheduled a day or two before a new school year begins, thus adding additional stress to teachers' already overburdened schedules. As important as professional development may be, it is imperative that schools and administrators be sure that time, effort, and scarce resources are expended only on quality technology programs that teach with and about best practices.

Educators, especially those in the English classroom, to whom the responsibility of teaching technology has fallen, could not have foreseen the explosion of new technology that would one day impact their teaching methodology and pedagogy (McGrail, 2005). Yet today, expectations of teachers are based on the assumption that

they already know or will apply themselves to learn how to use and integrate emerging technology for classroom applications. In addition, with the increased standards imposed by No Child Left Behind (Bush, 2002) and the International Society for Technology in Education (ISTE), experienced teachers are not only required to learn how to use computers, but also other state-of-the-art classroom technology on a daily basis. A look at the current literature in technology professional development will point to a need for more in-depth study of how a certain group of teachers, those teaching English, have been professionally impacted.

Statement of the Problem

Several studies have been done in an attempt to discover what teachers' beliefs and perceptions are concerning the increasing demands of learning and using new technology in the classroom while seeking to understand why some educators use it and others do not (Honey & Moeller, 1990; Schrum, 1999; Vannatta & Fordham, 2004). In contrast to math and science educators, who have been in the forefront of classroom technology use (Clark & Ernst, 2007; Niess, 2005; Satchwell & Loepp, 2002), technology professional development research needs to respond to the changing trends of classrooms. New studies should focus on ways to increase technology use by those who have the responsibility to teach the literacy of technology as well as literacy in reading, writing, and critical thinking, and who have great needs in developing their skills in the area of technology integration (Carlacio & Heidig, 2009; Holum & Gahala, 2001). Each year, more and more software is being produced that is designed to provide greater access to online research materials, programs that will automatically edit and

provide feedback on a student's written assignment, software that will evaluate their reading levels, enhance and offer more creativity with digital media and desktop publishing, and help students create accurate bibliographies. New forms of technology also encourage new research that examines the impact and best practices for teachers in general, but not usually for English teachers.

Even more so, there are numerous free programs available via the Internet that provide useful study guides, easy communication between teachers and students, free website hosting for teachers, and much more. Aside from laptops, Internet, and personal computers, classrooms are being enhanced through other forms of technology, such as document cameras that are replacing bulky overhead projectors, and interactive whiteboards that are replacing chalk and even standard whiteboards. Voice enhancement technology is also becoming more popular in classrooms. Digital projectors are being used to connect to digital cameras, laptops, video cameras, and personal computers to project an image on a screen. This way, teachers can guide their classes on the Internet, edit essays together using word processing software, watch videos, and listen to podcasts. With the increase in affordable technology, more schools are purchasing and requiring their teachers to use technology to prepare their students for a technology driven future, but are they providing effective and purposeful technology professional development (TPD) so that educators can utilize and integrate technology to its fullest ability? English teachers should be considered a priority when designing TPD because over half of their curriculum is technology dependent.

Research in technology professional development is lacking in many areas (Cuban & Kirkpatrick, 2002; Light & Culp, 2005; Marra, 2004; Moursund, 1992). The

methods used for gathering data have been inconsistent and lack quality; the types of professional development are rarely similar from study to study; the theoretical framework used for analysis is seldom informative; the participants are either not mentioned or range in groups from just a handful of teachers to large numbers; and finally, their content areas are hardly ever mentioned (Lawless & Pellegrino, 2007; Moursund, 1992). In essence, it is very difficult to ascertain who is receiving the training, and how it is affecting classrooms. Also, the majority of the technology professional development research is based on programs established at the college or university level, and does not concern itself with what is happening at the public school or school district level, where the responsibility lies heavily to provide professional development. There is even less research that narrows TPD to specific content areas outside of math and science, such as language arts (McGrail, 2005; McNabb, 2006).

Of perhaps greater concern, research in technology professional development has not consistently asked the right questions and needs to focus more fully on questions of greater relevance to teachers. Some of those questions might include: What content areas do the teachers represent who are participating in the study? What is their technology background? What is their level of technological expertise? Are all the teachers in a department participating in the same professional development so that collaboration of ideas and support ensue? Which content areas should be incorporating technology? Are teachers participating in the professional development because it is required or optional? Which content area teachers are requesting more technology training? Are their needs being met? What is the purpose of the technology professional development and whose agenda does it match?

Recent research has begun to examine the way that teachers perceive their responsibility to use technology personally, academically, as well as professionally. Wepner and Ziomeck (2003) conducted a study to investigate the shifting responsibilities university faculty have in infusing technology into their teacher education programs, thereby impacting the teaching skills that are undergoing change as a result of using technology. They discovered that teachers required a “substantial knowledge base” (Wepner & Ziomeck, 2003, p. 55) before they felt adequate to integrate technology. Furthermore, they discovered that the role of the teacher, when using technology, was becoming more of a facilitator.

Honey and Moeller (1990) also researched how technology was changing teaching. They found that teachers who considered themselves to be more student-centered were more likely to abandon traditional textbook teaching practices in order to utilize technology in project-based learning. These teachers were found to have a flexible attitude and viewed technology as a valuable tool in education. On the other hand, teachers who used more teacher-centered approaches to teaching resisted the change to technology and utilized computers very little.

Additional research on teachers’ beliefs has shown that teacher self-efficacy and personal beliefs about their own capabilities are a huge determining factor for whether they use technology or more traditional styles of teaching, regardless of how long they have been teaching (Albion, 1999; Bandura, 1997; Vantanna & Fordham, 2004). Vantanna and Fordham (2004) attempted to gain a better understanding of teachers’ characteristics to be able to define how they work together to predict the use of technology in the classroom. The two most influential characteristics were (a) a desire

to dedicate additional time outside of contract hours to learn about technology and (b) a venturesome attitude to try using technology with students (Vannatta & Fordham, 2004).

Understanding what factors encourage teachers to change their pedagogy is essential in order to discover how and why teachers make choices to change their teaching practices to include more technology. One significant factor is the motivation a teacher has to learn something he/she finds valuable. Understanding what encourages or motivates teachers to participate in professional development is crucial in being able to understand why they would be willing to change or improve their teaching to adopt a new technique or skill. Overall, current research on teacher beliefs and teacher change lacks insight into how educators have changed their teaching practice to adopt technology, or, if technology is being used, is it used more as a tool for communication or lesson preparation? According to Richardson and Placier (2001), teacher change can come in three ways: (a) through voluntary and naturally occurring change; (b) through various stages of development during the lifetime of the teacher; and (c) through formal professional development programs for teacher education and staff development. The underlying factor to all of these three ways of change is the willingness of the teacher to change. This will determine how often, quickly, and likely the teacher is to transform their beliefs and/or teaching style.

Since successful professional development programs can make an important contribution to teacher change (Apple Classrooms of Tomorrow², 2008), it is necessary to find out what kinds of programs work best. Various studies have shown that successful professional development programs have the following characteristics: (a)

the adults are organized into learning communities, (b) they feel the administration is supportive, (c) the training is considered to be valued and useful by the participants, (d) the workshop presenter provides support during and after the training, (e) the training is data-driven and researched-based, (f) educators have an opportunity to collaborate, and (g) the program is adequately funded (Council, 2001; Kanaya, Light, & Culp, 2005; Richardson & Placier, 2001).

English teachers are experts at teaching students how to analyze, appreciate, synthesize, and comprehend different forms of literature. Technology has emerged as a new form of media and of spreading information, and thus, it has acquired its own distinct form of literacy, now called “digital literacy” with its own unique methods of navigation (e.g., hyper text, digital media, online research, online databases, etc.) and a plethora of formats in which students encounter information such as pictures, video, text, music, and animation (Carlacio & Heidig, 2009; Kopyc, 2007; McGrail, 2007) . With this new form of literacy, English teachers in many secondary schools across the country have been directed through their state core curriculum to teach students ethical and responsible skills for using technology. Unfortunately, very little, if any formal instruction or technology professional development has been designed to instruct English teachers how to teach technology literacy skills to their students.

Bruce and Levin (2003) have shown that many English teachers have not yet integrated technology in a meaningful way to support their curriculum goals. Cuban (2001) states that English teachers have not been provided with sufficient and meaningful preparation about pedagogy for technology in their specific content areas. McKenzie (2004) has argued that state administrators and government officials have

pushed computers and other forms of technology into teachers' classrooms without first providing them with the proper professional development that directly connects the technology with their content areas. McNabb, Cradler and Freeman (2002) discovered that on a nationwide level, there was a lack of technology professional development for English teachers, which as a result, has kept their skills at minimal levels.

Many English teachers are not receiving technology professional development and yet they are given the technology and are expected to use it. Such teachers have had a challenging time implementing technology into their curriculum and into the culture of their classrooms (Bruce & Levin, 2003). Furthermore, English teachers have not had opportunities to develop their skills and creativity when using technology, nor have they been able to learn how to teach with it. Because many English teachers have not received professional development in the use of technology, computers have been used for basic tasks (McGrail, 2007), such as word processing, drill and practice, simple research, or creating basic presentations. It has not been treated as its own medium for literacy, and therefore, its potential has largely gone untapped, and students go untaught in the ethical and creative uses of technology.

What is of even more concern is how "state administrators and government officials have pushed computers and peripheral equipment into teachers' classrooms without engaging them first in sustained conversations about the worthy uses of technology for their specific subject matter" (McGrail, 2007, p. 60). English teachers in particular, have not been given sufficient and applicable training or preparation about pedagogy for technology integration into their particular content area (Bruce & Levin, 2003; Cuban, 2001; Hughes, 2003; McGrail, 2005; 2007; McNabb, 2006; Pope &

Golub, 2000). English teachers have essentially had to learn a new form of literacy on their own, and how to best use it, and how to teach students to use and evaluate it as well. Research has repeatedly demonstrated that many English teachers have not yet learned to integrate technology in a meaningful way to support their curricular goals (Bruce & Levin, 2003; Cuban, 2001; McGrail, 2007; Leu, Kinzer, Coiro, & Cammack, 2004; Peck, Cuban, & Kirkpatrick, 2002; Pope & Golub, 2000).

Existing research only provides a glimpse of the impact that technology has in the English classroom. What is of more concern is that researchers have found nationwide a lack of professional development for English teachers interested in integrating technology (such as digital texts) into literacy learning opportunities for students (McNabb, Hassel, & Steiner, 2002). Many English teachers rely on computer lab teachers or keyboarding teachers to instruct their students in how to use technology for word processing, evaluating the Internet, and creating digital texts.

The lack of responsibility and/or lack of technology professional development that many English teachers share is of great concern to modern researchers and are of primary concern for this study. Without an expanded conception of technology, English teachers are likely to continue to use technology more as an instrument (Jonassen, Howland, Moore, & Mara, 2003), much like the overhead projector or the DVD player, rather than view it as its own literacy medium that students need to learn to use responsibly. For all these reasons, finding out where the weaknesses are in our current approach to preparing English teachers to use up-to-date technology in the classroom and how to better prepare this generation of the teaching force to more fully incorporate

methods that are clearly needed to keep our students current with the times and prepare them for the world in which they live is important.

Purpose of the Study

By combining research in technology professional development, technology in English classrooms, and teacher beliefs and change, and narrowing these three areas to focus on English teachers who do not get much attention in the area of technology, I hope to determine significant and purposeful insights into what some of the underlying problems and issues are regarding classroom use of technology with this particular group of teachers and their utilization and learning about technology. By focusing my study on what kinds of technology professional development specific school districts provide, I will be able to determine if technology professional development is occurring in regular and sufficient amounts and whether or not it is effecting the kind of changes that current literature states is possible. School districts should provide adequate technology professional development that is free and accessible to their teachers. Whether this is happening or not remains to be discovered.

Four research questions will guide this study:

- 1) How do secondary English teachers define their responsibility for integrating technology into their teaching?
- 2) What kind, quality, and quantity of technology professional development do schools and districts provide for secondary English teachers?
- 3) Given how English teachers define their responsibility for integrating technology into their teaching, how adequate is the technology professional development provided by schools or school districts?

- 4) What recommendations do English teachers have to improve the content and delivery of technology professional development?

Theoretical Framework

The most common lens through which educational technology researchers have studied technology professional development has been a general constructivist theory, yet I feel that this theory is just a mere part of what can be used to explain behaviors, thinking, and the programs in question in this study. Several newer theories that are used to analyze educational technology research have their origin in constructivism. This study will use the constructivist Change Theory, but in order to understand this theory, it is important to understand its origins and roots. The term “constructivism” refers to the idea that learners construct their own knowledge for themselves—each learner individually (and socially) constructs meaning—as he or she learns (Phillips, 2000; Vygotsky, 1978,1986). Some of the more recent constructivist theories that are used in technology research are diffusion theory (Rogers, 1962, 1995, 2003), adult change theory (Knowles, 1968, 1980; Ross, 2002), and change theory (Fullan, 2002, 2007, 2008).

Another theory that contributes to Change Theory is Diffusion Theory. This theory is defined as the process by which an innovation is adopted and gains acceptance by individuals or members of a community (Rogers, 2003). However, this theory lacks strength in its explanatory power due to its inability to explain outcomes, and it is unable to provide guidance for accelerating the rate of adoption of a new idea (Davison, Kock, Loch, & Clarke, 2001; Joseph & Reigeluth, 2005). While this theory provides a

generic model of the process of the adoption of innovation, other studies have shown that alternative models may be more applicable to education technology (Dooley, 1999; James, Lamb, Bailey, & Householder, 2000; Joseph & Reigeluth, 2005). Furthermore, a major failure of this theory is its inability to explain teachers' adoption of technical innovations and their belief systems concerning teaching and learning, especially since the way teachers believe strongly influences their classroom practices (Fullan, 2006).

Adult learning theory (also known as “andragogy”), means the “art and science of helping adults learn” (Knowles, 1980). This theory has also contributed to Change Theory. This emerging theory posits that adults learn based on five andragogical assumptions: self-concept, experience, readiness, orientation/applicability, and motivation. The underlying concepts suggest that adult learners have the need to know why they are learning something; they learn through doing, they are problem solvers, and they need to be able to immediately apply what they have recently learned. Although this theory seems to be relevant, it also is criticized as being too general, or just basic good teaching strategies (Merriam & Caffarella, 1999). It has not yet been proven as a distinguishable theory, although it is found in many educational studies.

Change Theory, however, has a more definitive definition and connects learning about technology with the needs and learning styles of adult learners. It can also be very powerful in informing education reform strategies and, in turn, get results (Fullan, 2006). Change Theory takes into account the needs of the teacher and their school culture as well. Elmore (2004) emphasizes that change best occurs with educators when they learn to do new things in the setting they work in, as well as have a personal motivation and willingness to adopt a new change. In order to be successful, technology

professional development must consider the needs and culture of the learner, as well as the format or medium by which the new information is being taught. Several school districts have admitted a failure to change after putting into place large-scale professional development programs, spending multimillions of dollars and depleting thousands of work hours because they failed to identify specific changes needed in instructional practice and what the individual teachers needed in order to support the new changes (Allen, Swanson, Osthoff, & White, 2005). Therefore, it is through the lens of change theory that this study will be evaluated in order to more specifically define the TPD programs and that of the individual experiences and opinions of the participants.

According to change theory, a successful TPD program cannot flourish without simultaneously focusing on changing individuals and the culture or system within which they work. The basic principles of change theory are a focus on motivation; capacity building with a focus on results; learning in context; changing context; a bias for reflective action; and a persistence and flexibility in staying the course. These principles provide the foundation by which this study will be guided. It takes into account the quality of the TPD as well as the especial need of providing ongoing support to the learner in order to help the learner troubleshoot problems and keep him/her motivated in pursuing the new technology (Fullan, 2001; 2006; 2007).

Research Design

The goal of this study was to discover the types and quality of technology professional development that English teachers have received as well as their opinions

about its effectiveness and suggestions for improvement that would better meet their needs. It used a mixed methods approach that gathered data from electronic surveys, focus groups, and in-person or email interviews. Many experts in the social sciences believe that combining qualitative and quantitative tools in this fashion presents a viable method for inquiry and exploration in educational research (Patton, 1990; Reichardt & Cook, 1979).

Mixed methods research seeks convergence, corroboration, and correspondence of results from different methods through triangulation and corroboration. In this study, the mixed methods design was conducted through the use of survey, focus groups and interviews. It attempted to elaborate, enhance, illustrate, and clarify the results from one method (qualitative) with the results from another method (quantitative) (Greene, Caracelli, & Graham, 1989). Mixed methods endeavor to use the results from one method to help or inform the other method. It can also identify any contradictions or new perspectives of frameworks from one method with the results from the other method. Finally, mixed methods challenge the breadth and range of inquiry by using different strategies for different inquiry components (Johnson & Christenson, 2007). The essence of mixed methods research is that it can help researchers discover important and unique aspects of the phenomena under study from multiple points of view.

This study did not only seek quantifiable data from the survey, but also gathered qualitative data and used both open and closed-ended questions so that the strengths of both were utilized. The benefit of open-ended questions is that they develop trust and are perceived as less threatening. They allow an unrestrained or free response, and may

be more useful with articulate participants. They are essential in focus groups and personal interviews, where the researcher is soliciting for personal experience and opinions to make up the data. The downside is that they can be more time consuming and may result in unnecessary information (Creswell & Plano Clark, 2007). Closed-ended questions are those that can be answered finitely by either a “yes” or “no.” These questions tend to be more restrictive and presuming. These types of questions are quantifiable and require little time investment from the participant. The negative attribute of these type questions is that the responses may be incomplete, where the participant has additional details or comments to add that would provide more clarity in the answer. (Creswell & Plano Clark, 2007).

Past survey research in educational technology has examined fixed questions and fixed answers with closed questions. Baker and Herman (2003) explained, “The great preponderance of technology. . . studies to date have depended on relatively weak survey measures of implementation—single item scales, for instance, that rely on the self-report of members of use groups” (p. 99). The principal weakness of self-report survey instruments is that they have been typically grounded in aims that are predetermined, resulting in a false sense of bias due to available options, and carried a lack of spontaneity and expressiveness on the part of the participant, based on the idea that forced answers are self-limiting (Bassili & Scott, 1996). This is why a balance of both types of questions and data is necessary in this study and is why this research will utilize survey, focus groups, and interviews from its participants in six different school districts from three different states, in order to gather qualitative and quantitative data about teachers and technology to explore “what is important, and what is to be learned”

(Bogdan & Bilken, 2003, p. 157). The six school districts were classified according to their demographic standing, which resulted in two urban, two suburban, and two rural districts. The states represented in this study have their names changed, so as to further protect the identity of the school districts. One state was from the Intermountain region of the United States, and the additional two states were from the Midwestern region.

Participants

The participants were a purposeful sample of English teachers. The demographic information they were questioned about was their years of teaching service, age, level of education, grade(s) taught, type of district they work in (rural, suburban, urban), and about the amount of technology they have in their classroom (numbers of computers). They were also asked about their recent technology professional development they have participated in at their school or district level, as well as their opinions about the content and quality of technology professional development (TPD) at their school/district and what their recommendations they had to improve TPD. Teachers were not selected based on their level of technology use, but their content area had to be a secondary English teacher. The goal is to have at least 50 electronic surveys, 5 focus groups, and 10 interviews. The result was 61 electronic surveys, 3 focus groups, and 10 interviews. The participants self-selected to participate in this study based on an email that was forwarded to them by their building principal or district English administrator. Teachers who participated in the survey did so in a private setting. There was no way to trace participants' names or personal information through the electronic survey, unless they willingly provided an email address at the end

of the survey to indicate they would like to be personally interviewed. Teachers participating in the focus groups did so voluntarily, with no discredit to the reputation for any teacher in a particular department who chose to not attend.

Procedures

Once approval was obtained for this study from the Institutional Review Board (see Appendix F), I contacted the school districts that agreed to participate in this study and made arrangements to send an email that contained a link to the online survey. Next, I contacted the principals in the secondary schools for permission to contact their English teachers for participation in the surveys, focus groups and/or interviews (see Appendix A). I contacted my school district liaison for information about correct protocols to follow in each district to ensure that I could contact as many English teachers as possible. Some district liaisons forwarded my survey themselves to the different secondary schools, while others required me to first contact each secondary principal to ask for permission to send the invitation for the online survey to their teachers. Before beginning the online survey, participants were required to read and agree to the online consent form (see Appendix B). Once they approved the study, they were allowed to proceed to the questions (see Appendix C). At the end of the survey, teachers were invited to participate in an email or in-person interview and they were also informed that they may also be invited to participate in a focus group discussion if their school and department head approve. On site school visits included gathering data from English teachers in focus groups and/or participating in personal interviews.

For the next phase, I contacted the department heads of each school to find out if they were willing to participate and set a time for a focus group with their department

members. I had three schools agree to participate, each from a different district. Before I began the focus group, I asked for each participant to sign a consent form (see Appendix D). Once all the consent forms were gathered, I handed each member of the group a copy of the protocol questions so they would be able to refer to them during the session (see Appendix E). The entire data collection process lasted for approximately 2 ½ months.

The primary quantitative instrument was a 55-item questionnaire generated through an online survey resource (see Appendix C) known as Survey Monkey. Typical sampling bias issues surrounding the use of online surveys were diminished in this investigation, since all participants had access to computers with web browsers. Qualitative methods for this study included semistructured interviews, focus groups, and open-ended questions included in the online survey. The semistructured interviews were conducted in person and via email. All interviews were digitally recorded and audio taped while hand written notes were taken. The interviews were transcribed verbatim before they were analyzed. Data were examined to correlate emergent themes by myself as the researcher, and were compared using constant comparative analysis (Merriam, 1998).

Analysis of Data

Once collected, data, including the transcriptions of the interviews and focus groups, were analyzed using the constant comparative method. Several notes, memos, and charts were created to organize and sort the information. Quantitative data analysis was supported through Excel software. During the coding phase, I searched for similar

themes and topics, which I assigned codes to help in the organization of the data analysis. While analyzing the data, I continually conceptualized the data by linking them with ideas uncovered in both groups of data, and then comparing them through the lens of Change Theory. In addition to this, the analyses of both groups of data were verified by two experienced professionals, both with earned doctorate degrees, who are familiar with mixed methods research. I began with the analysis of the survey data in order to identify initial themes and topics that were prevalent and I also used my preliminary analysis to create my focus group and interview questions. I then organized the quantitative data into histograms so the data showed frequencies and shape (Johnson & Christensen, 2007). I also calculated descriptive statistics to provide overall information about the numerical data (Creswell & Plano Clarke, 2007). The validity was determined by the outcome of the data and verified by my experienced associates. The data were generalized across different, but related dependent variables (e.g., English teachers who are required to use current technology, size of the school districts, and to those who are experiencing similar challenges with their technology professional development).

The qualitative data analysis began with a thematic analysis of the open-ended questions from the online survey as well as the focus groups' and interview transcriptions. I conducted an analysis of both groups of transcripts, using the constant comparative method. Once the initial themes were identified, I compared and contrasted them with one another, looking for identical themes. During this process, I continuously composed memos, took notes, created charts and organized the themes to capture my ideas. Accordingly, I conducted member checks with the focus group and interview

participants of whose direct quotes I selected to use in the Results section of this study (Lincoln & Guba, 1985). This was to ensure trustworthiness in reporting the data. Finally, I followed up with the participants of the focus groups and interviews by emailing them a copy of the transcription from our session as an additional member check and also to extend my depth of analysis. This gave the participants an opportunity to add additional comments or make any corrections they felt were necessary in my transcription.

Three types of data collected was for the purpose of triangulating the results (Creswell & Plano Clarke, 2007; Johnson & Christensen, 2007; Tashakkori & Teddlie, 2003). The purpose of both the interviews and the focus groups was to provide clarity and explanation of the survey. A detailed explanation is given in the Results section of this study (see Chapter 4) to show to what extent the quantitative and qualitative data converge. Also, I explained to what extent the same types of data confirm each other and how the themes from the focus groups and surveys supported the survey results. Finally, I summarized the results to provide clear answers to each research question and then concluded with the implications and benefits the data provided for the field of technology professional development and the needs of English teachers.

Significance

The results of this study will provide the perspectives from several English teachers across multiple states. Results of this study will help to determine what the teacher-beliefs are about English teachers' technology abilities and responsibilities. It will specify how English teachers consider themselves responsible for integrating

technology into their teaching, and it will also explain the types of TPD they have participated in at the school and district level, and offer a critique of the effectiveness of those training sessions. The participants will be able to indicate and share which types of technology they currently use and which types they would still like to learn about. Additionally, this study will specifically outline the concerns teachers have about current TPD practices they participate in and it will offer suggestions to administrators about how to design more effective technology professional development. These results will be valuable in measuring technology professional development efforts, designing technology training, and they will be valuable in measuring teacher beliefs about technology (Sandholtz, Ringstaff, & Dwyer, 2000).

All participants were specifically questioned to find out what role they view technology has in their curriculum. Knowing this will help administrators, district personnel, as well as professors of preservice teachers to know where the gaps are in technology training and hopefully begin to establish improvements to make technology professional development more beneficial. Moreover, this research will provide an insight to the struggles and challenges English teachers experience when learning about and teaching with technology. In a society where technology has infiltrated nearly every work place, students must have technology skills and know how to ethically and creatively use them. English teachers are ideal to focus on in this study since a major portion of their core curriculum is to teach different forms of reading, writing, and analysis. This study will provide examples of how experienced English teachers are meeting the challenges of technology and hopefully provide others with solutions and ideas of how to better learn about and teach with technology.

Summary

Multiple forms of technology professional development are available for teachers at any stage of their careers, but the effectiveness of it may be questionable. English teachers have been overlooked in technology professional development research, even though their needs for quality technology training are similar those of teachers in math and science. Much of an English teacher's curriculum is expected to be taught through the use of technology, such as reading, research, writing, and creating multimedia presentations. English teachers also have the challenge of teaching technology as its own form of literacy, with its own nuances, techniques, and format to be learned by their students.

This chapter provided an overview of the methods, procedures, and data analysis that was performed in this approved study. This research will be useful in structuring future technology professional development programs, so that technology integration becomes more prevalent in schools among all curriculum departments. By looking at the current research described here, I hope to address one area of concern in technology professional development. Research has determined what successful technology professional development should look like, but there are gaps in the research that do not specifically focus on what is happening at the school and district level. The subsequent chapter will attempt to explain in further detail the bodies of literature that pertain to this study, namely teacher beliefs, teacher change, technology professional development, English teachers' technology professional development, and Change Theory. The following chapter will also discuss the methods of research that will be used, which will lay the groundwork for the data collection and results of this study.

Definition of Terms

Beliefs

The “psychologically held understandings, premises or propositions about the world that are felt to be true” (Richardson, 1996, p. 103). Beliefs are mainly cognitive and are typically expressed with the phrase “I believe.” In this study, teachers may have their own definitions of beliefs, which will be incorporated, acknowledging that there may be a wide diversity of understandings of the construct.

Change Theory

“Educational change involves two main aspects: what changes to implement (theories of education) and how to implement them (theories of change)” (Fullan, 2007, p. 87). Teachers and groups working together need to be clear about the new educational practices and innovations that they wish (or someone else wishes them) to implement and how to learn about it in such a way that will produce the most positive results. A new practice or technology cannot be taught or learned unless the individual needs of the participant are met.

Constructivism

Constructivism is a theory of learning founded on the premise that knowledge is constructed by individuals based on their individual (and social) experiences. Constructing meaning is learning (Vygotsky, 1978). Instructional implications suggest that student centered instruction is where the teacher assumes the role of a facilitator or guide during the learning process ((Wepner & Ziomek, 2003).

Educational Technology

Educational technology involves using technological resources to aid in teaching all subjects and is concerned with creating the optimum teaching and learning environment through the use of technology (Dugger, 1999).

Inservice

Inservice is a type of workshop or training session when an educational institution provides opportunities for teachers to learn new educational topics and practices. It is also used as a time for teachers to enhance their teaching and learning strategies (Ertmer et al., 2003).

Professional Development

This is a planned learning experience for teachers for the purpose of developing personal and professional skills in order to improve classroom practice. It is the total of all formal and informal learning experiences from preservice teacher to retirement (Fullan, 2003).

Self-efficacy

“Self-efficacy refers to personal beliefs about one’s capability to learn or perform actions at designated levels” (Bandura, 1997, p. 35).

Technology

For this study, the term “technology” will refer to the many electronic and digital tools used to enrich the educational experiences of teachers and students. It includes, but is not limited to personal computers, laptops, digital cameras, audiovisual equipment, scanners, LCD projectors, printers, electronic white boards, and document cameras (Morrison & Lowther, 2002).

Technology Professional Development

Any professional development session, workshop, conference, or training designed by a school administrator, a school district member, a university, or a professional organization with the purpose of instructing teachers about new types of technology (software or hardware) (Riel, DeWindt, Chase, & Askegreen, 2005).

Technology professional development will use the acronym of “TPD” throughout this study.

CHAPTER 2

REVIEW OF LITERATURE

Overview

Research in teacher education has undergone a lot of critique in the past several years, partly due to the new educational plan, No Child Left Behind (NCLB; Bush, 2002). The plan's intent is to increase educational effectiveness to ensure that all students receive a quality education so that more students will graduate with basic skills in reading, writing, math and science, based on high-stakes testing that is administered in each high school. NCLB also put into law elevated requirements for the preparation of teachers, such as requiring all new teachers to take a Praxis exam in order to receive their teaching license. All teachers now must be "highly qualified" and can no longer teach subjects in which they are not endorsed or have not majored in while in college.

Along with this influx of NCLB's higher standards have come pressures to teach and prepare teachers to integrate technology into their curriculum. Yet today, researchers are still producing research on technology and teacher education that is not addressing the issue of how teachers should use technology to teach. There are many teachers who still have not adopted the use of technology or are using it poorly. Those who are making strides in technology integration are only a numbered few (Bull, Knezek, Roblyer, Schrum, & Thompson, 2005).

Because of this dilemma, several researchers in the field of technology and teacher education are sending a challenge out to their colleagues to establish a more rigorous research agenda (Bull et al., 2005; Roblyer & Knezek, 2002). Furthermore, educational and government leaders worldwide have become more and more dissatisfied with the credibility of research in teacher education (Thompson, 2005). The National Research Council (2002) also has extended the challenge for experts to produce more scientifically-based research. To address the need for more research in technology and teacher education, more than 400 grants from Preparing Tomorrow's Teachers to Use Technology (PT3) have been awarded to universities and researchers in the areas of faculty development, course restructuring, certification policy changes, online teacher preparation, and mentoring triads.

The goal of this study is to examine the adequacy of the professional development of English teachers who use technology in the classroom. I will open this chapter by first questioning where the responsibility rests for the implementation of technology in the classroom. In this analysis, I will examine the elements of productive technology professional development programs, teacher change, and teacher beliefs about technology. From that point, I will move on to describe the features of technology professional development implementation and examine how those features compare with research-based technology professional development requirements. Obstacles and challenges are often encountered during the implementation of research-based practices, which will be addressed in the subsequent section. I will then describe the specific focus of this chapter and study: implementation of technology professional

development for English teachers. Last, the theoretical framework for the study will be described.

The literature examined in the following review includes research on implementation and professional development of technology by teachers over the last few decades. I also assessed different TPD programs and explain what ideal researched based TPD programs look like and what obstacles and challenges that impede teachers' effective use of technology. When examining this body of literature, I acknowledge the discouraging past of educational technology in educational research in general and I realized that research performed on educational technology has experienced an incommensurable history (Schrum et al., 2005). Therefore, the literature I deemed acceptable for this review had to be original research, peer-reviewed or from publishers and organizations that utilize explicit peer review procedures.

The material was either gathered by hand or through electronic searches based on key words and phrases through searches on Education Full Text, ERIC, EBSCO, JSTOR, and SpringerLink, as well as physical searches through the stacks of the University of Utah library. Much of the literature was reviewed critically and examined modern TPD programs, evaluated the quality of educational technology and TPD research, presented insight into teachers' beliefs about technology, reviewed the barriers and affordances of teachers' integration of technologies into the classroom, as well as research directed at pedagogical change and/or a change in practice by teachers who use technology. The keywords used to identify this literature were: English teachers, technology, educational technology, professional development, teacher change, teacher beliefs, technology integration, and technology professional development. Articles were

selected based on their relevance to the topic, and how recently they were published. Because of the constant change and influx of new technologies, the more recent the article, the more attention it received when being evaluated for use in this study.

Implementation of Technology in the Classroom

Where does the responsibility for implementation of technology in the classroom rest? School districts and administrators hold the primary responsibility for assisting their teachers in obtaining technology training. Most school districts provide the funds and usually create a department or committee to be in charge of the dissemination, maintenance, and training of technology. This technology department has a lot of responsibility for purchasing and installing new hardware and software, maintaining computers, ensuring the server is functioning smoothly, keeping the Internet connection running, troubleshooting a myriad of problems that happen on a day-to-day basis, and offering “just-in-time” training for new technologies (Diaz, Garrett, Kinley, Moore, Schwartz, & Kohrman, 2009; Kopyc, 2006/07; Orrill, 2001).

In many school districts, the district technology department is usually responsible for providing the TPD sessions for teachers after school, on professional development days, and/or during the summer. Ideally, the purpose of TPD classes are not only to instruct teachers in the use of technology, but also to help teachers make a commitment to use and integrate the technology, find the value of it, and possibly change their personal views about it. “The transformation of classroom technology from hardware, software, and connections into tools for teaching and learning depends on the knowledge and enthusiastic teachers who are motivated and prepared to put technology

to work on behalf of their students” (CEO Forum on Educational Technology, 1999, p. 2). Therefore, if school districts expect meaningful technology integration by their teachers, it is their responsibility to provide ways for teachers to effectively learn and adopt new technology practices.

Moving from *learning* to *using* these skills takes a paradigm shift for many educators who have been teaching without technology for years. It is not enough to provide a training session or workshop and then expect the teachers to immediately begin using the new skills (Schrum, 1999). District administrators and technology coordinators must be knowledgeable about the factors that contribute to teachers’ beliefs about technology and what struggles they have in changing their practice, yet very little research has looked into the specific technology needs for teachers in their particular content areas (Bull, Knezek, Roblyer, Schrum, & Thompson, 2005; McNabb, 2006; Molenda & Sullivan, 2002).

Studies on programs for practicing teachers have provided information about how computers and technology are being taught and used (Kanaya, Light, & Culp, 2005; Orrill, 2001). These studies share how training is done for large group sessions that instruct on a new software program or the latest gadget. These studies are quite often funded by grants and are only offered to a select few and do not address the overarching need to provide timely and useful technology professional development to teachers across a state or region. Furthermore, none of these studies provide sufficient information about their participants and what grade or content area they teach (Molenda & Sullivan, 2002).

The lack of information or details in the research in this area makes it difficult to know for sure if English teachers are participating in these technology professional development sessions. Even fewer studies focus on how content area teachers in the social sciences and language arts learn to use technology in the classroom. Research about how experienced teachers learn and what factors influence paradigm shifts in their pedagogy with regards to the presence of technology is essentially lacking (Bull et al., 2005; McNabb, 2006). Yet it is this very research that may be used to bridge the technology integration gap. The more technology becomes available in schools, the more we need to examine its effects on educators, and discover the best ways to educate all teachers in their specific content areas to feel comfortable using educational technology, to understand the value of it, to see where it can tie into their curriculum, and how it can boost student achievement.

To better understand the need for research that focuses on the responsibilities of school districts implementing TPD, an overview of the research in this area is critical. Beyond the few districts that are receiving special grant monies or working with cohorts of teachers/students from local universities, very little research focuses generally on what school districts are doing (Lawless & Pellegrino, 2007). In reality, very few school districts have the opportunity to utilize resources from local universities or be involved in a grant that provides large sums of money and supplies. Most school districts have to figure out how to train their teachers on their existing limited budgets or using their own technology experts. Consequently, examining the elements of productive technology professional development programs, teacher change, and teacher

beliefs about technology will aid in the understanding, evaluation, and synthesizing of school districts' technology professional development programs.

Before delving into the literature about technology professional development, I will first examine the challenges about technology use and teacher change. I will then focus attention on teacher beliefs about technology and how their attitudes towards technology determine to a great extent the level of technology use in the classroom. I believe that all of these bodies of research contribute to the understanding of what technology professional development embodies and will provide a foundation for understanding the complexity and challenges effective TPD programs face. I will also explain why it is essential that limited school resources be used for effective programs that concentrate on providing TPD in specific content areas.

Technology and Teacher Change

For teachers who have never used technology, to arrive at a point where they feel comfortable using it requires a change in the way they teach. Change in anything, let alone the way one works, can be difficult. With the introduction of computers into nearly every classroom across the country, teachers are being required to change their teaching styles, communication habits, and the format in which assignments are administered (Molenda & Sullivan, 2002). Educators who began their teaching career many years ago could not have foreseen the explosion of new technology that would one day impact their entire teaching pedagogy. And yet, teachers are expected to know the new technological innovations and to use and integrate emerging technology for classroom applications. Now, with the increased standards of NCLB (Bush, 2002),

experienced teachers are not only required to learn how to use computers, but also other state-of-the-art classroom technology on a daily basis.

Several studies have attempted to discover what teachers' beliefs and perceptions are concerning the increasing demands of learning and using new technology in the classroom while seeking to understand why some educators change and use it, while others do not (e.g., Honey & Moeller, 1990; Vannatta & Fordham, 2004). Many times it boils down to teachers' perceptions and beliefs of the value and role that technology should have in the classroom, or it amounts to teachers being resistant or welcoming to change (Riel et al., 2005). Educators who have adopted technology tend to have different characteristics, beliefs, and philosophies towards education than those who do not frequently use technology. Tech-savvy teachers believe that because computers have diffused into nearly every type of career field, it has come to the point that teaching technology has become a major responsibility (Honey & Moeller, 1990; Rogers, 2003).

Recent research has begun to examine the way that teachers perceive their responsibility to use technology personally, academically, as well as professionally. As schools begin to change with technology, so must teachers. Wepner and Ziomeck (2003) conducted a study to investigate what the shifting responsibilities faculty have in infusing technology into their teacher education programs and what skills were changed as a result of using technology. They discovered that teacher educators needed a "substantial knowledge base" (Wepner & Ziomek, 2003, p. 55) before they were able to be effective teachers of technology integration. Also, they determined that the role of

the teacher who utilizes modern technology in the classroom is changing to that of becoming more of a facilitator in the learning process.

Honey and Moeller (1990) very early on stressed the importance of teachers who were student-centered in their philosophy and who also worked to integrate technology more effectively into the classroom. These teachers viewed themselves as continual learners and admitted to abandoning their more traditional teaching practices, such as textbook-based learning, to more project-centered learning. Their self-efficacy about their technological abilities developed over time through trial and error. These teachers were found to have a flexible attitude and viewed technology as a valuable tool in education. On the contrary, teachers who held more traditional beliefs about teaching resisted changes to use technology and utilized computers very little.

Other research about teachers' beliefs and technology affirm the importance of teachers having positive beliefs in their ability to use and teach with technology. The following researcher had this to say about the importance of teachers' beliefs and change:

Decisions made by teachers about the use of computers in their classrooms are likely to be influenced by multiple factors including the accessibility of hardware and relevant software, the nature of the curriculum, personal capabilities and constraints such as time. However, there is substantial evidence to suggest that, teachers' beliefs in their capacity to work effectively with technology are a significant factor in determining patterns of classroom computer use. (Albion, 1999, p. 2)

Albion further explained in his research that preservice teachers lacked the self-efficacy to successfully integrate computers in their curriculum.

Albert Bandura, who has spent the last 3 decades in research about self-efficacy perceptions, defines self-efficacy as “beliefs in one's capabilities to organize and

execute the courses of action required to produce given attainments” (Bandura, 1997, p.35). Without sufficient self-efficacy, teachers are reluctant to learn about technology and therefore, are less likely to attempt to integrate it into their teaching. Bandura has provided suggestions on how to motivate persons towards task engagement patterns:

- (1) encouraging the learner to set attainable goals;
- (2) model effective learning strategies;
- (3) provide critical and positive feedback to help the learner be successful; and
- (4) acknowledge the learner's gains and provide support to help the learner attain challenging goals (Bandura, 1997).

Vannatta and Fordham (2004) concur with Bandura (1997) about the importance of teacher beliefs and dispositions and how they relate to successful technology integration. In their research, they attempted to gain a better understanding of teachers’ characteristics to be able to define how they work together to predict the use of technology in the classroom. The two most influential characteristics were a desire to dedicate additional time outside of contract hours to learn about technology and also a venturesome attitude to try using technology with students (Vannatta & Fordham, 2004).

Technology Professional Development

The purpose of my study is to investigate the quality of TPD that English teachers have participated in; therefore, a better understanding of the types of technology professional development that are currently in use is important. Various studies have shown that successful professional development programs have the

following characteristics: (a) The adults are organized into learning communities, (b) they feel the administration is supportive, (c) the training is considered to be valued and useful by the participants, (d) the workshop presenter provides support during and after the training, (e) the training is data-driven and researched-based, (f) educators have an opportunity to collaborate, and (g) the program is adequately funded (Council, 2001; Kanaya et al., 2005; Richardson & Placier, 2001). How these various elements serve to impact teachers can be seen in the following examples.

In the study conducted by Kanaya et al. (2005), the researchers evaluated the Intel Teach to the Future training program. The study selected 237 participating teachers who represented over 130 school districts. Successful programs were characterized by training times in longer spans (i.e., at least 4 hour blocks), training organized in a collaborative setting, and training centered on content-specific lessons that tied directly into project-based activities the teachers were currently using. Therefore, teachers who had committed to substantial amounts of time (i.e., at least 40 hours) to training that was provided in close succession reported that they were able to maintain focus and motivation to attend and use the training in their classrooms in productive ways (Kanaya et al., 2005).

In another study about technology professional development, Orrill (2001) examined a group of teachers who participated in the training of a new software program. The software provided problem-solving simulations that students could work on as groups. Initially, the teachers who were offered the training were not interested and did not attend on a regular basis. There was no interaction with a live trainer or other teachers taking the workshop. In order to improve the TPD, Orrill (2001)

compiled a professional development model based on existing theories to be implemented with the next group of teachers. This program was more individually centered, required the participants to set small, attainable goals, promoted reflection, provided a collegial support group, and finally, gave one-on-one feedback. Orrill (2001) discovered that the second group of teachers participated more frequently when the professional trainer was an expert on the content, provided useful resources, and individualized the program through support and feedback. Finally, he helped teachers to develop an understanding about the usefulness of the tools, how to use them, and demonstrated the impact they would have on student learning. A key to success was each teacher's increased feeling of self-efficacy that came about as they attained small goals and individualized the program for relevance to their own classrooms.

Because some schools have technology but do not use it very much, Hughes and Ooms (2004) performed a study that focused on a program to help teachers integrate technology into their curriculum. This study used collaborative inquiry groups for technology professional development training. The groups' purpose was to "investigate pedagogical and content issues. . .to provide structure for professional learning and improving practice, [as well as participating] in critical collegiality to actively create and sustain communities of inquiry" (Hughes & Ooms, 2004, p. 399). One criticism they offered for technology professional development programs is the deficiency of continuous, attentive professional learning opportunities. They reported that over 70% of public school teachers claim to participate in nearly 6 hours of professional development activities each year that are related to using computer integration. However, they found that the workshops provided training through a one-

time only class that provided little or no support to teachers afterwards. Further, the trainers themselves did little to provide content-specific connections to teachers about how to best use the technology in their own field of teaching. Therefore, teachers ended up being disenchanted with the training programs and seldom used what they learned because they did not feel well prepared to do so (Hughes & Ooms, 2004).

Another important aspect of learning to use new technology is what happens during informal collaboration. Stevenson (2004/2005) researched the way that teachers gain knowledge about how to use computers by informally collaborating with their colleagues and school computer technicians. She discovered that the teachers in the study reported gaining more useful training in technology when they sought it out during their workday. When technical problems arose, a few teachers, along with the school's computer specialist, worked together to figure out how to resolve difficulties and perform certain tasks. Other teachers in the building, who became known as experts in integration of computers and technology, were frequently asked for ideas on how to incorporate better technology into a teacher's curriculum. These results tie into the conclusions made by the researchers previously mentioned, namely, the effectiveness of professional development increases when: (a) teachers place value in developing their skills in technology, (b) instruction is individualized, (c) collaboration with peers is fostered (much like an inquiry group), and (d) continuous support to one another is provided (Hughes & Ooms, 2004; Kanaya et al., 2005; Orrill, 2001).

Interweaving the frameworks of teachers' beliefs about technology, teacher change, and technology professional development may be useful in examining how experienced teachers either change or do not change their beliefs about technology

integration in the curriculum and about how they prefer to learn about technology. Analyzing the types of formal or informal professional development programs in which teachers have participated to discover how it is being integrated into their curriculum is imperative in providing a basis for increasing the understanding of current challenges for English teachers who are not receiving the adequate types of technology professional development.

Research-Based Technology Professional

Development Requirements

The North Central Regional Educational Laboratory (NCREL) is a research organization that utilizes rigorous qualitative and quantitative methods to generate data driven results as identified by scientifically-based research practices. NCREL provides practitioners and policy makers with necessary information so that they can make informed decisions. They believe that many teachers “do not have enough skills or technical knowledge to recognize the potential for technology in teaching and learning. Just knowing how to use a computer is not enough” (NCREL, 2000, p. 1). They also declared that “teachers . . . must become fearless in their use of technology” (NCREL, 2000, p. 2). In this same report, NCREL (2000) outlined effective methods to provide technology professional development. They recognized that most teachers want to learn to use educational technology, but they do not have the access, time, money, or support necessary to do so (Guhlin, 1996). NCREL’s recommended 14 components for an effective professional development for technology coincide with other similar research on this topic.

The 1st component is the connection to student learning. This should be the ultimate goal of any professional development (Speck & Knipe, 2001). Professional development programs that leave out this essential ingredient are missing the central purpose of professional development. Teachers need to be shown how the technology they are being trained on will connect to student learning. “Schools should provide teachers with abundant opportunities to become fluent in using technology to bolster instruction and help students develop higher-order thinking and problem-solving skills” (Sparks, 1999, p. 1). Without this connection, teachers will have little buy-in to the value of the instruction given. Basically, the technology instruction being taught needs to be contextual so that it supports teachers’ practice as well as school and district goals for student improvement (Wells, 2007).

The 2nd component is having hands-on technology use. Technology is definitely something that needs to be taught in such a way that the learners can practice for themselves what the speaker is teaching (NCREL, 2000; Wells, 2007). Instruction needs to be collaborative and given in a supportive environment so that the teacher/learner can build confidence in using the new skill while being given support at the same time. If teachers were expected to sit and take notes about a new technology skill, and then return to their classrooms to practice it, more than likely, they will not. Teachers should have access to technology both at home and school so that they may be able to develop confidence in their skills and increase their comfort levels with technology. When teachers experience the benefits of working with technology, such as boosting their productivity, or engaging their students through the use of computers and the Internet, they are more likely to think of other ways in which they can implement technology

into projects that their students could accomplish (NCREL, 2000; Office of Educational Research and Improvements, 1994). Levy and Murnane (2004) go on to add that it is not enough just to have the equipment to use and practice on at home and at work, but to make sure it is working properly, has the same or similar operating systems, and that the equipment is reliable. This will help to reduce frustration levels when practicing with new technology skills.

The 3rd component requires teachers to have a variety of learning experiences. These can take the form of mentoring, teacher modeling, ongoing workshops, online instruction, special courses, structured observations, summer institutes, Saturday workshops, or after school classes provided on a weekly or monthly basis (Kanaya, Light, & Culp, 2005; Levy & Murnane, 2004; NCREL, 2000; Wells, 2007). The important factors are that the technology training is part of an ongoing process over several weeks or months, even years, and that content delivery is given in a variety of formats utilizing different teaching strategies, much like how the teachers would instruct their own students. The role of the teacher must be that of an active learner who is engaged and enthusiastically experiencing the innovation during the professional development process (Wells, 2007).

The 4th component is to have curriculum-specific applications. Teachers need to know exactly how the technology they are learning about applies directly to their curriculum (Byrom, 1998; Sprague, Kopfman, & Dorsey, 1998). Workshops and training sessions should include the underlying learning theory that makes integrated uses of technology effective (Marra, Howland, Wedman, & Diggs, 2003). This way, teachers will be able to make direct links to what they are learning about and how it

applies to their curriculum as well as the best ways to teach the skills to their students and why the students need to know them. Research suggests that teachers are more likely to use what they learn from professional development sessions when their existing knowledge and teaching priorities are acknowledged and made central to the learning process (Cochran-Smith & Lytle, 1992; Lieberman, 1995). Dede (1998) has stated that instead of delivering instruction that was predetermined without thought of the needs of teachers, TPD must build upon teachers' own interests and priorities, and instruction must connect with teachers' curriculum. Riel and Becker (2000) also have suggested that teachers who are more likely to be technology users are those who are already familiar with constructivist approaches to teaching, involved with professional organizations, participate in learning opportunities, and have a personal goal to develop skills to make them better teachers.

The 5th component accounts for teachers taking on new and expanded roles. Inside the classroom, the role of the teacher becomes more of a coach or a facilitator while the students work in a collaborative environment on computers (NCREL, 2000). Brooks and Brooks (1999) stated that in a constructivist fashion, teachers relinquish being the means of delivering information (as in a top-down method). Instead, the teacher shows the students where to access information and then allows the students to read, learn, and experiment at their own pace and at their own level. Outside of the classroom, teachers collaborate using technology through emails, instant messaging, websites, blogs, podcasts, and together on school-wide programs that utilize technology, for example, using technology in preparation for a department or district meeting (Little, 1982).

The 6th component of effective professional development programs is collegial learning. Working in a collaborative and constructive environment helps in learning through the ongoing support from instructors and peers. Teachers learning to use technology for discovery learning, developing students' higher-order thinking skills, and in communicating ideas and information cannot do so in an isolated environment (Guhlin, 1996; Marra et al., 2003; NCREL, 2000). Collegial learning can include face-to-face, small and large groups of teachers. It can be combined with online learning courses that also incorporate peer groups as a regular part of the training. Working with colleagues can also include instructing other teachers at their school in a formal or informal setting (Harvey, 2004; Kanaya, Light, McMillan Culp, 2005; Sandholtz, Ringstaff, & Dwyer, 1991).

The 7th component is to have active participation of teachers. For an entire school to increase their use and involvement with technology, every teacher needs to be using it in their classrooms. This is where motivation plays a big part. Due to many teachers' negative opinions of technology, principals and professional development coordinators or even department heads could help to provide direction or incentives for teachers. Teachers can be offered stipends or minigrants for learning new technology skills. Some districts provide lane change credit for participating in technology inservice as well. Another supportive measure is to have school districts provide financial assistance to teachers who take university courses on technology. Another common way is to offer teachers relicensure hours (Guhlin, 1996; NCREL, 2000). Professional development coordinators can also encourage teacher creativity, perhaps in

the form of a contest for the teacher who develops the best lesson plan that utilizes all or most of the aspects of the training.

The 8th component of a high-quality professional development program is for it to be an ongoing process. Technology training should never be a one-time, one-shot workshop (Schrum, 1999). Teachers require time to master the new skills and to become comfortable enough with them that they can begin to use them in their instruction. “Professional development takes time and must be conducted over several years for significant change in educational practices to take place. Substantial change in school practice typically takes four to seven years, and in some cases longer” (Speck, 1996, p. 35). School administrators must know this and plan their professional development programs according to a longer time frame. Many administrators fail to realize this and therefore place unrealistic demands on their faculty to master and integrate new technology skills. Fullan (2001) has iterated time and time again that any change that teachers are required to make takes time and they cannot be expected to adopt new practices overnight.

The 9th component is to allow teachers sufficient time to learn the new skills (Mouza, 2002/2003; NCREL, 2000). Teachers already have high demands on them to split their time among family, teaching, lesson preparation, grading, communicating with parents, attending team, department, and school meetings, and the list goes on. A key factor to a successful technology professional development program is to figure out a way to block out time for teachers to experiment and work on their technology skills. Harvey (2003) has outlined six possible solutions for finding time for professional development:

- 1) After school. This is the most typical method of professional development but the least effective. At the end of the workday, teachers are tired, burnt out, and ready to go home. The last thing they want is to sit through a long training session.
- 2) Technology rover sessions. These are courses that bring just-in-time training that teachers voluntarily sign up for. The school would ideally provide a substitute for those teachers who are attending the session, or teachers can take the class during their prep time.
- 3) Minigrants. Teachers appreciate getting paid for their time and efforts. Schools and districts that have the means can offer small grants (\$300-\$500) for teachers who are willing devote large amounts of their time to learning a new piece of hardware or software. The teachers would then agree to train others about what they learned.
- 4) Summer institutes. Ringstaff and Yocam (1995) discovered that teachers are more apt to reform their practice when they have time to learn the new technology skills as well as reflect on their own teaching styles. A 1- or 2-week course that provides the instruction in a collaborative and supportive environment has shown to have great success among the participants. Research has shown that teachers who have participated in summer workshops to learn to use technology have an improved level of self-efficacy and have a greater chance of implementing the new skills in their practice (Watson, 2006).

- 5) Distance learning. This type of training can be an alternative to face-to-face instruction. This is where an instructor at one location utilizes a system of digital cameras, computers, microphones, and televisions to broadcast themselves to other schools. The students at the satellite locations also use a similar system so that everyone is able to communicate back and forth with each other.
- 6) Research-based professional development programs. Schools and districts have the option to model their TPD after other programs that have received positive research results.

There is another form of professional development that Harvey (2003) failed to include: provide instruction during each school's mandated professional development days. Most school districts across the nation have between 1-6 days that have been built into teachers' salaries and schedules, to be devoted to professional development. The administrator, usually in conjunction with a school professional development committee, chooses what is to be taught on those days. Other schools build in an hour of professional development time after school 1 day a week instead of dedicating an entire day to it.

The 10th component is to provide effective technical assistance and support. Each school needs someone who is specifically trained to keep the computers running smoothly. Too many things can go wrong, and without someone to provide immediate help, teachers can become easily frustrated and turned-off to using technology. These technicians/teachers should also be available to give follow up support after a training session and who can offer immediate assistance to teachers

who are having trouble using technology in their classrooms. If teachers cannot get help and support when they need it, they will most likely revert to more traditional ways of teaching (Fullan, 1990; McGrail, 2005; Mouza, 2002/2003).

The 11th component is essential for effective TPD; it is having support from the administration. School principals must understand the importance of technology and its possibilities to affect student learning. They must be willing to provide staff development, money, and time so that teachers will be able to adopt and integrate new innovations into their teaching. Administrators must offer encouragement and support to teachers who struggle with technology as well as model good technology use with their faculty. Principals should also participate in any technology training along with their faculty. Professional development in technology will not be effective unless the administration is invested in the process (Mouza, 2002/2003).

The 12th component is to provide adequate resources. Computers and other technical equipment must be reliable and in good condition. School districts need to purchase computers that include the instruments and tools necessary to meet the learning goals of the schools. School districts must also provide maintenance and technical support. Furthermore, the technology used in professional development should be the same as the technology teachers have in their classrooms (NCREL, 2000). Some districts even purchase software licenses that allow teachers to install the same software on their computers at home. This way, teachers have the same tools at home as well as at school to make lesson planning, grading, and learning about technology much more convenient. Some districts or principals will purchase a laptop for each faculty member who is willing to participate in professional

development to learn how to use them (Summerville & Johnson, 2006). Adequate resources also include the expense of properly wiring the schools to support district servers, the Internet, and additional power that the computers would require.

Districts should provide staff members to keep the equipment working properly in the computer labs as well as to keep the teachers' computers running smoothly. It is also the district's responsibility to provide training on technology, especially if their teachers are still striving to meet state and national standards (Mouza, 2005).

The 13th component, which is also a responsibility for the district, is to provide continuous funding (Mouza, 2005). This includes upgrading teacher computers about every 5 years. This would require allocating between 15 to 30% of the budget for teacher training, which can include additional money for the salaries of district technology specialists and staff (U.S. Congress, Office of Technology Assessment, 1995). Because school funding is dependent on property taxes, some districts may struggle to provide new computers and must look to other resources to provide the equipment, such as purchasing refurbished computers. The National Commission on Teaching and American's Future (Darling-Hammond, 1996) suggests that school districts partnering with universities and forming teacher networks could help provide the needed professional development.

The 14th component to a successful technology professional development program is to have a built-in evaluation system. This way, program directors can ensure that the TPD trainings are meeting the needs of the teachers and are providing them with new learning opportunities. Research suggests that there should be three types of evaluation: preformative, formative, and summative (NCREL, 2000). Preformative

evaluation assesses the participants' needs and ability levels. This should take place before the actual training session to make sure that teachers receive the instruction that best fits their levels of expertise and interest. Also, goals should be set during the planning phase as well as strategies decided for gathering data and feedback (Guskey, 1998). Formative evaluation, which is gathered during the technology instruction, would provide feedback that could lead to changes to be made during the training in order to make it more valuable to the participants. This could include a question and answer session, or having teachers submit a quick, written response on a note card. The third type of evaluation is summative, which is gathered after the training session. This gives the participants the opportunity to judge the overall quality and effectiveness of the session and offer suggestions for future trainings. Another form of summative evaluation is to require the participants to demonstrate their new skills by way of creating a product, completing a project, or demonstrating it in front of their peers.

Understanding the important design elements for effective TPD is vital knowledge for persons who are responsible for educating teachers about new technologies. With so much time, money and resources being set aside for TPD, administrators can not afford to waste it by allowing unproductive TPD programs to take place.

Obstacles and Challenges that Hamper Teachers' Use of Technology

Obstacles and challenges are often encountered during the implementation of many research-based practices. Even though technology is prevalent in schools today, some researchers protest that technology has not significantly changed traditional teaching practices and that effective teaching continues without the use of technology

(Cuban, 2001). A study conducted in California by Peck, Cuban, and Kirkpatrick (2002) found that there were still many teachers in the language arts who still were not integrating computers into their curriculum because they were not convinced that computers would help them in teaching course content. Due to more pressing demands to get students to succeed on state and national tests, some teachers do not consider technology integration a major area of emphasis in their content area (Peck et al., 2002).

Despite the fact that researchers advocate the use of technology, and legislators and school administrators promote using innovative technological advances in classrooms (McGrail, 2005; Toll, 2001), research on technology integration is slow to trickle down to the average classroom teacher. Additionally, with the pressure to use computers by administrators, researchers, and national educational organizations, the decision always lies with the teacher. If teachers are not convinced or do not find value or worthiness in technology, they will not use it.

Research about how experienced teachers learn and what factors influence paradigm shifts in their pedagogy with regard to the presence of technology is essentially lacking (Bull et al., 2005). Yet it is this very information that may be used to bridge the technology integration gap. Considering that new teacher education programs assign their student teachers to experienced educators, and most schools use experienced teachers to mentor their new teachers, it becomes clear that research on how experienced teachers are trained to use technology and whether they continue to use the new technology after the training is becoming increasingly important (Smolin, Lawless, & Radinsky, 2005) in order to determine the effectiveness of the TPD and to determine the best methods for teaching about technology.

The main goal for any school district's professional development program is to enlighten and change teacher behavior or beliefs as a result of the new information provided (Harvey, 2003). Being able to successfully accomplish this goal can be challenging and even considered lofty, especially with the reputation teachers have about change—that it does not come easily. To begin with, it is crucial to have teachers on board with the training, especially those who believe that technology does not have a place in their curriculum. To do this, districts must demonstrate to teachers that their curriculum is what influences the professional development, supported by technology; yet much of the time, it is the state or national student test results that seem to influence what gets taught during professional development. Additionally, teachers must feel capable in fitting technology into their instruction and not view it as a disconnected unit of instruction mandated by the district (Harvey, 2003). Unfortunately, very little research (unless funded by a company grant) is producing information that demonstrates the many innovative TPD programs that school districts are implementing. The main bodies of research stem from universities, which have secured a Preparing Tomorrow's Teachers for Technology (PT3) grant, and were able to provide technology training through the use of their facilities.

One study, conducted by Summerville and Johnson (2006), mentioned the obstacles of a rural school district that was challenged with providing TPD for their teachers. This district decided to mandate that all secondary educators, grades 6 through 12, would be required to take an online course. The 23 participants in this study were provided with a laptop as well as with training on how to use it prior to taking the online

course. The participants met in August before the school year began to be instructed on how to use their computers, send and receive email, and learn the grading program.

After teachers became accustomed to the laptops, they were required to select an online course to take. Most of the participants chose courses that were specialized to their particular area of teaching that would help them develop technology skills in their content area, and the district paid for nearly all of the costs of the courses. The results of the study showed teachers giving the lowest rankings to interactions with fellow students and the instructor. Because the courses were online, teachers completed them individually on their own time, so there was little to no interaction with their peers. Yet, the participants responded positively to the online courses. They felt that the instructors were well prepared and that the course content was useful, yet they marked the instructors “low” in collaboration and communication. The participants felt that they were not understood by their instructors, nor were the instructors willing to help them outside of online class time, and did not provide any valuable feedback on individual assignments. In the end, the participants said that they would recommend the online courses to their peers, but it was not necessarily the most effective form of technology professional development (Summerville, & Johnson, 2006).

Research on English Teachers and Technology

Professional Development

Technology is now considered to be the newest literacy to being taught to students (McGrail, 2005; McNabb, 2006). The core curriculum, from a state in the

Intermountain region, specifically mentions in their Informational Reading strand, to teach students how to “analyze the purpose of external text features and structures in a variety of electronic texts (e.g., email, electronic newspapers, [and] web pages” (State Office of Education, 2008, p. 25). Additionally, the core expects teachers to instruct students on all of the stages of writing, from writing drafts, editing, revising, and publishing, which is now mostly completed on computers. For that reason, if literacy is the ability for a person to be able to read, write, and speak fluently, then technology is easily included as a form of literacy because it is used for reading, writing, and publishing. English teachers are primarily responsible for teaching all types of literacy to their students. The lack of literacy skills in today’s youth is surprisingly high (Alvermann, 2005; Christie, 2008; Ippolito, Steele, & Samson, Eds., 2008), which adds to the imperativeness for English teachers to be taught about the literacy of technology.

The current attention of researchers of TPD is still mostly focused on expounding different models and programs for professional development, which are not necessarily content specific. Kamil, Intrator, and Kim (2000) note that very little research has been conducted in the area of technology and Language Arts and that researchers need to focus their efforts on investigating if teachers needs are being met, and if so, are students becoming technology literate where their skills are moving beyond using technology solely for entertainment and more for an educational tool?

McNabb (2006) noted that there exists a nationwide lack of technology professional development for English teachers who are interested in teaching

students how to read and evaluate digital texts. He discovered that most English teachers rely on the computer teachers to instruct computer literacy skills. In reality, computer teachers should not take the place of English teachers when instructing students how to complete word processing documents and conduct research on the Internet. McNabb (2006) argues that with the rapid increase of availability of computers in schools, researchers could provide a great service by investigating the deeper and more complex issues of technology use in specific content areas.

A study conducted by McGrail (2005) concluded that teachers were more likely to change if they could see the direct benefits for their students as well as in their own instructional practices. Her study focused on English teachers' beliefs and perceptions about technology integration. She pointed out that the most important component in a change process is not the type of technology, but it is the practices and beliefs of those who are in the process of change. Thus, teachers need to be viewed not only as the objects being changed, but also as the change agents. The value of understanding teachers' beliefs and perspectives about technology will be crucial in explaining their motivation to use and learn about it. Therefore, it is not enough to merely know what teachers think about technology, but what factors influence them to change and adopt new innovations.

In a more recent study conducted by McGrail (2007), she examined the effects of laptops and pedagogy among English teachers. Although laptop computers pose their own unique set of challenges, McGrail (2007) pointed out that many English teachers are not integrating technology in such a way as to help them meet their curricular goals. If this is the case, then researchers have an opportunity to identify

the factors or challenges that are prohibiting technology integration among teachers. Furthermore, English teachers have not been provided with meaningful and sufficient preparation about pedagogy and how to integrate technology into their content area (Bruce & Levin, 2003; Cuban, 2001). Government and school district leaders have pushed computers and other forms of technology into teachers' classrooms without first providing them with sufficient and meaningful training on how to use them in their content areas (McKenzie, 2004; Nudell, 2005).

The result of ill-trained English teachers has been under-utilized computers, and when they are used, they serve merely as another tool for drill and practice, simple word processing, and meager research. Rather than treating technology as an innovative literacy in its own right, technology has not been acknowledged as an integral part in the English curriculum to the extent that it should be (McGrail, 2007; Pope & Golub, 2000). This under-utilization of computers should be of great concern to researchers and to school, district, and federal leaders.

Without increased efforts in providing technology professional development for English teachers, they will continue to use computers as a basic tool for simple assignments (Jonassen, Howland, Moore, & Marra, 2003; McGrail, 2007). An even more demeaning use of computers is using them as a reward for students who have completed their "real" assignments early and are being allowed to entertain themselves during their free time. Without the correct TPD training for teachers, computers and technology will never reach their full potential in the classroom as being tools to promote critical thinking, complex writing skills, higher-order learning, and creativity.

Theoretical Framework

As the world of education and technology heads into the 21st century, there is no expectation that the development and use of technology will slow down, but instead, will advance at an expeditious pace. Integrating technology into educators' curricula is not only beneficial for student learning, but also necessary to provide students with the kind of education that they will need to be academically successful in this technology-rich society. The use of computers for learning provides motivation, assists students in problem solving tasks, serves as a tool for synthesis and application, and provides meaningful learning activities (Leu et al., 2004; Rogers, 2003; Pope & Golub, 2000; Sandholtz, Ringstaff, & Dwyer, 2000). When used appropriately, technology can be a source of productive engagement for students and teachers (Misale, Gillette, & Del Mas, 1996; McKeachie, 2002). Because of this, a theory had to be carefully selected that represented the intricate process of learning, more especially, that of adult learning. Throughout the last 2 decades, teachers have experienced a lot of change in the classroom and much of that has been attributed to the influx of technology. Learning to use and adapt to new technologies has presented several challenges for teachers, administrators, and school districts as a whole. Change Theory was selected as the lens to interpret the data due to its ability to explain and understand the process of change and adaptation, and how change best happens. The very essence of TPD is trying to understand the very best and most effective way of helping teachers to change and use new technologies in their classroom with their students, to improve communication, lesson preparation, grading, and in professional development.

Change Theory

The lens that will be employed to analyze the data will be Change Theory. This theory received its initial beginnings from the days before Sputnik, when American educational reformers were beginning to develop ideas of how schools might be improved and leaning away from a behaviorist mindset, which was the traditional theory that education was framed around for many years. Even though behaviorism explained much about how people and animals learned certain things, it left out explanations about cognitive mental functions such as cognitive development, problem solving, and cognitive learning and thinking strategies. This is where constructivism entered. In essence, “the central tenet of constructivism is that humans are knowledge constructors” (Mayer, 1996) instead of just recorders of knowledge in behaviorism. Constructivism came from several theorists, namely Tolman, Gestalt, Piaget, and Vygotsky. The purpose of constructivism is “to understand how people think and comprehend; how they learn and remember; and how they solve problems and come to be creative” (Di Vesta, 1987, p. 204). More specifically, constructivism is “considering how people perceive, interpret, remember, and otherwise think about the environmental events they experience,” (Ormrod, 1999, p.114).

Change Theory developed from this constructivist mindset. One of the first change theorists, Kurt Lewin (1943), was interested in studying how adults adapt positively to change. He stated that people, in order to be successful in change, need to “unfreeze” from their old way of thinking and/or doing, then elevate themselves to a new level where they “refreeze,” and adopt a new way of thinking and/or doing (Schein, 1995). When teachers are required to change, it places them in the role of an adult

learner (Knowles, Holton III, & Swanson, 2005). In order to successfully change, adult learners need to be a part of the process, not merely told what to do and then penalized when they fail to perform a task correctly. Innovative organizations and businesses are ones that adapt to change positively. Some of the following techniques have been found to be helpful to adults who are required to adopt a change: being flexible, being people-centered, perceiving management's use of power to be supportive instead of being coercive, being able to learn from mistakes, emphasizing personal development, and encouraging a collaborative and supportive environment (Schein, 1995). For example, flexible teachers who are willing to try new things, who are student-centered, who do not give up when technology does not work and instead try to fix the problem, and who are involved in TPD, become successful tech-savvy integrators of technology.

In the early 1960s, schools were subjects of major reform, such as open classrooms and curricular reforms in math, science, physics, biology and social science. Other reforms, like flexible scheduling and team teaching, arose during this era as well (Fullan, 2001). By the late 1970s, researchers only found isolated examples of success with any of the new reforms and all “attested to the absence of change at the level of the classroom” (Fullan, 2001, p. 207). Because of the failing reform, administrators and researchers found that initiating change was much more complex than they previously thought.

Another reason why schools were targeted for change, aside from the space race, was the Civil Rights movement, which pointed out scores of human inequalities (Fullan, 2001). Schools were viewed as major societal vehicles to bring about change and overcome prejudice. Numerous funds of money were targeted to assist

disadvantaged groups and desegregation of schools. These societal pressures, along with failing reform, urged researchers to come up with answers to explain more fully how people learn and change.

Most administrators and researchers would agree that school reform is a multi-faceted structure that requires an understanding about the role of teachers and how they change, as well as educational leadership and social and political pressures. Researchers in the 60s and 70s began to investigate school reform and teachers as change agents (Fullan & Pomfret, 1977). They examined several studies of attempted innovation in American schools and discovered that nearly all of them had failed in one form or another. Recognizing that change involved more than just requiring teachers to adopt a new curriculum, policy, or environment, more modern researchers over the past few decades have continued to analyze the components of educational change, its determinants, and have suggested ways in which the process might be improved (Dinham, 2007; Fullan, 1982, 1991, 1993; Hong, 1996; Lieberman, 1995; Miles, 1993; Miles & Huberman, 1982, 1984; Snyder, Bolin, & Zumwalt, 1992). One of the ways to improve educational reform is to better understand teacher change, and the power that teachers have as change agents in the schools.

According to Richardson and Placier (2001), teacher change can come in three ways:

- (1) through voluntary and naturally occurring change;
- (2) through various stages of development during the lifetime of the teacher;
- (3) through formal programs for teacher education and staff development.

When educational change happens in any of these three ways, it "comes from policymakers, administrators, researchers, staff developers, teacher educators, or teams of teachers who are involved in decisions concerning school change" (Richardson & Placier, 2001, p. 907). The first stage, voluntary and naturally occurring change, usually arises as a result of a planned change and evolves through a voluntary and collaborative system and involves the individuals' autonomy and choice. The second stage, various stages of development, theorizes that teachers experience a developmental change as a result of the number of years of experience they have. Teachers who see themselves as professionals seek to better their techniques through gaining more content knowledge and using better instructional strategies (Richardson & Placier, 2001). The third stage, formal programs for teacher education and staff development, uses cognitive constructivist learning approaches for instruction of educators and preservice teachers. Teachers may receive training to create constructivist classrooms as well as to participate in constructive staff development and teacher education programs (Richardson & Placier, 2001).

Prominent researcher, Michael Fullan (2001, 2006, 2007), has done a great deal of work on educational change; he states that change boils down to what educators do and think. Society (meaning legislators, superintendents, and principals) may mandate what teachers do, but they cannot change the way they think. The only way that classrooms and schools "become effective is when (1) quality people are recruited to teaching and (2) the workplace is organized to energize teachers and reward accomplishments. The two are intimately related," (Fullan, 2001, 2007, p. 311). He believes that teacher stress, alienation, and low morale are at an all time high.

Educators are sometimes blamed for the ills of society and may feel devalued by the community. In addition, teachers are being hit with multiple reform initiatives, such as "No Child Left Behind" (Bush, 2002), which has placed a huge burden upon teachers to not only to improve their teaching methods to help students become better learners, but to also become more tech-savvy by integrating new technologies in their classroom. Fullan (2006) has outlined seven premises that underpin the use of Change Theory, which are:

- 1) A focus on motivation. If no motivation exists for the participant, then improvement is not possible.
- 2) Capacity building, with a focus on raising the bar and closing the gap of student learning.
- 3) Learning in context. Teachers need to learn in the settings where they work.
- 4) Changing context. Teachers as well as administrators need to be aware and concerned about the success of other teachers and schools in their network.
- 5) A bias for reflective action. Teachers learn best through doing, reflection, inquiry, evidence, and more doing.
- 6) Trilevel engagement. This refers to aligning and connecting school and community, district, and state goals.
- 7) Persistence and flexibility in staying the course. It takes resilience as well as persistence and flexibility to persevere when times get bumpy.

These premises provide the framework for critiquing TPD programs and will be the lens by which I will analyze the data.

Teachers today are expected to become experts in their own content areas as well as become experts in new technology as well. With all of these pressures on teachers, change is inevitable, and it is needed (Fullan, 2001, 2006, 2007). So the challenge, then, is to discover how to help educators embrace change and increase their self-efficacy while at the same time becoming positive agents in their own change process.

Rationale for Mixed Method Design

Mixed method research is becoming ever more popular in order to answer complex research questions that arise in natural settings, where one method alone could not hope to represent or explain the phenomena completely (Creswell & Plano Clark, 2007; Flick, Steinke, & Von Cardoff, 2004; Silverman, 2004). This is a research design that contains “philosophical assumptions . . . that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases of the research process” (Creswell & Plano Clark, 2007, p. 5). Mixed methods research promotes the use of numerous worldviews or paradigms rather than restricting the researcher to limit his/her work within the confines of a particular paradigm for quantitative and different ones for qualitative. It is practical in the sense that it opens up all methods possible for a researcher to address and investigate a problem. Furthermore, it is practical in the sense that humans normally combine numbers and words; and by combining both inductive and deductive reasoning, a better explanation of the phenomena in question can be given (Creswell & Plano Clark, 2007; Johnson & Onwuegbuzie, 2004).

Technology and teacher education researchers are urging their colleagues in all curricular areas to study how technology is affecting the classroom and aligning with current state and national standards (Bull, Knezek, Roblyer, Schrum, & Thompson, 2005; Thompson, 2005; US Congress, Office of Technology Assessment, 1995). They are also raising the bar on what constitutes worthy research, especially since the education community across the world as well as leaders in the federal government have become increasingly dissatisfied with the credibility of research in this field (Thompson, 2005).

The National Research Council initiated a call for more scientifically based research, which would include mixed methods (National Research Council, 2002). With the ever-increasing demands on teachers to produce students who are educationally competent in today's society, state and national leaders are asking for more empirical based research that can better diagnose problems and challenges and introduce programs and solutions that can improve teaching and learning as a whole.

Several researchers in the area of technology and teacher learning are employing a mixed methods approach, which utilizes a combination of strategies, such as survey, interview, measuring using numerical representations, and observation data in studies designed to explore and understand the challenges that knowledgeable technology users have had to overcome in their classrooms (Baurer & Kenton, 2005; Groenke, 2007/2008; Stevenson, 2004/2005). Lai and Pratt (2004) used a mixed methods approach that surveyed and interviewed school computer coordinators. The researchers chose this method so that they could gain an understanding of the characteristics of technology leaders. Another study that described one college's process of infusing

technology into preservice teacher courses, utilized a mixed methods approach in combination with a case study approach so that they might be able to understand the technology acquisition process among the students and faculty (Schrum, Skeele, & Grant, 2002/2003). Researchers in the previously mentioned study used both quantitative (self-report survey utilizing a Likert-type scale) and qualitative (focus groups, semistructured interviews, document analysis and email conversations) methods to gather their data for analysis.

Recently, Steenkamp and McCord (2007) completed a study that examined three approaches to studying educational technology. The methods were: qualitative only, quantitative only, and mixed methods. Their definition of mixed methods stated that it uses “a pluralistic approach and relies on several methods, known as pluralism and triangulation” (Steenkamp & McCord, 2007, p. 260). This type of methodology is best used for studies where some phenomena are well understood, while others are less understood. It is also used to construct a cohesive conclusion where both qualitative and quantitative methods are needed.

The literature review of technology professional development indicated that most studies have four main categories of technology professional development with (a) preservice teachers, (b) student teachers, (c) practicing teachers, and (d) college/university faculty. The majority of these studies utilized a mixed method design so researchers could account for how often teachers are using technology; be able to count the different ways, as well as understand their opinions about the practicality of technology; and evaluate the usefulness of particular technology training (Adams, 2003; Aust, Newberry, O’Brien & Thomas, 2005; Hughes & Ooms, 2004; Marra, 2004;

Schrum, Skeelee, & Grant, 2002/2003; Stevenson, 2004/2005). Because these issues and concerns are similar to those under investigation in the present study, both qualitative and quantitative methods will be applied.

The study of teachers' experiences, beliefs, and practices through survey methods can only hope to begin to explain how often and by what means they are accessing technology professional development. It would be unrealistic to merely stop there in using a primarily quantitative survey in the data gathering process, since what is also needed is an understanding of their opinions and what recommendations they have for improving TPD. Thus, I believe that qualitative methods, such as focus groups and personal interviews, can lead to more credible data that could reveal what the underlying issues and challenges are in this area. It will also provide a voice to teachers to offer suggestions and recommendations on how to improve English teachers' technology training.

A particular strength of quantitative research is that the conclusions are based in explicit quantifiable data. Generalizations are not made according to inferences and assumptions made from the collected verbal data, but instead are clearly drawn from descriptive and inferential statistics. Results are less influenced by a researcher's bias, and are often more reliable to the extent that the correct statistical equation was implemented in analyzing the data (Drew, Hardman, & Hosp, 2005).

In teacher education research, as well as in other fields, quantitative research surfaces quite often in the form of correlational studies. This type of research can be defined as an "attempt to establish relationships between two or more variables deemed important" (Yarger & Smith, 1990, p. 29). Variables can be derived from surveys or

observation of activities in an educational environment. The typical desired outcome of correlational studies is a specific description of some particular phenomenon. For example, a study investigating the relationship between the amount of sleep students get and their performance on tests could inform school districts that they need to start school later in the day to allow for their students to get more sleep.

Quantitative research plays an important role in educational research as well because its results are quantifiable, replicable, and precise, which lawmakers and administrators tend to use to measure success. Quantitative research in teacher education tries to model the scientific method, which has been modified from the natural sciences (Yarger & Smith, 1990; Zeichner, 1999). This type of research is more narrowly focused than qualitative research and is designed to address either certain questions or test a specific hypothesis. The independent variables, which could be a new intervention, teaching method, or learning tool, are measured using dependent variables in a way that can be replicated, and the results are often represented numerically. “It is these numerical representations, taken within the context of the procedures and the limitations imposed by a variety of sources, that provide the basis for the analysis of the data and the resulting conclusions” (Yarger & Smith, 1990, p. 35).

More and more researchers are accepting both research methods and are incorporating elements of both when appropriate in educational studies (Bartunek & Seo, 2002). Since neither qualitative nor quantitative research can claim to paint a perfect picture of clarity and understanding about their data, a mixed methods approach can be used that provides a more complete answer to the research questions being asked

(Linn, 1986; Savenye & Robinson, 2004). The choice of using qualitative, quantitative, or a mix of the two methodologies should depend centrally on the nature of the research questions some of which are best answered by numerical and statistical results; other questions are best answered by content analyses of interview responses. In the present study, the nature of my research questions makes both methodologies appropriate due to the fact that I am endeavoring to understand what responsibilities English teachers have towards technology, whether their technology learning needs are being met, and how technology professional development should be specifically designed for the needs of English teachers. Using a mixed method design will allow me to gather the data required to answer these questions and to offer recommendations to those making choices about teachers' professional development opportunities.

Summary

In this chapter, I have reviewed the literature relating to the implementation of technology in the classroom, technology and teacher change, teacher beliefs about technology, the components of technology professional development, what research-based technology programs entail, obstacles that hamper teachers' effective technology use, and current studies regarding English teachers and technology professional development programs. Factors, such as providing training in specific content areas, providing a staff member or teacher to maintain and troubleshoot technology problems, or allowing sufficient time for multiple training sessions, are just some of the requirements for a successful technology professional development program. The studies indicated that teachers need to find value in what

they are being asked to learn so that they can effect change in their practice. They also need administrative support as well as support from peers and mentors when adopting new ways of instructing. Additionally, research was reviewed that focused specifically on English teachers' need for more effective TPD. In addition, I explained how Change Theory would be used as a lens to interpret the data that are collected in this study.

CHAPTER 3

METHODS

Overview

This study will use a mixed methods design in which data collected from surveys, focus groups, and interviews, will be used to answer my four research questions. A mixed methods design will permit an emic and etic perspective of the challenges, opinions, needs, learning experiences, and the technology uses of English teachers. English teachers have to know how to navigate modern computers and to teach students to use them for the following reasons: Several state English core curriculums require it; writing and research take place predominantly on the computer; and several forms of reading and analyzing literature utilize computers and technology. Because of the circumstances in which many English teachers find themselves, the following research questions were designed to render an understanding of their technology challenges and to provide recommendations that may help provide solutions for the challenges. My research questions are:

- How do secondary English teachers define their responsibility for integrating technology into their teaching?
- What kind, quality, and quantity of technology professional development do schools and districts provide for secondary English teachers?

- Given how English teachers define their responsibility for integrating technology into their teaching, how adequate is the technology professional development provided by schools or school districts?
- What recommendations do English teachers have to improve the content and delivery of technology professional development?

Answers to these questions will identify critical information about how teachers use technology, how often they use technology, what types of programs they use, how they have students use it, how often teachers attend district and school-wide technology professional development, and what their opinions are of it and how it can be improved.

Participants and Setting

A purposeful sample of participants was selected based on their self-identification as secondary English teachers (Bogdan & Bilken, 2003). The goal was to have 50 teachers participate in the survey, five focus groups made up of about 2-5 participants each and least 10 personal interviews. The teachers who made up the participants in the focus groups may or may not have completed the electronic survey prior to participating in the focus group or interview. The electronic survey was sent to their schools, so they had the opportunity to complete it if they chose to do so. These teachers came from urban, suburban, and rural school districts across three different states, one from the west and the other two from a tristate Midwestern area. A total of six school districts participated in the study, two urban, two suburban, and two rural. The two urban school districts were selected as sites for this study were Green Acres School District and Riverview School District (names changed). Green Acres School

District is an urban district with 19 elementary schools, six middle schools and three large high schools (one of which is an alternative school). Green Acers School District is located in a Midwestern community with a population estimated at 100,000 and includes two local colleges and one university. The district student enrollment is approximately 16,500 which includes a diversity of 34.6%. The average instructional expenditure per-pupil is \$10,950 as of the 2009 district budget report (Green Acres District website, April 8, 2010). This district supports the use of technology, but does not specifically report the details of a technology plan on their district website. The district places the responsibility for technology training to the individual building principals. As a district, they have a goal to teach students to use technology effectively and appropriately, but upon further investigation, specific details about how this goal was being met was not explained on their district website.

Riverview School District is the second urban district that participated in this study. It is located in an intermountain state in the west. This district has a student population of 48,621 spread across 51 schools. Their average per-pupil expenditure is \$6,184. This district has a low diversity rate of 15% and five Title 1 schools. The district itself supports the use and integration of technology, but places the responsibility for providing technology training on the principals of the individual schools. The district acknowledges the benefits of technology and is eager to provide computers and modern equipment to their schools, but struggles to do so. They have had to lay off about 500 employees, 250 of those being teachers and are also grappling with multimillion dollar budget deficits.

The two suburban school districts in this study are Aspen Grove School District and Snowy Pines School District (names changed). Both of these districts are located in the same intermountain state. Aspen Grove School District is located in a suburban setting and is spread across six cities. This district serves 64,351 students throughout 68 schools. The student diversity rate is only 12% and their per-pupil expenditure is currently at \$5,461. This district boasts of a strong initiative for technology and is currently involved in providing expert technology training to a select group of teachers and schools who are participating in a technology grant program. Although they do not have the capacity to provide the extensive training to their entire district, they hope to renew their technology grant to be able to provide TPD to more teachers and schools.

The suburban school district of Snowy Pines is located just a few minutes south of Aspen Grove School District. Snowy Pines covers four cities, which are predominantly farming communities. This district has a total of 38 schools and a student population of 28,627 with a diversity rate of 12%. Their per-pupil instructional expenditure is reported at \$5,837. This district has a detailed district technology plan that includes a budget for equipment and training. Within the last 2 school years (2008-09 and 2009-10), it opened two new high schools. Both high schools were equipped with the latest trends in technology in every classroom from digital audio systems, to digital projectors. Each teacher had their own LCD projector, flat screen TV, DVD player, and digital stereo system. Several classrooms even had electronic whiteboards, GPS systems and Probeware for science classes, and laptops. Snowy Pines is also making great efforts to provide the same technology tools to all classrooms throughout

their district. The district expects that their teachers are proficient in using the many technology tools and therefore, has ongoing TPD throughout the school year.

The two rural school districts are Creekside and Elk Meadows (names changed). Creekside serves a small village of about 400 people and also includes students from the surrounding farms. This district's student population is currently 249 and has a diversity rate of 3.4%. Their instructional expenditure per-pupil is at \$14,695. The entire district is composed of one school that houses all grades (preschool to 12th grade). The administrator and teacher technology committee make the decisions about what types of training are provided. Twice a month they offer a 30-minute training either before or directly after school on some aspect of educational technology, which is poorly attended due to the time of day when it is scheduled. This district, although small, has an ample budget with funds set aside for technology. Each teacher has a PC as well as their own Macintosh laptop. There are three mobile lap-top labs and two additional computer labs, so students and teachers have computers available for use on a consistent basis.

The final school district that participated in this study was Elk Meadows School District. It is located in a small farming community in the western state and serves about 1,550 students in a total of five schools. This district has a 14% diversity level and a per-pupil expenditure of \$7,038. This district provided no information about their technology efforts, nor was their technology plan available for public view.

The participants needed only to be employed by the district and were secondary English teachers to participate in this study. There will not be any discriminating according to race, gender, age, or years of teaching experience of the participants. The teachers who participate in this study did not have to have a strong technology

background, nor did they need to be active technology users. Rather, I looked for English teachers at all technology skill levels. Interest was given to those participants who have had to acquire technology skills since they began their teaching career and have had to find ways to learn about technology. Identifying teachers with a diverse background in technology will help with the generalizability against other secondary English teachers (Patton, 1990). Typical sampling bias issues surrounding the use of online surveys will not be an issue as all participants had their own access to web browsers provided on their individual computers in their classrooms and used their desktop computers on a daily basis. It is assumed that each participant possessed sufficient technological skills to navigate the online survey.

Participants' anonymity and privacy was protected in this study. Their names were masked, as well as the name(s) of people they may have mentioned in their interviews. The schools where they work also were also assigned a pseudonym. In the survey, participants self-identified which type of school they work for (middle, junior, or senior high). They also chose their own pseudonym for self-representation in the study.

Survey participants were sent an email that contained a brief explanation of the study and an invitation to take part in the survey. The email containing the survey link was first sent to the district administrator who is authorized to forward it to the principal(s) of their secondary school(s). At this stage, the principals had the choice whether or not to forward the email to their English Department members. The email contained a hyperlink to the survey, thus making it possible for participants to voluntarily join the study by clicking on the link. Participants in the focus groups were

selected by contacting the English Department Chair at each secondary school and asking for permission to visit during a department meeting or during another time specially set aside for the meeting. Once permission was obtained by a department head, I contacted each member of the department to make them aware of my intentions at the meeting and that any participation was strictly voluntary. Finally, some of the participants for the personal interviews were selected from the focus groups, others volunteered by emailing me at the termination of the online survey. At the conclusion of the focus group meeting, I asked to meet individually with teachers who were willing to be interviewed and then set an appointment to return within the next week to conduct it. I also followed up with focus group participants and asked for any clarifications that arose during the transcription and coding of the dialogue. There was no compensation given to the participants other than refreshments provided to those who were involved in the focus group and a thank you card to the teachers who complete the interview.

Procedures

Once permission was obtained from the school district, an email was sent to each school principal with instructions to forward it to their English department; this way, it was made available to the English teachers. Three to four days after the survey-linked email was sent to the principals, a phone call was made to make sure that the survey was received and if the principal decided to forward it to their English Department. After teachers have received the initial email, the electronic survey was active for 4 weeks. During the time of the electronic survey, attempts were made to arrange a focus group at each participating secondary school. After each focus group, the session was

transcribed and analyzed and the data from them influenced the interview questions. The interviews were used to clarify or provide more detailed information about specific questions that came from the results of the surveys and the focus groups. When all of the focus groups were completed, I scheduled the interviews. Members of the focus groups as well as the survey participants constituted the participants who completed the interviews.

All survey participants were asked on the final question if they would like to participate in a personal or electronic interview. Those who agreed to do so were asked to click on a hyperlink on the last page of the survey that allowed the participant to email the researcher in order to provide their contact information. The email address was saved in an electronic file until the focus groups and surveys were completed, at which time I scheduled the interviews or sent them out electronically (depending upon the preference of the participant).

Focus groups were arranged directly with each participating school through the principal and the English Department Head. All participants were informed that their participation was purely voluntary and that no compensation was to be given for taking the survey, attending a focus group, or answering interview questions. Once the study was completed, the participants, upon request, and the school district(s) were provided with the results of the study in a hardcopy form as well as electronically, so it could be easily disseminated to the teachers throughout the district.

Consent to participate on the electronic survey was obtained prior to any teacher completing the survey. The first page of the electronic survey contained the consent document that each participant had to agree to in order to proceed to the questions. All

participants received a copy of the consent document by simply emailing and requesting one, or printing the document directly from the survey. Focus group and interview participants received a copy of the consent document at the time of the meeting. Participants who completed the interview in the electronic form (through email attachments) received a copy of the consent document prior to being sent the interview questions. Once the consent document was returned to me with their signature, I then sent an email that had the questions written in an attachment.

Data Sources

A purposeful sampling approach advocates the sampling of information-rich cases that are studied in depth, which is why English teachers only were used. This study is not assuming that each participant is an equivalent data source, but those who were selected were considered information-rich sources (Wiersma & Jurs, 2008). The use of purposeful sampling provides intense descriptions of the phenomenon being investigated as well as enough data to develop an expansive structural description (Denzin & Lincoln, 2007). In this study, the qualitative data that were collected were from the focus groups, interviews, and from a few of the questions on the electronic survey. The quantitative data used in this study were entirely from the electronic survey. The statistical information consisted of descriptive statistics for each question, which was used in the resulting corroboration of the data. This helped me to create a framework that explained the underlying relationships among the categories that emerged from the multiple forms of data. My specific data collection procedures will be explained in detail in the following sections after the data are obtained.

Electronic Survey

The use of an electronic survey was the primary instrument used to gather data (see Appendix B). This survey contained a mix of 55 open-ended and closed-ended items, as well as demographic questions. The closed-ended items were answerable through multiple-choice questions, marking a Likert-type scale with a 1-5 rating system, and selecting items on lists. The Likert scale asked participants to respond to items using the following distinctions: “None/Not important” = 1, “A few/Somewhat important” = 2, “About half/Important” = 3, “Most/Very Important” = 4, and “Everyone/Extremely important” = 5. Therefore, the scores were quantifiable. The survey also gathered demographic information such as age, gender, ethnicity, and type of school district (i.e., rural, suburban, or urban). Several questions from the survey were modeled after Wozney, Venkatesh, and Abrami’s (2006) study, which looked at teachers’ perceptions, practices, attitudes, and setting characteristics with reference to current computer technology in their schools. They developed the “Technology Implementation Questionnaire,” which contains mostly quantitative questions using a Likert scale and a few qualitative questions at the conclusion of the survey.

To generate the initial pool of questions, I identified several studies that explored how technology was being implemented in the classroom with special attention given to studies that focused primarily on English teachers. Studies that used Change Theory as a lens to interpret teachers’ learning and development with computer technologies were also included. Studies on teachers’ beliefs about technology and technology professional development programs were also evaluated. From these studies, I extracted (a) items used in previous research instruments, (b) factors, both

positive and negative, identified as affecting technology professional development, and (c) methods by which the researchers gathered and evaluated their data. In addition to this, a pilot study was conducted to test the survey and to corroborate factors that emerged from the literature and to uncover any issues pertaining to this study that might have been overlooked.

The pilot study was also completed to test the questionnaire for accessibility, usability and clarity. It was administered to English teachers in the Freedom School District (name changed) in a western state and completed by 72 teachers. This district is very active in providing professional development opportunities for their teachers to learn about technology. At the time of the pilot study, the district was halfway through a yearlong technology professional development (TPD) program. Their program invited any teacher who was interested to commit to attending a weekly technology class after school for a 6-month period. This exemplary technology initiative provides just one example the Freedom District used to teach technology, and for that reason, why it was chosen for the pilot survey. Additionally, this district provided a good model that provided a standard by which the current school districts with similar educational technology efforts has been chosen for the current study.

The link to the pilot study survey was sent from the Freedom School District's office to each secondary school with a heading that asked for only English teachers to read. Within a week, I had a total of 72 responses with 65 of those being teachers who completed the entire survey. The other seven surveys were not counted because they were either incomplete or completed by a district or school administrator. As a result of the pilot study, the current version went through extensive editing and revising. Several

questions were reworded, some deleted altogether, and other questions were added. The current survey has a total of 15 open-ended questions, 30 close-ended questions, and 10 demographic questions. I have been able to better organize the new survey into six distinct sections, the first section containing the consent document; the next four sections each represent one of the research questions (Appendix B), and the last section contains the demographic questions. Section II has questions related to how English teachers define their responsibility towards technology. Section III contains questions about the types, quality, and challenges of the technology professional development their schools provide. Section IV asks participants to describe the effectiveness of the TPD and to describe how adequate the technology professional development is. Section V asks for recommendations to improve the content, delivery, quality, frequency, and amount of TPD that is provided for English teachers. Section V was also adapted from A. L. Russell's (1995) six-stage process of "learning to use technology" (p. 175) to categorize teacher's perceptions of their current level of technology integration in their classroom. Finally, Section VI contains questions related to personal and school demographics.

The current survey was posted online using Survey Monkey. This site provides a URL link that can be hyperlinked in an email, similar to the pilot study. It was sent out to all of the potential participants in the secondary schools of the participating six school districts. Using a survey is a significant method for gathering data that is quantitative or qualitative (Bogdan & Biklen, 2003; Creswell & Plano Clark; 2007; Lincoln & Guba, 1985). The purpose of the survey instrument is to generalize from a small sample to a larger population, the effect that technology professional development

has had on English teachers (Babbie, 2001) and to determine whether or not these teachers are having their TPD needs met.

Surveys were chosen as a preferable method of data collection because of the economy of the design and the rapid turnaround in data collection. My goal was to have 50 participants complete the survey and I had 61 participants who completed the survey across the six school districts. I did not have to ask for permission from additional school districts since my participant goal was met. If not, I would have continued to invite other school districts until a minimum of 35 participants completed the survey. The survey was cross-sectional, since this descriptive study is short-term and the participants were from different ages and at different ability levels (Gall, Gall, & Borg, 2003), although the results were not necessarily compiled according to age and ability levels. The online questionnaire was posted for a 4-week duration, during which reminder emails and letters were sent to participating schools in order to remind and encourage teachers to participate. At the conclusion of the electronic survey, I tabulated the statistical results and then coded and identified themes from the qualitative data. Further explanation of the qualitative data analysis will be presented in the Data Analysis section that follows.

Focus Groups

During and at the conclusion of the electronic survey, I conducted focus groups at the schools that volunteered to participate. The focus groups usually took place during a department meeting that I attended. The use of focus groups gave me an opportunity to gather supplemental data in order to triangulate the results (Greene,

Caracelli & Graham, 1989; Johnson & Onwuegbuzie, 2004). This method of data gathering is also complementary, meaning that it may affirm the results from the survey or interviews. Focus groups are unique in the fact that they require the participants to interact with each other in generating responses to the interviewer's questions. One significant benefit of focus groups is that the participants may feel more comfortable in a group setting and may open up and share experiences and details that would not normally be shared in a one-on-one setting (Axinn & Pearce, 2006). Additionally, one member's comments may cause another member to recall an experience, or participants may challenge or disagree with other participant's comments, which would provide an interesting contrast.

Using the same open-ended interview questions in both the focus groups and interviews provided the possibility for further clarification and additional information about teachers' perspectives and experiences when learning to use technology (Creswell & Plano Clark, 2007). My intention for the use of focus groups was to be able to attend several department meetings with all of the English teachers at a particular school. I kept the discussion short, relatively 20-30 minutes, because I knew that they would already have an established agenda to discuss. I found that many of the teachers were able to open up and collaboratively share their experiences, frustrations, and successes with learning about technology and their district's effort to provide them with the necessary training.

Interviews

At the conclusion of the electronic survey, participants were invited to participate in an electronic or face-to-face interview. The interviews were reserved to be conducted as my last data gathering tool. After I completed an initial analysis of the raw data from the surveys and the focus groups, I wrote the interview protocol based on questions I had as a result of my general analysis. Before receiving the interview questions, each participant had to sign a consent form (see Appendix C). All of the participants chose to complete the interview through the use of email. After the consent documents were received, the participants were emailed a 14-item questionnaire; in which case they were able type their answers and then send them back in an email. Utilizing interviews provided me with an opportunity to treat each participant as a case study (Yin, 2003), thereby questioning in-depth their personal experiences, opinions, and challenges regarding how they learn about technology. Qualitative interviews allow the researcher to use open-ended questions that allow for individual responses and unique variations from each participant.

This study used a semistructured interview, where each participant was interviewed for about 30 minutes (see Appendix D). I prepared fourteen interview questions, which I asked to each participant. The semistructured interview protocol allowed me to ask additional questions for clarification or for more information, while allowing for essentially the same overall topics of conversation (Patton, 1990). My interview questions functioned as a guide to ensure that the same questions were asked of each participant and to keep us on schedule for the limited amount of time as well as

to keep the interactions focused (Lofland & Lofland, 1984). All interviews were both audio and digitally recorded, then transcribed.

The purpose of utilizing three different means of gathering data was so that I could triangulate it in order to secure an in-depth understanding of the phenomenon under study (Creswell & Plano Clark, 2007; Denzin & Lincoln, 2000; Wolcott, 2001). Since I was looking for “how” teachers are learning about technology, either through socially constructed means, or individually, my attempt was to paint a picture of the nature of reality about how productive and successful technology professional development really is, or is not, which is why it is important to utilize qualitative techniques (Drew, Hardman, & Hosp, 2007) in order to obtain this result.

The triangulation of the qualitative data will be corroborated with the quantitative data. Qualitative responses will focus on the experiences they had with TPD, their opinions of how useful the training was, what challenges they experience when learning about technology, their responsibility to teach with technology, and will ask for recommendations on ways to improve TPD at their schools/districts. Quantitative responses will include what types of technology the teachers are using, how often they use it, the different types of software programs they use, and what kind of technology professional development they have participated in, and how often. Some of the questions in the survey will be open ended so that the participants can provide personal responses. A space will be provided in the survey at where they can individually write in their comments.

Treatment of Data

Data Analysis

This research study will follow a grounded theory approach, which includes a variety of qualitative and quantitative methods and follows a four stage approach that is rooted in data that is systematically gathered and analyzed during actual research (Denzin & Lincoln, 1998; Strauss & Corbin, 1990). This method of analysis allows the researcher a great latitude for ingenuity and creativity. After the acquisition of the data, they were organized using constant comparative analysis, which involved creating a basic theory from the initial data, and then modified and elaborated as more and more data were compared against the primary theories. As new themes emerged from the data, they were constantly reviewed through the chosen theoretical lens of Change Theory, and then compared to the existing themes in order to provide them with additional support or if not, then to create a new theme. Constant comparative analysis can be an effective way to analyze both quantitative and qualitative data and many times is necessary in mixed methods research in order to paint an accurate picture of reality or the phenomenon in question. It also is useful to provide accurate answers that can solve problems or an answer to a research question (Glaser & Strauss, 1967).

Following the selective coding phase, I attempted to validate all relationships in the model using the data and decided I did not need to conduct further field-testing. The final stage of the analysis was the development and explanation of the phenomenon, or the state of TPD for English teachers in the participating districts. The conclusions were based on the central categories and themes that emerged from the data. A more detailed explanation of these steps is presented in the subsequent sections.

This mixed method study followed a mixed convergence design due to the triangulation of the qualitative data (surveys, focus groups and interviews) compared to the results of the quantitative data (surveys) (Figure 1). This type of study was chosen so that the quantitative results would be validated or expanded through the qualitative data. As the researcher, I implemented both qualitative and quantitative methods during the same timeframe and with equal weight. The diagram in Figure 1 shows how both qualitative and quantitative data gathering occurred simultaneously, using the revised electronic survey from the pilot survey from the pilot study (Item A). The current electronic survey was posted on the Internet using Survey Monkey, which is site that provides the tools necessary for creating an online questionnaire and a unique URL for each survey.

As surveys were completed (Item B), their data were compiled and entered into the appropriate statistical analysis graphs and charts (Item C). During the 4 weeks that the survey was available, focus groups took place and the final group of data gathered were from the interviews (Item H). The data from both the focus groups and interviews were transcribed and coded within 24-48 hours of each meeting. Their results were then triangulated with the qualitative survey results (Item G). When both groups of data were ready for analysis, the corroboration process took place between the two of them (Item E). The triangulation (Item E) consisted of comparing themes, trends, and statistical results with each other to discover if both groups of data support the same conclusions. Once the corroboration was completed and the data were compared and contrasted, the results were interpreted (Item I) and are discussed in the final chapters of this study (Item J).

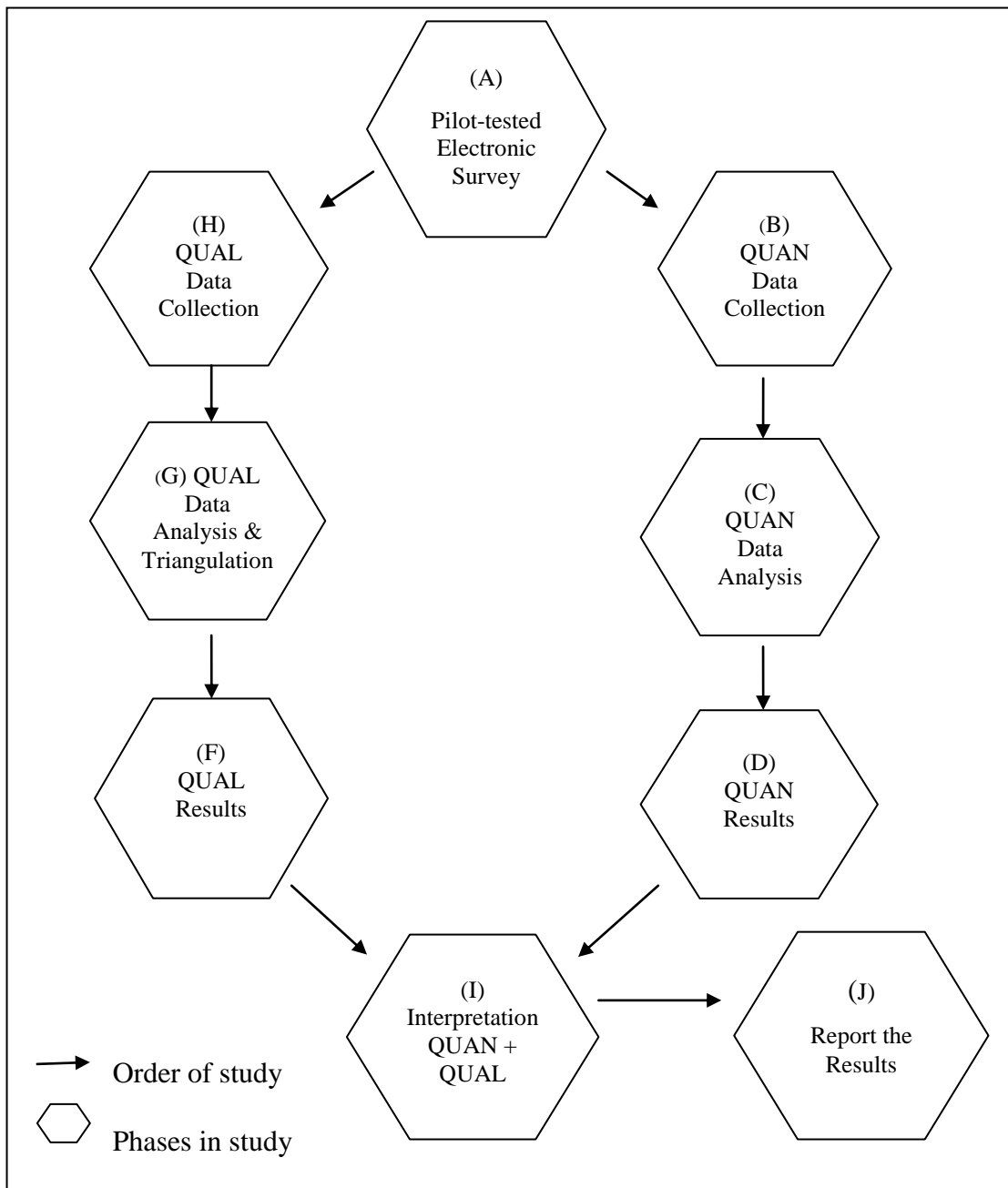


Figure 1: Data Analysis Procedure

The qualitative data were prepared by transcribing all focus group dialogues and interviews into a word-processing file for analysis. In addition, the open-ended question responses were also included with the qualitative data. In the development of the conceptual framework of this study, I began with the grounded theory approach where data are coded according to an abstracted process aimed at the generation of a theoretical statement about the phenomena under investigation (Fassinger, 2005). Three types of coding (open, axial, and selective) are used recursively and discussed sequentially according to the method of constant comparison, where each new piece of data is compared to existing data to generate coherent, comparative meaning (Fassinger, 2005).

The constant comparative method includes (a) comparing data from different participants, (b) comparing participants' own data to other points they have made during the data collection, (c) comparing incidents with other incidents, and (d) comparing categories with other categories (Charmaz, 2000). The overarching goal is to create a theory grounded in the real, lived experiences of the participants. The point of coding is to interpret and construct meaning out of narrative data from a number of individuals or incidents.

The detailing of coding procedures is accepted as the process of *open coding* (Glaser & Strauss, 1967; Strauss & Corbin, 1990, 1998), in which the researcher names events and actions in the data and constantly compares them with one another to decide which belong together. This first level of coding was where the transcribed data were broken down into smaller units of meaning and then labeled and interrogated for alternative interpretations. As new data were introduced, the coded concepts were

continuously compared and recategorized (Fassinger, 2005). This process of constant modification is necessary in order to develop coherent codes whereby common threads and topics can begin to emerge. Two colleagues, both of whom have earned doctorate degrees and are familiar with mixed-methods processes, performed the open-coding reliability checks. These colleagues were given the qualitative data to review and check to ensure that they each agreed on the coding system I have used. No discrepancies arose, and both were in agreement with the conclusions I formed.

The second level of coding that took place is called *axial coding*. This process requires the relationships among categories to be organized and further explained by grouping them into more encompassing categories that compiles several subcategories together. The axial coding process organized the data in the form of categories and their interrelationships. The constant comparative method was utilized again to examine the data with four kinds of comparisons: (a) comparing and relating subcategories to categories, (b) comparing categories to new data, (c) expanding the density and complexity of the categories by describing their properties and dimensions, and (d) exploring variations in the data and reconceptualizing the categories and their relationships as necessary up to the point of saturation when no new information is being uncovered from the data (Fassinger, 2005; Strauss & Corbin, 1990, 1998).

Furthermore, the data were treated in what Strauss and Corbin (1990) refer to as *selective coding*, in which the researcher treats the various code clusters and categories in a selective fashion, deciding how they relate to each other and what stories they tell. Thus the analyst “constructs . . . a set of relational statements that can be used to explain, in a general sense, what is going on” (Strauss & Corbin, 1990, p. 145). As in previous

states of the analysis, the emerging theory that evolved was constantly compared to the data to ensure that they were grounded in the participants' experiences and was also compared to the existing literature which enriched the understanding and power of the end results.

The quantitative data followed a descriptive statistics model. The statistics involved included the means, standard deviations and frequency distributions. Data resulting from questions asked in a Likert-scale form, retained similar numeric values. I calculated the percentage of the participants' choices for each question and placed the data in tables and/or bar graphs that accurately displayed the information so that it could be interpreted with ease.

Other quantifiable data came from multiple-choice questions, or questions that asked the participant to "mark all that apply" on a list. After the distributions were calculated, the results were represented in histograms and/or other charts or graphs which best represented the data. The recording and computing of the statistical data were aided by the use of a computer program such as Excel.

The purpose of the quantitative data was to quantify the amount, types, and rate of recurrence of the participants' technology professional development and also to discover their opinions of different methods of TPD. A low score meant a low opinion, or the least useful method of training and a high score meant a better opinion or more useful training. Questions were asked about how many different types of technology they knew how to use, how often they participated in school or district TPD, and what their overall opinion was about the type of training they received. The electronic survey will be divided into four sections, each representing one of the four research questions.

After the quantitative data were organized, each category was represented through the use of contingency tables and bar graphs in order to represent their distribution. The central tendency, that being the *mean*, *median*, and *mode*, was calculated for the Likert-scale question. The frequency, or *mean* (which is the most commonly used measure of central tendency) of each category was then compared to the results of the qualitative data to provide additional data for the corroboration process. Additionally, the variance and the standard deviation of each set of data was given as well as an explanation of the shapes of the distributions (Wiersma, 2008).

As the data were being evaluated, I created memos to capture ideas, thoughts, themes, and quotes or phrases that struck me as valuable. Memoing was a significant part of the analysis phase, because it was the actual write-up of what was emerging from the data analysis. Since ideas are fragile, they were written down at the earliest possible moment, so as to not forget about them. Memos were written in a “stream of consciousness” style, with no regard for grammar or spelling. The purpose of this was to capture the ideas and then later organize them according to themes. This also gave me a place to begin integrating the literature, from which I could begin to scrutinize the data with the lens of Change Theory to discover how it is related and supported, or refuted by it.

Mixed method design can be a challenge to analyze due to the fact that the researcher has to correlate, triangulate, and organize the data in a coherent fashion. Feagin, Orum, and Sjoberg (1991) attested that triangulation could occur within data, investigators, theories, and even methodologies. I analyzed the data through the lens of the Change Theory. Triangulation occurred among the qualitative data results of the

survey, focus groups, and interviews. This is necessary in order to ensure accuracy (Stake, 1995). The triangulation of the qualitative data along with the corroboration of both the qualitative and quantitative data were analyzed so that I could compare and contrast the information, identify similar responses or trends and code them.

Triangulation is used primarily when a researcher uses at least two different methods in an effort to cross-validate, confirm, or corroborate findings within a single study (Greene et al., 1989; Morgan, 1998; Steckler, McLeory, Goodman, Bird, & McCormick, 1992). I examined the evidence from the different sources and used it to build a coherent justification for the themes (Creswell, 2003).

Researchers use triangulation so that they may confirm the validity of the process and to guarantee that the conclusions they draw from their data are as honest and as valid as possible. This is why the qualitative data were gathered using three different methods. An ethical issue that has been considered is the protection of the anonymity of the individuals in the study. In this study, the names of the participants were not asked for, but each person was able to choose their own pseudonym. Additionally, the data were kept in a secure, locked drawer to ensure its safety and that the information would not be seen by third parties. Finally, another ethical consideration is the obligation to provide an accurate account of the information. This accuracy required a few follow-up visits with interview or focus group participants in order to debrief the information (Berg, 2001). The falsifying or suppressing of information in order to prove my thesis was not done. Including invented information is not only unethical, but it is a serious act of professional misconduct (Neuman, 2000). All data were disclosed honestly so that readers are able to determine for themselves the credibility of the study.

Throughout the analysis of the data, the notion of trustworthiness was an important factor. Lincoln and Guba (1985) asked, “How can an inquirer persuade his or her audiences that the research findings of an inquiry are worth paying attention to?” (p. 290). This is where the researcher needs to provide detailed information on how the data were organized, evaluated, and how conclusions were drawn from them. It is imperative that the researcher states his bias and be forthcoming about any outliers that may have affected the data. When judging research, Lincoln and Guba (1985) identified a set of criteria that correspond to those who are involved in conducting research: “Credibility, transferability, dependability, and confirmability” (p. 300), which are all qualities that I incorporated into every aspect of this study.

Generalizability

A common criticism in many forms of research is the ability to generalize the results to all those whom it pertains to. Generalizability is not dependent upon the numbers of participants in a study, but instead, relies on parameters that the study was established on (Hamel, Dufour, & Fortin, 1993; Yin, 2003). This includes, but is not limited to the design of the research, the accurate disclosure of the data, inclusion of researcher bias, and limitations of the study. This study will follow the suggestions of Lincoln and Guba (1985), stating that the researcher should cross-check his work through member checks and audit trails when conducting qualitative research. The researcher is responsible to figure out a way that the participants can review the material they are represented in. This gives the participants the opportunity to verify that they were represented correctly, which ensures the validity of the research. All of the

participants direct quotes were written exactly as they had shared them and are included in quotation marks. All of the participants whom I directly quoted gave their permission for me to use their words. Additionally, I solicited the opinions of outside help by asking two colleagues to read through my notes, interpretations, and conclusions to check for clarity, meaning, and understanding.

The ability to generalize depends on establishing external validity, which translates into generalizing the findings across different environments and in the case of this study, across all content areas, not just specifically English departments. The researcher cannot specify that their results will be able to transfer to all situations, but that the information provided can be used by the reader to determine if the findings are applicable to their own particular situation. Therefore, the ability to generalize does not lie entirely upon the researcher to draw every possible conclusion, but also up to the reader to decide for himself (Wolcott, 1990). The value of qualitative research can stand alone on its merits, which gives each study uniqueness and humanness to educational research.

Trustworthiness

Researchers should possess the character trait of being trustworthy. It is an essential component of qualitative research and speaks to the credibility of the study. The aim of trustworthiness in a qualitative inquiry is to support the argument that the inquiry's findings are "worth paying attention to" (Lincoln & Guba, 1985, p. 290). The findings should represent the most accurate portrayal that is possible from the reality of the lived experience. In this study, where it utilized qualitative methods, issues of

trustworthiness demanded attention in the categories of: credibility, transferability, dependability, and confirmability. The first trait, credibility, is an evaluation of whether or not the research findings represent a “credible” conceptual interpretation of the data drawn from the participants’ original information (Lincoln & Guba, 1985, p. 296).

Transferability is the degree to which the findings of this study can be applied or transferred beyond the boundaries of this project to have issues of importance for other studies. Dependability is an assessment of the quality of the integrated processes of data collection, data analysis, and theory generation. Confirmability is a measure of how well the study’s results are supported by the data collected (Lincoln & Guba, 1985). These traits have been or will be met through very specific methodological strategies that demonstrate qualitative rigor, such as the audit trail, member checks when coding, categorizing, or confirming results with participants, peer debriefing, structural corroboration, and referential material adequacy (Guba & Lincoln, 1981, 1982; Lincoln & Guba, 1985).

In order to establish a credible study, I have conducted a pilot study prior to this study to test the survey instrument and check for errors on it. I purposefully designed three data gathering instruments: a survey, focus group(s), and interviews, in order to triangulate the results. This multidata gathering method meets the technical definition of “triangulation” by Lincoln and Guba (1985), and will also provided a richer, more multilayered and credible data set than just one or two initiatives would have generated.

I provided participants the opportunity to review my interpretation of the data (Guba & Lincoln, 1989) thereby identifying the trustworthiness or credibility of the data during a follow-up stage where I sent emails to participants from the focus groups or

interviews to ensure they were quoted correctly. This also involved sharing my analysis with the participant(s) to ensure it represented an accurate portrayal of their opinions and experiences (Lincoln & Guba, 1985), thus minimizing my researcher bias and determining trustworthiness of the data collected.

Another step in guaranteeing dependability, I kept a detailed audit trail of notes taken of raw data, personal notes, analysis notes, and memos. I digitally recorded as well as used an audio recorder for all focus groups and personal interviews, which I then used to transcribe the data afterwards. I kept a record of decisions made about ethical issues, explanations of the sampling process, descriptions of the data collection, and excerpts of the data. I kept a research notebook that contained the notes, memos, and transcriptions. Qualitative analysis software was not used, but instead, all of the analysis was done using traditional methods of organizing my notes, memos, artifacts, interviews, reflections, charts, and tables. I created initial tables of both the qualitative and quantitative data and compared them side by side for each research question. I looked for similarities and differences between the two groups of data and pulled out the themes and categories based on my analysis of each of them.

Validity

Validity is the degree to which the interpretations of the data accurately describe the phenomenon under investigation (Denzin & Lincoln, 1998; Hammersley, 1987). It has been identified as one of the major issues in mixed methods research and as the most important aspect of a research project (Tashakkori & Teddlie, 2003). Validity will be ensured in this study by the thorough description in Chapter 4 of how both

qualitative and quantitative data were collected, analyzed, and interpreted. Although forging accurate conclusions may be challenging in a mixed-method design with the use of two different databases, certain meta-inferences can be drawn from the analysis (Onwuegbuzie & Johnson, 2004). As the researcher, one of my goals was to explain in detail and show supporting evidence for my conclusions through the three different datasets (survey, focus group, and interviews), and explain how the results are better because of the use of three sets, instead of making conclusions based solely on one form of data, which you will read about in the following chapter.

Possible threats to the validity of the study design may include the use of different individuals for the qualitative and quantitative data collection. It is quite possible that the participants who participated in the survey could be different from those who participated in the interviews and focus group(s). The unequal sample sizes for the qualitative and quantitative data collection might also be a factor. Sixty-one teachers completed the survey and only a total of about 25 participated in both the focus groups and individual interviews. Also, there could be a potential bias in the data collection and interpretation since I am also an English teacher and have personally experienced many frustrations with substandard TPD. Another validity problem could be that the two types of data do not address the same question, but great efforts were taken to ensure that all the survey questions and interview/focus group questions pertained directly to one of the four research questions so that I could easily organize the results and know exactly which questions on each instrument pertained to which research question.

In order to minimize the threat, I made every effort to draw both types of data from the same population. The school districts that gave me permission to conduct the study were invited to participate in all three types of data collection. Every effort was made to include as many participants as possible, since the greater the number of participants provided more data results that were more generalizable. Researcher bias will be explained in the “Limitations” section of this study (see Chapter 5), so that the reader will be made aware of any personal influences I may have placed during the data collection or analysis. Finally, each research question was addressed through both the quantitative and qualitative data, with the purpose of gaining insight from participants through both methods.

Ethical Issues for the Study

This study was conducted with the perspective that the researcher is an outsider in participant teachers’ worlds. I was grounded in a pragmatic approach, understanding that I had to use the approach that worked best in a real world situation. This belief maintains that no one has total knowledge of another person, and the researcher hopes to be able to deduce accurate results relative to the participants’ experiences. I made every effort to maintain confidentiality of the participants so that I could avoid any wrongdoing or embarrassment to them.

Each school district was provided with a completed copy of this study. Additionally, the confidentiality and privacy of the participants was safeguarded. The names of the school districts have been changed as a further measure of protecting the reputations and identities of the districts and their teachers. It is not the intention of this

study to point out failings or shortcomings that the participants indicated their district possessed. By providing the results of this study to each participating district, it is my hope that they will be able to use any suggestions and findings that resulted, to improve their Technology Professional Development programs.

There were no ethical issues or complaints that arose with the participants or the school districts in this study; therefore, there was no need for additional consultation between the affected party and my advisor. I made every effort to protect participants by changing their names, the school districts they worked for, and wording questions in an equitable manner so as to not offend anyone or so that the reader would be able to infer the participants who were quoted.

Summary

This chapter has described the purpose and the research questions that guided this study. It presented the methodology for study of the learning experiences in technology professional development for secondary English teachers. It explained the rationale for the research design of using mixed methods along with a general description of the setting, participants, and data sources. It also detailed how the data were collected and also explained the steps that were taken during the data analysis and how both the qualitative and quantitative data were treated and represented.

The data were collected through an electronic survey, focus groups, and interviews. Qualitative data were transcribed, coded, analyzed, and compared to each other in order to discover emerging themes and trends. The quantitative responses was tabulated and reported through the use of histograms, such as contingency tables and

bar graphs. The next chapter explains how the two bodies of data were analyzed and compared together and provides the answers to the research questions, as well as provides additional insight into this phenomenon.

Parameters and procedures for doing good mixed method research were reviewed and the limitations and biases were discussed. Since the rise of technology, English teachers have become primarily responsible for teaching reading, writing and research through computers and the Internet. Bias includes the opinion that this particular group of teachers should be provided with specific technology training that would meet the needs of their curricular demands. It was my intention, as the researcher, that my study was conducted according to the guidelines of professional research on this topic so that it can contribute to the existing body of research in the areas that connect teacher change, teachers' beliefs about technology, and technology professional development.

CHAPTER 4

RESULTS

Introduction

This chapter will present the data gathered for this study, which examined the types, adequacy, quality, opportunity, and recommendations English teachers currently have with technology professional development. This chapter will begin with a substantive context of the participants and school districts being studied. The districts will be described according to the state in which they are located. This way, a general description of the state's educational technology status can be explained, followed by the individual technology efforts of the districts. This study gathered data from three states, which will be referred to as: the Intermountain state, the Prairie state, and the Woodland state.

The next four sections are organized around the four research questions and will report on the data that emerged from this study. Each of these four sections will report on the specific findings from the quantitative data first, followed by the supporting qualitative data. Each section that reports on one of the four research questions will be accompanied by appropriate tables, figures, and quotes that represent the data in an equitable manner. Finally, I will present a table showing the triangulation of the three groups of data, which will support the recommendations and conclusions given in Chapter 5.

Context

This study utilized 6 school districts from three different states across the United States. The majority of the study took place in four school districts in an Intermountain state. The other two states are located in the Midwestern region of the country. There are two urban districts, two suburban districts, and two rural districts. The diversity level, district enrollment, graduation rate, school operating budget, and per-pupil expenditure will be given for each district. Each of these districts possesses the autonomy to decide the amount of money to be invested in technology in order to meet their educational goals. Each of these schools has different funding capabilities and budgets that finance their technology programs. A more detailed description of the states and districts is presented in the following section.

State Descriptions

Intermountain State

The four school districts in this state include Riverview School District (urban), Aspen Grove School District (suburban), Snowy Pines School District (suburban), and Elk Meadows School District (rural). (The names of all school districts have been changed to conceal their identities.) Each of these districts has local school boards that assist the districts in approving their education policies, budgets, and technology programs. All of the districts in the intermountain state have suffered a decrease in their state educational funding by nearly 3% as a result of the most recent legislative session, compounded by a reduction in the education budget from the previous year, as well as a decreased budget proposed for the upcoming 2010-2011 school year (Public Education,

2010). The reduction in the districts' budgets over the past few years has created funding concerns which will naturally decrease money spent on maintaining, upgrading, or providing new technology. Also, it will place additional stress in providing technology professional development opportunities for teachers, especially now since this state's legislature has continued to reduce funds from the education budget that was dedicated for teacher professional development (Appropriation Summary, 2010). Many districts rely on this money to fund their entire professional development programs.

According to the Intermountain state's 2009 Technology Report, this state has received an "A" in their technology use, but an "F" in their capacity to use technology (Intermountain State Technology Report, 2009). This state is one out of only nine states that received a perfect score on their use of technology, but on the other hand, it was one of four states, plus the District of Columbia that received below a 59%, or a failing grade, on their capacity to use technology score (see Table 1). One indicator that is commonly used to measure the number of schools that have Internet/Broadband capabilities is by how many are taking advantage of the government's E-rate program. This program provides a 20%-90% discount, based on location and poverty level, to schools and public libraries for Internet access, telecommunications services, internal connections (i.e., fiber optics), and maintenance for the internal connections. Although the Intermountain state's E-Rate funding has steadily been increasing, which reflects the amount of school districts taking advantage of discounted Internet and telecommunications federal funding, there has been little improvement in the expectations for teachers and administrators to know about and how to use technology.

Table 1

Intermountain State's Technology Report Card 2009

Use of Technology		have policy?	with policy.
Student standards include technology.	Yes		
State tests students on technology.			Yes
State has established a virtual school.			Yes
State offers computer-based assessments.	Yes		
Capacity to Use Technology			
Teacher standards.			
Administrator standards.			
Initial teacher-license requirements.			No
Initial administrator-license requirements.	No		
Teacher-recertification requirements.			No
Administrator-recertification requirements.	No		

Note. From <http://www.edweek.org/media/ew/tc/2009/26stc.pdf>

This state's E-rate coordinator commented that:

The requests for Internet and networking services have actually gone up since we've been able to improve our E-rate discount over the years. The 2010 request for UEN totaled approximately \$21 M. The state as a whole applied for another \$10 M. The state totals about \$31 M this year. A continuous rise in E-rate funding requests has allowed us to fend off some of the state's reduced funding. (Sabrina Scott, personal communication, April 4, 2010).

Even though the state has reduced funding for schools, this state's Education Network has been able to continue to provide the essential digital resources to nearly every school that has applied for it. The state Education Network, which is responsible for disseminating the E-rate services, also provides a variety of technology professional development that is available to all teachers within the state, as well as access to a public online library and research database. This state network also supplies E-rate broadband services to public libraries, charter schools, and higher education institutions.

The ability for the state's Education Network to provide broadband capabilities to all schools in the state is just one facet in the spectrum of teachers and their technology abilities. Clearly, teachers need access to the technology, which is also low in this state, currently receiving a "D" grade, but having access does not ensure their ability to integrate and utilize it in a way that supports pedagogy and optimal student learning.

The condition of this state's technology report card definitely shows that improvements need to be made, especially if they are going to keep up with the National Broadband Plan that believes that "broadband can enable improvements in public education through e-learning and online content, which can provide more personalized learning opportunities for students" (2010, p. 2). The goal of this plan to have advanced Internet

capabilities in 100% of the schools in our country as well as make affordable Internet connections possible for all citizens different economic levels. This means creating programs, such as E-rate, that would be available to homes that currently can not afford basic Internet services.

Riverview School District

Located in the heart of the state, Riverview School District is the fastest growing school district in the state. It recently underwent a division of the district, which created a huge shortfall in its annual budget, a loss of nearly \$33 million dollars. This district contains 51 schools: 32 elementary schools, 9 middle schools, 6 high and technical schools, and 3 special schools (5 of the elementary schools in their district are classified as Title 1 schools). This district serves a total student population of 48,621, with a very low diversity rate of about 15% (see Table 2), has a full-time teacher population of 2,621, with a total support staff of 2,610 (Riverview District web site, 2010). The total operating budget for the 2009-10 school year is \$300,651,289. The district has a \$6,184 per pupil expenditure (Riverview District web site, 2010). The amount allocated for technology was not specified.

The district's mission statement according to their 5-year technology integration program states: "[We] support the development of technologically competent and responsible educators and students by integrating technology into teaching and learning" (Riverview District's Technology Planning website, 2010, p. 3).

Table 2

Riverview School District Diversity Data

Diversity	
Caucasian/White	84.71%
Hispanic/Latino	9.91%
Asian/Pacific Islander	3.31%
Black/African American	1.19%
Native American	0.52%
Unknown/Other	0.37%

Note. From Riverview District web site, 2009-10 Statistics.

Some of the distinctive elements to their plan are that they believe that each school should develop their own Instructional Technology Plan that is in harmony with their district's strategic plan. Among their many belief statements, they firmly state that technology has the ability to increase student learning, that students must become digitally literate, that technology has the ability to address different learning styles, and that students must become technologically proficient to be able to live in a global economy.

Along with their beliefs about the benefits of technology, they also understand that a successful technology program must have resources that are divided between hardware, software, training, and support services. The district would like each school to have a training system for instruction in technology that provides modeling and staff mentoring. As part of their 5-year technology plan, one of their goals is to "provide effective staff development opportunities to enable all teachers to achieve professional

technology proficiency” (Riverview District’s Technology Planning website, 2010, p. 2). Along with this goal, the plan delineates several steps and objectives to be able to meet this goal.

What is impressive about this district’s emphasis on technology is their Technology Planning website that provides numerous resources for teachers. It contains policies, professional development resources, lesson ideas, templates, grade level resources, student samples, helpful Internet links, technical support, integration suggestions, and even a digital monthly newsletter. Each school in the district maintains an individual website, but each at a different standard of quality. Most provided email links to their faculty, but often times, the links did not work at some of the schools. Only a few of the teachers in their secondary schools have their own webpage or blog, and out of those, even fewer were updated and maintained with current information. Most of the teacher websites did not appear to be were being used at all and appeared to be a basic template provided by the state’s education network. At this point, teacher web pages appear to be an individual choice and not mandated by school administrators or by the district.

Of the 2,621 licensed teachers, 54% hold a bachelor’s degree, 32% of teachers have a master’s degree, and 13% of the teachers have a degree or university work beyond a master’s degree. The student to teacher ratio in the middle schools is 1:26 and 1:27 in the high schools. The actual class sizes vary according to the student population at each school (District website, 2010). With the recent division in the district along with the budget cut, over 250 teachers have lost their jobs (a predicted total of 500 positions which includes district jobs also). This has resulted in increased class sizes (at

least four additional students) for the remaining teachers. All secondary teachers have had to lose one prep period in order to teach an additional class so that class sizes will not increase too heavily, and have had to suffer pay cuts and a loss of teacher work days (Letter to Employees, Feb. 11, 2010).

Despite the dramatic changes and challenges in the district, teachers along with administrators are trying to maintain positive morale as well as an excellent educational environment. While gathering data for this study, the district administrator over research contacted me to inform me that I may not have a high number of participants in this district due to recent high amount of teachers losing their jobs. Because of this, I was not able to conduct a focus group in the district, but was able to obtain a few interviews.

Aspen Grove School District

Although one of the fastest and largest growing school districts in the Intermountain state, Aspen Grove School District is comprised of mostly suburban and rural towns. The district boasts a total of 68 schools: 10 high schools, 10 junior high schools, 45 elementary schools (9 of these schools are classified as Title 1) , and 3 specialty schools. Its student population consists of 64,351 students with a low diversity rate of about 12% (see Table 3). This district employs 2,015 full time teachers, has an operating budget of \$334,736,379 and a per pupil expenditure of \$5,461 (Aspen Grove District Annual Stakeholders Report, 2009-10). This district is undergoing a massive construction project that is updating several older buildings as well as constructing new schools throughout their district. Despite their large size, the district is proud of

Table 3

Aspen Grove District Diversity Data

Diversity

Caucasian/White

Hispanic/Latino 8.6%

Asian/Pacific Islander 2.4%

Black/African American .8%

Native American 0.4%

Unknown/Other 0.2%

Note. From Intermountain State Office of Education website, 2010.

surpassing state and national academic test scores (Aspen Grove District Annual Stakeholders Report, 2009-10). This district has a reputation for providing challenging academic programs, many professional development opportunities, and has had teachers win national grants for their district history and technology programs, in which the students benefit greatly.

This district has a strong commitment to technology in supporting, providing, and enhancing their teachers' skills with it. At the district level, there is a separate technology department that is mostly responsible for computer maintenance, rotation of new computers, hardware, installation of software, and providing some technology professional development. Working with this department, the Professional Development department has been heading up an impressive technology training program since 2003, called the "enhancing Missouri's Instructional Networked Teaching Strategies" (eMINTS). Aspen Grove District is one of only 8 other districts in the entire state that is

participating in this program that encompasses 100 classrooms across the state. When the program first began in 2003, 16 participating teachers came from four of the schools that received the technology initiative grant either in January or June, 2006. In addition, the Intermountain Office of Education provided grant money for technology that has funded 45 additional teachers. Within the last 3 school years, 45 additional teachers have been able to join the program, with many of them now in their 2nd year.

As part of the program, each participating school received funds to equip several classrooms with one computer for every two students, a video projector, digital and video cameras, printer, and other peripherals. The teachers participate in 175 hours of after school training completed over 2 years. The emphasis is on quality teaching strategies that use technology. Classroom support is also provided (Aspen Grove District website, 2010). This program has shown huge gains in student achievement and has really excited teachers about the possibilities of technology and its integration. At this time, the eMINTS program is not equitable throughout the district, due to its cost requirements and time commitments; but nevertheless, it has definitely proven itself successful in the schools and classrooms that are fortunate enough to have it. On the other hand, because of the selective nature of this program, only involving about 45 teachers in a cohort, the teachers who participated in my focus group at this district had never even heard about the eMINTS program.

According to the most recent data that could be found, the district's 2007-08 annual report stated that 2,031 of their teachers held a bachelor's degree, 730 teachers held an additional masters degree, and 15 teachers had earned a doctoral degree (Aspen Grove District Annual Report, 2007-08). This teacher information is very near the 2,015

that are currently employed; therefore, it is assumed that the educational attainment of the district's faculty has most likely maintained these statistics. Teachers have a built-in collaboration time each week, when students are released an hour early so that teachers can meet to share best practices, receive training, or hold department meetings.

Snowy Pines School District

Snowy Pines School District is located in a largely suburban and rural area. This district, even though situated in a farming community, is also one of the top 10 fastest growing school districts in the Intermountain state. Because of more affordable housing and being only about a 30-minute drive to several major employers in the state, Snowy Pines School District is seeing substantial population growth over the last several years. Due to the struggling economy, this district has had an employment decline of 14.9% in 2008 and an additional 16.6% decline in 2009 (Snowy Pines District Annual Financial Report, 2009). The reduction in teachers and district employees has had a similar effect of a lower morale on the remaining faculty as well as an increase in class size and work load.

Snowy Pines School District has a total of 38 schools: five high schools, six junior high schools, 26 elementary schools (6 of these are Title 1 schools), and one alternative school. Within the last 2 years, Snowy Pines has constructed two new high schools. The first was opened during the 2008-09 school year and was a historical event for the district because it was the first high school built in the district in the last 40 years of its history. The second new high school opened during the 2009-2010 school year. Both high schools have equipped each of their classrooms and other areas of their

school with multiple forms of technology. Each classroom has its own LCD projector, digital document camera, printer, scanner, DVD/VCR player, wireless audio and voice amplification system, up-to-date computers with flat screen monitors, extra large flat screen televisions on the wall in each class, several computer labs throughout the school, and even giant flat screen televisions in their cafeterias so students can watch sports games during lunch. Several teachers also have their own interactive whiteboards, digital cameras, digital camcorders, and electronically interfaced scientific probes (Snowy Pines District Technology Plan, 2010). Both of these schools have at least one mobile laptop lab, and the administrators as well as a few of the teachers have personal laptops along with their desktop PCs. The new schools, as well as the older ones, have wireless broadband capabilities. Due to the large amount of technology provided for the teachers and students, the faculty participates in ongoing technology professional development (TPD) to learn how to use their technological tools.

This school district has a student population of 28,697, with another very low diversity rate of 12% (see Table 4). Snowy Pines employs nearly 1,900 teachers and about the same number of support and district staff. The 2009-10 operating budget is \$162,557,675, of which their per-pupil expenditure is at \$5,837, a slight decline from the previous year as a result of the current slow economy (Snowy Pines District website, 2010).

The district has adopted a 5-year technology master plan that the district technology department is responsible for managing. As part of its mission statement, the district believes that both teachers and administrators “must be provided sufficient professional development to know how to effectively integrate technology into the

Table 4

Snowy Pines District Diversity Data

Diversity	
Caucasian/White	87.72%
Hispanic/Latino	9.47%
Asian/Pacific Islander	1.36%
Black/African American	0.7%
Native American	0.7%
Unknown/Other	0.04%

Note. From Intermountain State Office of Education website, 2010.

curriculum and ongoing support to successfully make the transition from 20th to 21st century teaching and learning” (Snowy Pines District Technology Master Plan, 2010, p. 1). This plan lists several idealistic outcomes that their teachers and administrators are expected to know and/or learn. Some of the items for administrators are: to be taught about leadership and change research, how to make data driven decisions, and how to use technology integration for collaboration, literacy and numeracy. Teachers are supposed to use master teaching skills while utilizing the many forms of technology in their rooms. This technology plan does not explain clearly who is responsible for providing the training on all of the different forms of technology, but it is implied that school administrators will, with some help from the district technology department. Maintaining the computers and technology systems is the main focus of the technology

department, but the plan states that they are to help in the instruction of teachers in learning to use it.

Very little information was provided on the district website about their teachers. The student to teacher ratio stands at about 24:1. The educational attainment of the teachers was not listed in any accessible district form or webpage. This district boasts of several awards, honors, and recognitions their teachers have earned. The teachers in this district have evidenced good teaching practice by repeatedly surpassing the state and national scores on the Iowa Basic Skills test and the state core tests.

Elk Meadows School District

Elk Meadows is a small school district nestled in a beautiful farming county in the southern part of the Intermountain state. This school district is surrounded by majestic mountain views. The largest city in the district has an estimated population of 2,500 with about 500 more individuals who live outside the city limits. Elk Meadows has a total of five schools in its district: two elementary, one elementary/junior high, and two high schools (both high schools have grades 7-12). This district has a low diversity level of 14% (see Table 5). There are about 72 full-time teachers in this district with a student-to-teacher ratio of 23 to 1. Because this district is situated in a very rural area, they have a well-developed distance learning program that offers high school and college classes from nearby universities. This distance-learning program is open to high school students as well as graduates and community members seeking to further their education. Even though this is a small school district, the secondary schools have strong athletic

Table 5

Elk Meadows District Diversity Data

Diversity	
Caucasian/White	86%
Hispanic/Latino	11%
Asian/Pacific Islander	0.6%
Black/African American	0.3%
Native American	1.1%
Unknown/Other	0%

Note. From Intermountain State Office of Education website, 2010.

departments and many performing arts opportunities for its students in music, theater, choir, and dance.

No information was available at the district website about the school's technology initiative, yet an item referring to technology is mentioned as one of their district goals in their most current annual fiscal report from last school year (Elk Meadows Annual Fiscal Report, 2008/09). One of the five goals mentioned in this report was to "become a data driven district" (Elk Meadows District, 2010, p. 2). In order to accomplish this goal, they plan to: "use district assessment data to drive the curriculum; be proactive in utilizing available technology, training, and resources; and provide professional development for all district administration and staff" (Elk Meadows Annual Fiscal Report, 2008/09). The report further mentions the concern the district has about how the state legislature cut all the funding for teacher professional

development; therefore, it has left this district with no monies for teacher professional development of any kind.

The district's website seems to be in its infancy state due to the fact that many of its links result in a blank page, such as the "Technology" link. Because of this, there is no information about their technology plan, the responsibilities of their technology department (if indeed they have one), or of its technology professional development opportunities offered for its teachers. Contact has been made to the district and at this point, no communication has been returned.

On the Elk Meadows School District website, there was no information provided about the educational attainment of the district's teacher. I have contacted the district and am waiting for a response about this topic as well. Due to the small size of this district, it appears from the individual school websites that most of the teachers teach multiple subjects and grades to meet the needs of their students. In small schools and districts, it is quite common to require teachers to have endorsements and qualifications in multiple areas in order to provide a full curriculum of classes.

Prairie State

Schools in the Prairie State are located in the Midwestern region of the United States and are located mainly in farming communities. This state has a higher population rate and more school districts than that of the Intermountain state. There was one district from the Prairie State used in this study, the Green Acres School District, which is an urban district. Along with the Intermountain State, and all states in the U.S., the Prairie State has also suffered an economic decline as a result of the decline in

the economy in the last 2 years. In the most current legislative session, this state's governor approved an education budget cut of 10% across the board. According to this state's Teachers Association, all school administrators were going to be challenged in deciding where the cuts in their respective budgets would happen. Untenured teachers would be fearful of losing their jobs and parents would also worry how the budget cut might impact their property taxes (Prairie State Budget Communications, 2010).

Prairie State's technology report has given it a "B-" in their technology use and a "B" for their capacity to use technology (see Table 6; Prairie State Technology Reports, 2009). This state's educational technology use grade places it in the median range in comparison to the other states in the country. The state core curriculum for students includes technology use, but the state has yet to include any assessment items for technology ability and use on their annual core tests. In their capacity for teachers and administrators to know how to use and integrate technology, this state is doing well to include technology expectations in their Teaching Standards for both teachers and administrators, and even requires teachers and administrators to have taken technology coursework to earn an initial license (Prairie State Technology Reports, 2009). Where this state is lacking, is in requiring teachers and administrators to have technology training or to pass a technology test for recertification. This standard is important because it pushes educators to stay current with innovative and new technologies. This state's Teaching Standards include the use of technology in expecting teachers to "demonstrate competence in planning and preparing for instruction," and in the "uses and strategies to deliver instruction that meets the multiple learning needs of students," (Prairie State Teaching Standards, 2010, p. 2).

Table 6

Prairie State's Technology Report Card 2009

Use of Technology		have policy?	with policy.
Student standards include technology.	Yes		
State tests students on technology.			No
State has established a virtual school.			Yes
State offers computer-based assessments.	No		
Capacity to Use Technology			
Teacher standards.			
Administrator standards.			Yes
Initial teacher-license requirements.			Yes
Initial administrator-license requirements.	Yes		
Teacher-recertification requirements.			No
Administrator-recertification requirements.	No		

Note. From <http://www.edweek.org/media/ew/tc/2009/26stc.pdf>

Information was not available for their E-rate usage, but a short description of what it is and an application for it can be found on this state's education website. Since the Prairie State has received acceptable grades in both use and capacity, it can be assumed that schools and districts are providing technologies with broadband capabilities. School districts are not required by state or federal rules to use the E-rate program. Many school districts utilize private companies for their telecommunications, maintenance, and training services.

Green Acres School District Description

Green Acres School District is located in one of the four cities that make up the metropolitan quad city area. Just outside the city, lies some of the country's most fertile farming property adjacent to the Mississippi River. The city that comprises this district is home to about 100,000 residents, with a total of 400,000 spread across the quad city area. This city is the third largest in this state and is proud of its historical heritage of being at the crossroads of America. The district itself covers 109 square miles and has approximately 16,500 students. Green Acres School district has 19 elementary schools, six middle/junior high schools, three high schools, and one alternative school. There are 1,233 teachers in this district, with about an equal number in support staff. Out of the six school districts in this study, Green Acres School District has the highest diversity rate of 34.6% (see Table 7). The student to teacher ration is maintained at a very low number of 13:1 despite being an urban school as well as a 3.5:1 ratio of students to computers (Green Acres District, 2010).

Table 7

Green Acres District Diversity Data

Diversity	Percent
Caucasian/White	63.4%
Hispanic/Latino	8.3%
Asian/Pacific Islander	2.5%
Black/African American	18%
Native American	0.7%
Biracial	7%

Note. From Prairie State Annual Financial Report, 2009.

Information was not available about this district's technology plan, yet in their most current budget for the 2009 fiscal year under the "Capital Improvements" section, they want to dedicate \$500,000 annually to upgrade technology in the district. No other information was found concerning how these funds would be disseminated throughout the schools (Green Acres Annual Financial Report, 2009). There was no indication of a Technology Department based on information provided by the district website, so it is unclear if the responsibility to provide technology services is at the district or school level. Regardless of the lack of information on their district website, the secondary schools are heavily involved in technology-infused programs in the science and technical departments that offer college credit for students who complete a series of defined coursework. These programs help students prepare for higher education as well as help them earn credit toward a future degree. Several classrooms have student

computers as well and their libraries from elementary to high school all have media centers in them.

The total teaching staff of over 1200 teachers has earned bachelor's degrees. Additionally, 53% have master's degrees, and 0.6% have a specialist or a doctoral degree. According to the school website, many of the teachers have endorsements in multiple curricular areas and use them to teach in multiple curricular areas. For example, an English teacher may have an endorsement in Theater and also teach courses in drama and direct school plays. A few of their teachers have won district, region, state, and even national awards. None of the teachers at the secondary schools had their own classroom websites that were attached to their schools' website. Teachers could be contacted through email links.

Woodland State

Woodland State is the fifth most populated state in the country. This state also has a higher population and more school districts than Intermountain State. It is bordered on the west by the Mississippi River and has a strong agricultural base. It also borders Prairie State and has a similar demographic makeup. This state has close to 900 school districts, where many of the rural districts are grouped into regional districts in order to share facilities for vocational programs, and concurrent enrollment classes. In this state's Professional Teaching Standards, it interweaves technology into multiple areas so that technology integration is used by teachers to enhance lessons, provide opportunities for diverse learners, monitor and create student assessments, and enhance communication between parents and teachers.

At the state level, several millions of dollars are requested annually in the state budget to go towards technology (Woodland State Office of Education, 2010). Recently, the state was awarded \$10 million dollars for school districts in low-income or impoverished school districts to enhance their technology needs. The money is to be specifically spent on technologies that provide a one-to-one interface, such as laptops, computer notebooks, and iPods. The competitive grants were awarded to 15 districts across the state as part of a federal grant program, known as the American Recovery and Reinvestment Act. This program is designed to improve student academic achievement through the integration of technology in schools and help every student become technologically literate by the end of eighth grade (Woodland State Office of Education, 2010).

The 2009 technology report for this state was graded as a “B-” in usage (the same as the Prairie State), and a “B-” in their capacity to use technology (Woodland State Technology Reports, 2009). According to this report, Woodland State has state standards for students to learn about technology and the state has also established a virtual school. The state is lagging behind by not including technology in their state tests, and also by not having any computer –based assessments (see Table 8).

For their capacity grade, the Woodland State includes technology standards for both teachers and administrators as well as requiring teachers to have had technology coursework to earn an initial teaching license, but the standards do not require administrators to have any technology coursework as part of earning their license. Furthermore, this state does not require their teachers or administrators to have any

Table 8

Woodland State's Technology Report Card 2009

Use of Technology		have policy?	with policy.
Student standards include technology.	Yes		
State tests students on technology.			No
State has established a virtual school.			Yes
State offers computer-based assessments.	No		
Capacity to Use Technology			
Teacher standards.			
Administrator standards.			
Initial teacher-license requirements.			Yes
Initial administrator-license requirements.	No		
Teacher-recertification requirements.			No
Administrator-recertification requirements.	No		

Note. From <http://www.edweek.org/media/ew/tc/2009/26stc.pdf>

technology training, a technology test, or require participation in technology-related professional development as part of their recertification process.

Woodland State is an active participant in the federal government's E-rate program. Substantial information and applications are provided on the state office of education webpage. The E-rate service is managed through a Central Management Service that works with the state to ensure that the services are provided according to how the program is designed by providing: broadband capabilities, telecommunication, hardware maintenance, and internal connections (Woodland State Office website, April 10, 2010).

Creek Side School District

Nestled among beautiful rolling hills, you will find Creek Side School District. Although this district may be small in size, it is rich with history. It opened its doors over 120 years ago and has been the heart and soul of its community ever since. Over the years, Creek Side has had the benefit of small class sizes, well-educated teachers, and a supportive community. Within one building, you will find three schools in one: an elementary school, including a full-day preschool program; a junior high that offers one-on-one support; and a full high school complete with a variety of electives and classes to choose from. This school district provides several opportunities so that their students can benefit from being a member of a marching band, participate in a spring musical, play on a variety of sports teams, take part in foreign language classes, learn to grow plants and fix cars, as well as take concurrent enrollment classes and/or attend more specialized courses at the vocational school.

Creek Side School District has a current student population of 249 and an extremely low diversity rate of 3.4% (see Table 9). The district does host about two foreign exchange students each year as well. There are 26 full-time faculty members and 3 part-time, with a district support staff of 19 individuals. This district's operating budget for the 2008-09 year was \$3,028,433 with a \$14,695 instructional cost per pupil and a 27% low income level (Creek Side School District, 2010). The high school has 100% graduation rate nearly every year and the district has earned the prestigious award of being one of the top 50 schools in the state. This is significant because there are about 4,500 schools across the state.

The district has adopted a state approved Technology Plan that supports the use of technology as well as encourages the development of technology skills among its teachers. The district remains "committed to providing high performance technology to meet the changing needs of the school and community" (Creek Side Technology Integration Plan, 2009, p. 1). They claim to be trying to continually strive to incorporate 21st century learning skills in their teaching. Their 5-year plan includes placing an emphasis on audio and video production, web 2.0 technologies, and other multimedia projects.

Their plan also states that the district is committed to conduct on-site training to keep their teachers proficient in technology, and they also encourage their educators to seek out software programs that will enhance their curriculum with the intention that the district will provide the hardware necessary to accomplish their technology goals. This district also states a commitment to maintain their Internet access to their school, to ensure they have sufficient bandwidth for their curricular, and to increase the

Table 9

Creek Side District Diversity Data

Diversity	Percent
Caucasian/White	96.6%
Hispanic/Latino	2.1%
Asian/Pacific Islander	0%
Black/African American	0%
Native American	0%
Multiracial	1.3%

Note. Woodland State Annual Report Card, State Office of Ed. Website, 2009.

communication with their students and parents. The district understands that they are responsible for preparing their students for the future (Creek Side Technology Integration Plan, 2009). Creek Side School District maintains the belief that technology can help in teaching diverse learning styles, providing the means to communicate globally, and in improving academic growth in all areas. This year, Creek Side has implemented a computer based reading program for students who are behind their grade level. The program is individualized and targets the areas that each student needs to strengthen. This is one example of how the district is utilizing technology to meet their technology goals.

The faculty at Creek Side is very hard working and multitalented. With just 26 full-time teachers, everyone helps in acting as club advisors for programs such as National Honor Society and the Future Farmers of America, working as athletic coaches

after school, and helping out in putting on a school play. Over half of the teachers (17) have master's degrees and 12 have a bachelor's. The low student to teacher ratio of 12:1 really creates the feeling of a community of learners. Even though class sizes are small, secondary teachers are preparing for about seven different classes a day.

Analyzing the three states together in Table 10, along with the national averages, helps to put into perspective some of the challenges that the states are trying to resolve. Averaging their Use and Capacity grades together is how each state's technology grade was derived. The Intermountain state has the lowest graduation rate of the three states, the lowest number of teachers and school districts, the fewest school districts, the smallest budget, highest student/teacher ratio, and the lowest technology grade. On the other hand, the Prairie state with the highest graduation rate also has the lowest student/teacher ratio while operating on a moderate budget and earning an above average technology grade.

The Woodland state, with the largest number of students, spends significantly more on educational expenditures (\$8,829), as compared to the Intermountain state (\$5,964), which helps to maintain the low student/teacher ratio and provide technology. The Prairie State's per-pupil expenditure average, is slightly above (\$9,997) that of the Woodland state. Both the Prairie and Woodland states' per-pupil expenditures are much more near the national average of \$9,963 (Mitani, 2009). It is impressive to note that the Woodland state with such a high number of students, it is able to support a graduation rate much higher than the national average. By delving further into the results of this study, I hope to gather some answers of the English teachers' perceptions of their technology professional development, their views of how accessible technology is, and

Table 10

Side by Side State Comparison

	Intermountain	Prairie	Woodland	National Average
Graduation Rate	78.6%	86.9%	79.7%	73.2%
Student Population	576,244	485,115	2,112,805	966,519
Num. of Teachers	24,336	36,089	136,571	62,316
Student/Teacher Ratio	23.7:1	13.4:1	15.5:1	15.5:1
Num. School Districts	40	373	894	314
Total Ed. Expenditures	\$3.8 billion	\$4.9 billion	\$23.1 billion	\$11 billion
Average Technology Grade	C+	B-	B	B

Note. From: <http://nces.ed.gov/programs/coe/2009/section3/indicator19.asp>

how prepared they feel to use and integrate it. Some of the school districts had easily accessible Technology Plans, while others made no mention of one, nor provided information on their website referring to their philosophy and use of technology.

Participants

Before presenting the data, a description of the participants from each of the data sources will be provided. Participants from all six school districts across the three states participated in the electronic survey, while only participants from the Intermountain and the Woodland states were available for focus groups. Interviews were conducted with participants from all of the states, yet only three of the four districts in the Intermountain state were represented.

Survey Participants

The electronic survey was sent out to teachers in all six school districts the first week of February 2010. The survey was linked to an email that was an invitation to participate in the study. The number of participants who took part in the survey numbered 61. All participants reported being English teachers and most of them taught more than one grade or class. A few of the teachers held multiple roles as club advisors, coaches, ESL teachers, yearbook advisors, creative writing teachers, department heads, and/or “un-official” technology experts. The majority of the teachers taught seventh through ninth grade and nearly two-thirds of them have taught 10 years or less. Of the participants, 78% were female and a total of 75.6% reported teaching in a suburban school district. Only 2 of the 61 participants indicated that they worked at a Title 1 school. The average class size of the teachers was 33, with a range from 11 to 40. Three of the respondents reported having over 35 computers in their classroom; however, the average number of computers teachers had in their rooms was usually less than five and most often just one.

Focus Group Participants

A total of three focus groups were held in the following school districts: Aspen Grove, Snowy Pines, and Creek Side. Attempts were made to schedule focus groups in the other remaining districts, but no one volunteered to host one. The first focus group took place in Aspen Grove. The group consisted of one entire English department made up of eight members. There were two males and six females. Only one or two of the teachers participated occasionally in technology workshops their school district

provided. The majority the teachers were not aware of any courses or programs their district offered in technology. Teachers in this focus group knew nothing of the eMints program in which their district participated. They were not aware of the technology conference for educators that is held every year in their state at a neighboring district. The teachers' lack of knowledge about technology learning opportunities that happened in the district stood in contrast with the fact that the district is known for being very progressive in technology.

The second focus group took place at the Snowy Pines School District. The focus group was made up of 2 teachers from the same English Department. One of these teachers had been teaching in this district for over 5 years. The second teacher was new to the district, but had over 10 years of teaching experience. These teachers worked at one of the district's new schools that had been infused with the latest forms of technology in every classroom. The school was in its 2nd year of being open. The teachers at this school are required to participate in a lot of technology training to learn how to use the equipment in their classrooms. The teachers complained of having too many training meetings that retaught the same techniques over and over. Their trainings were in a lecture-type format, where teachers were instructed to take notes. They did not have the hardware in front of them to work with at the time of the trainings. Lectures were given using PowerPoint presentations and LCD projectors, showing step-by-step instructions of how to work a certain piece of equipment. The teachers commented that the majority of their TPD was a big waste of time. Further details of their comments about their school's TPD will be discussed in the subsequent sections.

Finally, the third focus group was held at Creek Side School District. This entire district consists of one school building that is shared among the elementary, junior, and high school students. There were 3 teachers in attendance. Two taught in the junior high and 1 taught in the high school. Due to the small school size and faculty, their attendance represented all but one of the English teachers in that district. Two of the three teachers had been teaching in that district for over 8 years. The third teacher had been teaching there for less than 3 years. Even though this school/district is very small, it is located adjacent to a resort area that contributes a substantial amount of property tax dollars to this district. It is because of this that this district has a 1:1 student to computer ratio. The teachers in this district were very pleased about the amount of technology that is available to them, but felt frustrated at all of the changes from year to year with their technology. Recently, the school purchased three mobile Mac labs. Most of the teachers were familiar only with using desktop computers, so using a Mac posed a challenge. Because the school/district is so small, there is only one teacher in each of the mini-schools that teaches his or her subject to all the grades in their school. For example, there is only one English teacher in the high school who teaches grades 9-11. At the junior high level, one of the teachers teaches literature (along with yearbook and reading), and the other one teaches grammar and spelling (along with science). The participants in this focus group were very receptive to technology discussion and offered intelligent insight into the technology issues at their school.

Overall, participants from the six school districts across three states all share the commonality of being English teachers and working at different ability and accessibility levels with technology. The school districts and the states they are from have been

described to lay the groundwork for the interpretation of the data. It is important to understand the context the participants are immersed in to make a more effective interpretation of the results. The following sections will now describe the results of each research question.

Interview Participants

All of the interviews were conducted through the use of email. There was a total of 10 interviews. Participants represented all of the six districts. All interview participants were sent a consent form, which they had to agree to and return to me before they were sent the interview questions. Each teacher typed their answers to each of the 15 questions, then returned them to me through an email. The invitation to participate in the interviews was made at the conclusion of the electronic survey and as well as at the conclusion of each focus group. I offered to conduct face-to-face interviews, but all of the participants preferred to complete the interview electronically, on their own time.

How Do English Teachers Define Their Responsibility for

Technology Integration?

This section will detail how teachers reported what their responsibility was for technology integration. The first part of this section will explain the quantitative results, the second section will explain the qualitative results, and the final section will compare and or contrast the results from both of these sections. Implications will be discussed in Chapter 5.

Quantitative Results

In order to identify how English teachers define their responsibility for technology integration, 6 of the 12 questions of the survey that focused on this question were designed to collect quantitative data. The first question used a Likert scale that ranged from 1 to 5 (not at all important to extremely important). Out of the 61 teachers who completed the study, 82% of the teachers indicated that they felt it was “very” to “extremely” important that they integrate technology into their teaching as well as have their students use it. Another 16% felt that technology integration was “important,” with the remaining 2% marking “somewhat important.”

The next quantitative question on the survey asked teachers to check all the ways they use technology with their students and in their classrooms. The idea was to find out how many different ways teachers use technology and also what type of assignments their students create with technology. Teachers could check as many categories they identified with.

Table 11 shows the variety of ways in which teachers use technology in their profession. Two answers tied for the most popular (96%): having their students use technology by writing, editing, and revising reports; and for teacher presentations. The next most common use of technology was PowerPoint presentations (90%). Following those, teachers had students use technology for student presentations (88%) and for research (86%). The other uses are displayed in Table 11. There was a possibility of 19 categories that teachers could check as well as seven additional uses that participants wrote in under the “other” option. The additional uses were: digital storytelling,

Table 11

Teachers' Technology Use

Tasks Using Technology	Percentage
Writing, editing, and revising reports	96%
Teacher presentations	96%
PowerPoint presentations	90%
Writing, editing, and revising short assignments	88%
Student presentations	88%
Research	86%
Online testing	68%
Enhanced communication (emails, websites, blogs)	68%
Posters and signs	58%
Reading	56%
Student-created projects (other than writing)	56%
News articles, newsletters, pamphlets	50%
Business letters	36%
Graphs, charts, and tables	34%
Wikis	24%
Other	14%
Movies	10%

clickers (much like a game buzzer, they promote active learning and increase student participation in a game-like format), teacher-created blog, student composed multimedia (songs and videos), digital cameras, digital video recorders, Animoto (a fun online program that blends pictures, video, and text into movies, presentations, commercials, etc.), and a class website.

Next, the survey question asked why teachers used technology. The purpose of this question was to provide an explanation for why teachers felt responsible to use technology. Again, like the previous question, a list of categories was presented and teachers were able to check all that applied. Table 12 provides a complete list of categories and their percentages. Although many categories received very high percentages, the only one that received 100% was because technology “is a valuable instructional tool.” The other high-scoring categories were: “typed assignments are easier to read” (90%), “enhances student and teacher creativity” (88%), “provides tools for the creation of complex, technical, detailed, and/or creative projects” (86%), “teaches valuable job and life skills” (84%), “motivates students to be more involved in learning activities” (82%), “increases academic achievement” (80%), and “helps to accommodate students’ personal learning styles” (80%). About 10% of the responses were placed in an “Other” category and contained statements such as: “It’s the future,” “technology does not decrease planning time,” “students enjoy it,” “allows for critical quality in-class writing,” and “makes my classroom a learner-centered place.”

Another question was asked to find out if teachers were evaluated by their use of technology with their students. Those who are evaluated would have an additional motivating factor (positive or negative, depending on your opinion of technology) to

Table 12
Why Teachers Use Technology

Reasons	Percentage
It is a valuable instruction tool.	100%
Typed work is easier to read.	90%
Enhances student and teacher creativity.	88%
Teaches valuable job and life skills.	84%
Provides tools for the creation of complex projects.	82%
Motivates student learning.	82%
Increases academic achievement.	80%
Teachers can act as a facilitator.	78%
Provides instant access to a wealth of information.	78%
Improves learning of critical concepts and ideas.	74%
Promotes student collaboration.	66%
Makes the teacher feel more competent.	58%
Makes classroom management easier.	34%
Students use it as a productive free-time activity.	34%
Reduces the amount of papers to grade.	30%
Decreases teacher preparation time.	24%
Other (please specify)	10%

use technology. Of the participants, 46% said “no,” 31% said “yes,” and 22% said “sometimes.” Several teachers remarked that technology is definitely something they get graded on as part of their teacher evaluation process. One teacher responded that: “Yes, but they don’t really give support for locating and using devices. In fact, they do a slam-bang job of prohibiting all the really cutting edge stuff.” Another participant answered in the opposite saying: “No, but he [the principal] is extremely supportive when I do use technology. He really pushes it in a positive way, which increases my desire to try.” Another teacher answered in the negative with: “No. Our English department is usually the last on the administrator’s list for technology.”

The next quantitative question asked participants if they are expected to integrate technology into their teaching by their state English learning standards. It is important to know that every state in this study lists the use of technology as part of the English curriculum (“Intermountain Office of Education,” “Prairie State Office of Education,” “Woodland State Office of Education,” April 10, 2010). Only 51% answered, “yes,” while 29% answered “no,” and 19% marked “not sure.”

The last quantitative question in this section asked, “Where does the responsibility you feel for integrating technology into your teaching come from?” Again, participants were allowed to check any categories with which they self-identified. Table 13 shows that the most popular response (90%) indicated that a teacher’s personal drive, or motivation about technology is what propels them and supports them in “feeling responsible.” The next highest category of 60% stated that the “standards that colleges and universities expect from their students” motivates

Table 13

Responsibility for Technology Integration

Reasons	Percentage
Teachers' personal motivation and feelings for technology.	90%
Standards that colleges and universities expect from students.	60%
Public, business, and/or media's expectations on teachers.	50%
Pressures teachers feel from school/district standards.	30%
Pressures teachers feel from state/national standards.	20%
Other.	10%

them to use technology. After that, “public, business, and/or media’s expectations on teachers” was the next most popular answer. The remaining answers were: “pressures teachers feel from school and/or district administrators” (30%); and “pressures teachers feel from state and/or national standards” (20%). The remaining category of “other” was marked 12% of the time. Its answers included a sense of responsibility coming from: students, software programs that administrators expect their teachers to use, and a desire to be a good teacher.

Qualitative Results

The qualitative data were gathered from all three data sources: survey, focus groups, and interviews. Each question in all of the three data collection tools were assigned to specifically gather data for one of the four research questions. The analysis began with sorting the answers from each of the tools onto separate memos and then grouping them together according to which question each pertained to. During the analysis, I created several charts and began comparing the participants' comments. I used the constant comparative method and pulled out similar themes and topics which surfaced multiple times. I also checked for the frequency of how often a similar comment was mentioned and grouped these comments together for added strength. I created a set of memos for each research question for specifically gathering participants' quotes that I felt were representative of the general participant sample. As new themes arose, I constantly compared them to the existing themes, and viewed them all through the lens of Change Theory. I then grouped them according to which research question they best aligned with.

Next, I triangulated the themes from each data set according to the question that each pertained to and analyzed their responses to look for similarities and differences. Similar comments were placed together on a new chart organized with the most common responses on the top and descending down to the least popular, or random comments on the bottom of the chart. For example, if a particular theme was identified from all three data sets, then it earned a spot on the top of the organization chart. Themes that were only found on two of the three data groups were placed further down on the chart, and themes that were only mentioned on one

of the data sets was placed at the bottom. This way, I was able to compare the frequency of the themes and determine which of them were most prevalent, which then provided the most valid answers to each research question.

The results showed that English teachers define their responsibility for integrating technology as stemming from a variety of reasons. Multiple factors take part in creating the motivation (or pressure in some instances) for using technology. The themes pulled from the data include:

- A sense of professional responsibility.
- Being responsible for teaching students about digital literacy.
- Pressures from school and district administrators.
- Pressures and expectations from students.
- It is included in the state core curriculum for secondary English.
- Having good experiences with technology motivates to learn more.
- It is a “must” knowing how to read, write, edit, research, present, and create using technology if teachers want their students to be able to compete in today’s society.

Even though using technology is mentioned in the state core of each of the participating districts, most participants agreed that the responsibility to learn about technology was the teacher’s. “If I plan on using it in my classroom, then I need to be able to give sound reasons as to why and I need to know how to use it,” commented a participant. Another teacher who feels the responsibility to use technology said: “I’ve learned that I can’t wait for someone else to provide training. If I’m interested in something, then I’ve got to go figure it out.” This comment

shows a sense of personal responsibility that many teachers feel they cannot wait to learn about technology only when their school provides an occasional workshop. They need to take the initiative to learn technology skills on their own.

Furthermore, the theme of being responsible to their students was very popular. Many English teachers realize that their students are digital natives and have grown up using technology on a daily basis for personal enjoyment; therefore, it is the responsibility of the teacher to show students how to utilize technology in a constructive way. The pressure of teaching students to be “digitally literate” is a major responsibility of English teachers, as well as a challenging task. “Students expect to be able to use technology,” another participant noted, “denying them the opportunity to do so is a major disservice.”

The sense (or pressure) of responsibility in technology also comes from school principals, district officials, and state and national standards. Teachers are constantly subjected to learn new software and/or hardware by their administrators (such as an online grading programs, using Mac laptops, etc.). Furthermore, administrators want to see teachers using technology when they visit their classes to conduct evaluations. Technology use goes hand-in-hand with what many teachers, administrators, and researchers consider to be “good teaching practices” therefore, teachers want to be seen using it, but likewise, teachers want to see their administrators model good technology skills too. Accordingly, one teacher commented that:

Researching about new technologies should be the responsibility of the administration and district. Teachers do not have enough time for that. Principals should present possible technologies, gather input from teachers, and

then make decisions about which ones to adopt for the school. (R. Smith, personal communication, March 10, 2010)

Teachers commented several times that not only do they have a responsibility to stay current with technology, but their principals and district administrators do as well. Another frustrated teacher shared that even though his administration evaluates him on his technology use, “they don’t really give support for locating and using devices. In fact, they do a slam-bang job of prohibiting all the really cutting-edge stuff.” During a focus group, another teacher shared her experience of being punished by the administration when she had her students use Google as a web browser. At that time, their school had set up new computer labs, but did not put an adequate firewall in place and subsequently, students were able to access images that did not relate to school content. Because the administrator did not take the responsibility to understand how Internet security protocols worked, the teacher was unfairly reprimanded and the vice principal banned the use of Google for the entire school. Other participants similarly mentioned that the responsibility to use technology does not solely rest upon teachers. If schools, districts, and states are placing expectations upon teachers to know how to use it, then they themselves should be knowledgeable about technology integration as well and what they need to be providing for their teachers to help them meet their expectations and standards.

The theme of motivation was also noted. Many teachers expressed the belief that their feelings of responsibility provide additional motivation to seek out new learning opportunities or a more willing attitude to adopt new technologies. “Teachers need to be willing to learn before the administration can provide, or

nothing will happen,” commented a participant. Several remarks from one of the focus groups mentioned that when teachers feel a sense of responsibility, they are motivated to learn about technology and it shows because they have taught themselves how to use it, have learned about it from colleagues, have taken college courses on it, attended workshops or conferences to learn more, and have also participated in what their schools and districts have had to offer. Incidentally, another teacher remarked about how her administration provides additional motivation to use technology because “he is extremely supportive when I use it. He really pushes it in a positive way, which increases my desire to try.” When handled correctly, administrators can have a constructive influence on the motivation levels of their teachers to learn about new technologies.

What Kind, Quality, and Quantity of Technology Professional
Development Do Schools and Districts Provide
for Secondary English Teachers?

The purpose of this question was to determine the kind, quality, and quantity of TPD that is being offered by schools/districts. Are schools/districts providing ongoing training in technology that their district Technology Plans purport? Are the kinds of TPD offered being defined as useful and productive? Are teachers receiving enough? Are they happy with the delivery and methods being used to teach technology? Are there areas that could be improved? The data presented here

will hopefully answer these questions and provide some context for teachers' experiences with their school/district's technology professional development.

Quantitative Results

Section III of the electronic survey contained a total of 12 questions about the types, quality, and challenges of the technology professional development their schools provide. Ten of the twelve questions were quantifiable. Four of the questions required simple yes or no responses, three required Likert-type responses, and three required selecting a specified amount of time. The remaining two open-ended responses, and used in the qualitative section. Sixty-one teachers responded to the electronic survey, which was the only tool used for gathering quantitative data.

English teachers were very critical about the kind, quality, and quantity of TPD that was being provided by their schools/districts. When TPD does occur, which is "never" to "rarely" according to 88% of the survey participants, it is poorly designed. The most common TPD that the participants took part in was training on their school's online grade book, My Access (an online writing tutorial program), an occasional webpage class, or training on one of the standard Microsoft Office programs.

Since school/district TPD is only one of several methods for obtaining technology skills, I asked some follow-up questions to help explain the variety of methods from where teachers were obtaining their technology skills, formally and

informally. According to Table 14 the majority of teachers (95.7%) taught themselves how to use technology, while the next highest ranking was from district in-service courses (71.1%). Teachers also reported receiving TPD from professional development courses, workshops, or conferences (67.4%), university courses (48%), and preservice courses as an undergraduate student (45.7%). About 20% of the participants marked “other” and wrote that they received TPD from a variety of sources: media specialists, graduate school classes, colleagues, family members, grant programs, national conferences, and from reading research.

Another follow-up question that I asked teachers was whether they had ever participated in TPD that was specifically designed for English teachers. Only 40% had. Teachers, who had participated in some form of TPD at the district level indicated what kinds of classes that were offered. The most common type of technology classes were ones that were not content-specific, and any teacher could attend from any content area. Most of the classes were very basic (62.5%), where teachers with little or no technology experience were taught basic computer skills. Only 35% of the participants marked that their district offered classes that were content-specific for English teachers. Still, 12.5% responded that they are not aware of any TPD that their school districts provide (see Table 14).

Participants were also asked several questions about the quality of TPD they participated in or are offered. The majority of questions that evaluated this were qualitative; therefore, more details about participants’ responses on this topic will be given in the following section. When asked to rate their school or district’s TPD,

Table 14

Ways in Which Teachers Learned About Technology

Reasons	Percentage
Self-taught.	95.7%
District in-service courses.	71.1%
Professional development courses, workshops, or conferences.	67.4%
Basic level district TPD courses.	62.5%
University courses.	48%
Preservice courses as an undergraduate student.	45.7%
TPD specifically designed for English teachers.	40%
District content-specific TPD courses.	35%
Other (media specialist, graduate school, colleagues,, friend, etc.).	20%
Unknown if district offers TPD courses.	12.5%

Note. Teachers were asked to check all categories that applied to ways they have learned about technology.

teachers did not give high scores. Teachers could only choose one answer for this question, and the most popular response was that of “average quality” (39%). Nearly 32% graded their TPD as “good,” and 12% offered “excellent” (see Table 15). About 19% indicated that TPD was poor or very poor.

The results in Table 15 must be qualified in that only 42 participants responded. This could be due to the fact that the other 19 participants may not have participated in school or district TPD. In a follow-up question, participants were asked how often their school or district provides TPD courses, and 19 participants marked “never.” Eight participants marked that they receive TPD from their school or district at least one or more times a month; five marked that they receive TPD one or more times a term; 13 receive TPD one or more times a semester; and 56 participants receive it one or more times a year from their school or district.

Finally, 88% of the teachers were not satisfied with the amount of TPD they were currently receiving and would like to have more professional development time spent on learning new technologies. Of the teachers, 90% marked “yes” when asked if they would be more likely to attend a TPD if it was specifically designed for English teachers. In relation to an earlier question, it is interesting to note that teachers reported that the majority of the classes offered by their schools and districts are not content-specific and are very limited in scope.

Table 15

School and Districts' TPD Quality Ratings

Reasons	Percentage
Average quality.	38.1%
Good quality.	31%
Excellent quality.	11.9%
Poor quality.	11.9%
Very poor quality.	7.1%

Qualitative Results

Teachers were very vocal in the focus groups and interviews when asked about the kind, quality, and quantity of the TPD that their schools/districts offer. Teachers were not pleased with the kind of TPD offered by their schools/districts. They do not prefer the “catch-all” type sessions where all faculty members of varying ability levels are grouped together to learn a similar skill. When asked specifically what kinds of TPD were offered, the majority of focus group participants as well as interview participants remarked that since they have so few offerings of any TPD besides their usual grade book training, that it was hard for them to answer. Other than learning the district’s online grading program, the most common response from teachers in the Aspen Grove and Riverview school districts was that they participated in the My Access computer

writing program, yet when they talked about the program, most of the teachers said they were very “disenchanted” with the program because “it made a lot of promises it could not fulfill. Besides that, students quickly figured out how to fool the program.”

The only other kinds of TPD mentioned that the English teachers participated in at the school or district level involved teachers who also taught a reading class and were using the Read 180 program. Apparently, this software is tailored to fit the individual students’ ability levels and requires several trainings each year to learn all the functions of the program. Other types of TPD training involved learning a new piece of hardware, such as a document projector, or some other technology tool. Only one school mentioned this type due to the fact that the school was new and infused with large amounts of technology, and as a result, the faculty had to be trained on how to use each item.

The quality of school/district TPD did not receive many positive comments. At one focus group, the members agreed that at their school/district, the TPD offered was “discombobulated at best.” They were frustrated that instructors never gave out handouts, the instructors could be hard to understand or follow and usually went too fast for novices in technology. When asked what a typical TPD session was like, one teacher commented that: “They stand and show what to do on a screen, but do not offer individual help. There is almost no time for questions and answers, and teachers usually leave feeling like it was a huge waste of time.” Another teacher in this same focus group shared a current experience when the faculty was gathered to learn about their new online grade book. The instructor was not able to make it, so instead of sending a replacement, or rescheduling the meeting, he held it over speakerphone. Few of the

teachers could follow what he was talking about. A teacher in the computer lab was asked to point items out as he mentioned them, but even that teacher got lost quite frequently. “I just ended up working on my own projects and checking my emails,” said the teacher, “Since I got lost and couldn’t hear him, I gave up trying, but I still had to sit there to get counted for professional development time.”

Teachers in the focus group at Snowy Pines School District (which has the new high schools), were not pleased at their quality of TPD, even though they have to participate in it often. I asked what a typical TPD was like:

It usually happens during collaboration time. The presenter usually uses a document camera and an LCD projector and just walks us through it. We don’t have our own equipment, so we have to sit, watch, and take notes. It really is just a glorified lecture. Handouts are usually not provided. Most of the time, we forget what we were supposed to learn. There is rarely time to ask questions, get personal help, or someone to provide assistance when we begin to experiment with the technology on our own. Usually, we just have to figure out how to work most of the stuff on our own time. What’s even worse is that we have the same trainings over and over because teachers are not learning how to use the new technology and yet we still all have to attend them because the administration takes roll. It doesn’t matter if we already know how to do what we are being trained on; we still have to go and waste our time. (L. Fuller, personal communication, April 5, 2010)

Even though teachers who participated in the interviews hardly have TPD in their schools, they shared similar comments about the quality of the TPD. Besides being trained on the grading program, they have not learned any new technology skills as a result of a school’s professional development program. They mostly acquire new skills through a variety of ways on their own.

In regard to the quality of their schools’ TPD programs, most participants did not consider their districts as necessarily “progressive” nor “behind the times” either,

but pretty much at an average level. They always cited the lack of money as a major inhibitor to not having more technology or better TPD. Teachers desperately want it, but are not receiving it. They felt that their administrations were generally (for the most part) supportive of their use of technology and would be willing to provide additional training if the resources were there.

When asked about how often their schools provide TPD, teachers in both the interviews and in the focus groups (excluding Snowy Pines), remarked that “they may have it once per year or even less.” Unless it was training for their My Access or Read 180 program, teachers generally were not exposed to new or innovative uses of technology at their school level. Since I was receiving this answer over and over, but I also knew that teachers were learning about new technologies, I asked in my interviews how they were learning their technology skills. Teachers in the focus groups, surveys, and interviews all said they learn technology through:

- Colleagues, family
- Personal creativity, experimenting
- Research
- Online teaching resources
- Conferences, workshops
- Graduate school, university classes
- Reading books, literary magazines

The participants in this study indicated that if they are not receiving TPD from their schools, then they will learn how to do it elsewhere.

Given How English Teachers Define Their Responsibility for Integrating
Technology into Their Teaching, How Adequate is the Technology Professional
Development Provided by Schools or Districts?

This research question was dedicated solely to evaluating the adequacy of programs that schools/districts are providing for their teachers. My purpose was to provide a clearer picture of the reality of the TPD in which teachers participate. Whereas teachers were asked in the previous research question about the quality of their TPD, this question's purpose was to delve deeper into who makes the decisions about TPD, and what are the challenges, frustrations, or successes that teachers are currently experiencing with the efforts of their school/district's technology offerings.

Quantitative Results

Data to answer this question were collected from answers to several of the closed- and open-ended questions on the survey. According to survey respondents, the decisions about what gets taught at a technology professional development are made mostly by district personnel 54% of the time. Next to them, teachers make the decisions about 26% of the time, and the other 21% of decision-making is divided among principals, media specialists, or department heads. For 62.8% of the survey participants, TPD is provided by their districts, not by their schools. For example, in some districts, teachers are able to view their district websites to find out about any classes their district technology department might be offering. Usually these classes are offered after school and last about an hour.

The survey asked participants what qualities or characteristics constitute a valuable technology professional development. Answers included having time provided to practice with the new technology, content-specific technology courses, hands-on training instead of listening to a lecture, a knowledgeable instructor, adequate follow-up, and someone to offer support when experimenting with the new hardware or software. These answers align with their responses that 80% of the teachers thought it was reasonable to expect content-specific TPD. Likewise, teachers were asked if they are receiving adequate follow-up training or support when using new technologies, and 81% of them marked that they are not receiving any.

Furthermore, teachers were asked if it was reasonable to expect content-specific technology training, and 80% of them said “yes.” One teacher wrote that attending sessions that are so generalized leaves him/her without any ideas of how to use the new form of technology and would rather that presenters offer content-specific examples when learning how to use it. This question had a follow-up question of “why or why not,” referring to having a reasonable expectation of content-specific TPD. One teacher responded with, “It’s not that big of a deal.” Another teacher remarked that:

There are probably experts out there who have had a lot of success with technology in English classrooms. I think if the district expects us to meet state standards it’s only reasonable to expect that they would provide instruction as to how best to go about it. (S. Broadbent, personal communication, March 28, 2010)

Over half of the teachers’ constructed responses indicated that they would rather have TPD be more aligned with the curriculum of the teachers who participate in it. Several teachers were adamant that their districts provide TPD for English teachers because there are questions about technology in their state core exam. Many survey

participants were displeased at the lack of technology courses that are beneficial to their classroom.

The adequacy of TPD was also tapped by several survey questions. One asked teachers to rank on a 1-5 scale (inadequate-to-extremely adequate) the adequacy of their TPD. The most common answer was “somewhat adequate” at 54.5%. In addition, 43.2% of participants believed that they are not receiving the right types of TPD that will help them improve their integration of technology, and 65% of participants marked “no” when asked if their school/district provided sufficient TPD opportunities. Hence, it is no surprise that the majority of survey participants would like to participate in additional TPD at least once a semester or more and have sufficient follow-up support and training.

Over half of the participants did not consider that their school/district makes a sufficient effort to be innovative and current with new trends in technology, nor are the administrations making acceptable efforts to learn about technology in order to be supportive when teachers request to use technology in new ways. One participant remarked that: “We have some ‘kicks and giggles’ kind of professional development in technology, but we haven’t pulled together a plan to move all of us together to the same point on the horizon. That needs to happen,” and it takes leadership to do it. Another teacher critiqued the lack of focus at the administrative level: “Administration wants the cheapest way to be able to say they use technology for the sake of it, not for an effective means of teaching language arts skills: reading, writing, and inquiry.” For instance, administrators have been known to require their faculty to sit through a class on how to set up a teacher webpage and then expect them to keep it updated, even though students

and parents rarely, if ever access it. In this instance, administrators can boast that their entire faculty has class web pages, but they are not actually effective, nor do they really support curriculum goals.

Qualitative Results

During the focus groups and interviews, I asked teachers to share what their typical TPD classes were like. Since so few of either group had actually attended one at their school or district level (apart from online grade book training), they had little to share on this topic. Their defense for not participating in any school TPD was that their administrations offered zero to only a few classes on technology every other year or so. When they do actually have one, it is never content-specific, so teachers walk away with very few ideas of how to integrate the new technology. They felt that TPD was not a big priority with their administrations. “What we get are mixed signals,” said one participant, “our administrators want us using technology and being innovative, but at the same time, they do not provide any staff development.” Another participant asked, “When are teachers supposed to find the time to learn about technology if administrations are not making it a priority and setting aside time for it?” Other comments about lack of administrative support were shared, such as, “We don’t feel pushed to develop new technology skills. Administrators want to see us using it, but in actuality, do very little to teach us how;” and, “District people don’t really want us to use technology because it introduces complications in managing the students, so they say one thing and mean another.”

Several focus group and interview participants felt that their administrations do not know or understand their current frustrations and challenges with technology. However, some of them also accepted part of the blame because they were not always proactive enough to communicate their needs to their leaders, they were afraid to talk to their administrators, or that they lacked a safe environment to communicate their needs in a way that would not be viewed in a negative light. One participant remarked that: “In my experience, administrators are reluctant when approving technology requests, or put them on the back burner, so to speak, and forget about them.” Another teacher shared an experience asking for a digital camera at a new, technology infused high school. Her principal told her to borrow one from a different department, or save her teacher supply money (which would take the entire budget). This teacher was very surprised because all teachers’ classrooms in that school seemed to be overflowing with technology tools, and she felt certain that a digital camera, one she could not afford, would be granted. In contrast, some participants commented on having very supportive and positive administrators who do try to provide technology when it is requested. Regrettably, this is not common in most schools due to lack of funds or other administrative reasons to which teachers are not privy.

Also in the interviews and focus groups, participants were asked to share their opinions about how adequate their TPD was, and once again, teachers said that they seldom ever received any technology training they would actually like to learn. They were almost never consulted about what was taught in a technology training. Over and over again, teachers mentioned wanting to have much more input and to be consulted with choosing what technologies to learn. Decisions are usually made at administrative

or district levels without their contribution about what they would like to learn. Participants remarked that they do not have a lot of time to try to figure out “how to use new technology skills on their own and would prefer that a technology class offer suggestions, ideas, and examples” while they learn about it.

The majority of the focus group and interview participants commented that their TPD is less than adequate because the needs of the learners are not considered. When the instructor stands at a screen in front of the faculty the entire time and does not pause their lecture long enough to walk around and make sure that all the faculty members are on the same page, it results in frustrated teachers who get lost and eventually give up trying to learn anything. Several participants wondered why teachers, when using technology with their students, are expected to be facilitators and rove around the room visiting and guiding students, providing notes, and allowing time for student to work on projects, but the instructors who are brought in to teach teachers are not held to the same expectations. Teachers know good pedagogy, so when classes in technology are poorly planned and taught, administrators and in-service teachers cannot expect to have great results.

Finally, time was another notable theme that came up quite frequently. Teachers do not consider a TPD session as adequate if they do not at least have time to practice the new skills. Teachers were not satisfied with the general design of their districts’ TPD because there was seldom, if ever, any time provided where teachers had an opportunity to practice with the technology before trying it out in front of students. Another problem with time is that teachers do not like having to schedule a substitute so that they can go take a district class. “I refuse to attend training meetings if it means I

have to schedule a sub. It isn't worth it," said a focus group member. Teachers prefer to have TPD last about an hour to an hour and a half when it occurs during the school year. Many teachers remarked that they would prefer to take technology courses in the summer so that they can have ample time to practice with the new technologies and have a trial-and-error period in front of colleagues instead of students.

What Recommendations Do English Teachers Have to

Improve the Content and Delivery of Technology

Professional Development?

This question's purpose was to give English teachers a voice to be able to share their suggestions of how to improve the current state of the technology professional development at their schools/districts. Quite often, teachers do not have an opportunity or do not feel comfortable enough talking with their administrations about their needs. The intent of the question was to gather ideas, suggestions, and recommendations from teachers about how their needs could be better met in regard to learning about technology. Ideally, these recommendations would provide the groundwork for capacity building as well as to improve the engagement between teachers and administrators. Data to answer this question were collected from teachers' responses to six questions on the survey and from their open-ended responses during focus groups or interviews.

Quantitative Results

As shown in the previous section, the majority of participants believe that it is reasonable to expect content-specific TPD. English teachers would like to have more opportunities to develop their technology skills through technology training that directly relates to their curriculum. Due to the nature of the question, the majority of the survey items in this section were open response; therefore, their answers were grouped and coded according to topic and number of times mentioned.

The survey asked teachers to list their top three choices for technology professional development classes they would like to take. Teachers were able to write in their answers instead of choosing items from a list. There were over 20 different topics that teachers suggested with the top five resulting in:

- Creating classroom websites
- Learning to do blogs, wikis, and podcasts
- Learning how to create digital videos
- Learning more about desktop publishing
- Knowing how to use technology to enhance collaboration and communication

Other popular suggestions included learning more about interactive whiteboards, online writing instruction, Internet resources, multimedia presentations, online publication, and Internet research.

topics

Table 16

Additional TPD Course Preferences

Courses	Response Percent
Multimedia projects.	76.6%
Enhanced communication (blogs, podcasts, calendars, etc.)	75.6%
Interactive whiteboard technology.	69.6%
Digital Video.	69.2%
Website creation.	69%
Online research and database tools.	68%
Creating online tests.	64.4%
Desktop publishing.	63.2%
My school's online grading program.	58.6%
Microsoft Office software (Word, Publisher, Excel, etc.)	54.4%

Additionally, teachers were asked on a separate question what their top three technology professional development courses they would like to recommend to their district or principal to provide. This question allowed participants check all the they were interested in (see Table 16). It is interesting discover the high complexity of classes the participants desire to learn about and to note the high percentages which reflect the popularity of the choice.

Another major issue that surfaced time and time again throughout the surveys, focus groups, and interviews, was the fact that teachers wanted to provide input about the choices of TPD that are provided. They want to be consulted about the types of technology classes they have to attend for professional development as well as the kinds of technology classes being offered at the district level. Teachers expressed repeatedly that the majority of the TPD they attend is not challenging enough or so poorly taught, that they walk away feeling like they wasted their time. Over 72% of survey participants indicated that they want improved collaboration among teachers, administrators, and district officials when making decisions about what technology classes are taught, creating an equitable budget for technology, deciding who should receive the TPD, and the amount or frequency of TPD classes offered. One participant remarked that he/she, “would also like to include parents on the committee, because they are consistently supportive of helping their students find access to new technologies.” Another participant offered this suggestion: “Please include students in these discussions. Currently, they are our experts, and we are omitting their input and experience from this dialogue.” Still another participant commented that:

Teachers do not want to be forced to use a particular piece of technology or software program [referring to My Access] that they do not approve of. There is no teacher buy-in, and therefore, the program or technology will not be used as intended. (N. Morales, personal communication, April 3, 2010)

Even though it is customary for administrators to decide how professional development time will be used, teachers are asking to please be allowed in the decision-making when it concerns their use of time.

Another important issue was that of how accessible and available TPD is for teachers. Participants want to be able to learn new skills without sacrificing teaching

time to learn about it. Of the teachers who took the survey, 66.7% indicated that they are not receiving enough TPD from their schools/districts. Several participants commented that they do not receive any aside from their usual training on their grading program. Other participants urged that their districts should increase their efforts to advertise their technology classes more. Teachers were also asked in a separate question about the amount of time they are willing to spend at any given TPD class (see Table 17). The shortest amount of time selected began at 1 hour. Overall, teachers were willing to spend anywhere from 1 hour to more than 2 hours on a single TPD session.

Participants mentioned in the “other” category, that the amount of time to spend on a class would also depend on the complexity of the technology and the ability of the teachers taking the class. Teachers also suggested having separate classes for beginners and advanced users. That way, time is not wasted for those who can move more quickly through the content and likewise, time is wasted on those who get overlooked because they are going too slowly. Finally, teachers mentioned that if they were willing to spend large amounts of time learning new technology skills, they would appreciate receiving college credit or licensure points.

When asked about the amount of time teachers would be willing to spend on a follow-up training, their choices were more varied (see Table 18). Answers ranged anywhere from 30 minutes (15.9%) to more than 2 hours (6.8%). The most common answer was for 1 hour (50%).

Table 17

Amount of Time to Spend on a TPD Session

Amount of Time	Response Percent
30 minutes.	0%
45 minutes.	0%
1 hour.	25.7%
90 minutes.	20%
2 hours.	14.3%
More than 2 hours.	17.1%
Other (summer workshop, Saturday workshop, etc.)	22.9%

Teachers were more flexible about when to hold follow-up trainings and seemed more willing to have a short, 1-hour session after school or preferably during collaboration time (if their school offered it). Having follow-up training was a very important issue that teachers mentioned not having enough of. Follow-up sessions would allow teachers an opportunity to collaborate and share ideas about what they are learning about, as well as to be able to ask questions and get some help on areas with which they are struggling.

Table 18

Time Willing to Spend on Follow-up Training

Time	Response Percent
30 minutes.	15.9%
45 minutes.	6.6%
1 hour.	50%
90 minutes.	14.7%
2 hours.	6.8%
More than 2 hours.	5.9%

When participants were asked about ways to improve access to technology, teachers offered several suggestions, such as having more access to technology in the forms of computer labs, mobile labs, computers in the classroom, and in making a greater effort to approve requests for technology purchases.

Teachers also indicated in the survey that they want fewer restrictions in regard to what they can access on the Internet, lightening filter restrictions for teachers, allowing them to access blogs, use iPods in the classroom, and in being more open-minded when a teacher is trying to be innovative with a new form of technology. “Administrators need to be more tech-savvy. They need to educate themselves on new technologies so

that they are not opposed when teachers are experimenting with new and creative uses of technology,” commented one participant.

Qualitative Results

To find out if English teachers felt that their administrations considered their technology needs on the same level as other departments in their school, I asked focus groups if they felt that the distribution of technology was equitable throughout their schools. Every focus group agreed that definitely, the distribution of technology in their schools is not equitable. Teachers feel very frustrated that some departments seem to get all the new technology, while others, such as the English department, receive little to no new equipment or maintenance. “Technology monies should be used in an equitable manner so that each department is receiving the advantages and benefits of technology,” commented the department head at one school. Besides not having enough access to classroom computers or having an equitable distribution of technology money, teachers mentioned again that they would like less Internet restrictions. As mentioned in the previous quantitative section, teachers are feeling very frustrated that their Internet permissions are as strict as those of their students. They mentioned wanting to be treated as a professional and not as a student when it comes to websites they can access on the Internet. One teacher, in particular, shared her frustrations of not being able to access YouTube at school. More than once, she has had the hassle of having to spend her time at home downloading and saving videos so that she could share them with her students as part of her lesson. She commented on behalf of her department that:

We know that there are a lot of places on the Internet that make administrators and district supervisors nervous for allowing students to view, but as teachers, we should have more liberties and be treated more professionally when it comes to restricting sites. (R. Montgomery, personal communication, April 12, 2010)

Banning sites such as Facebook, YouTube, iTunes, Blogger, Google Images, game sites, and student access to email accounts is not going to stop students from finding other ways to entertain themselves on the computer if that is how a teacher is allowing the computer to be used. Teachers discussed that there are multiple educational uses for the sites just mentioned, which were the most common ones, pointed out during the focus groups and interviews. When districts go ahead and ban these sites for teachers, as well as students, it sends an unspoken message that they are not trusted. Participants mentioned that this would be another good reason to have better communication and collaboration between teachers and technology decision-makers.

There were several recommendations and suggestions made to help make better use of teachers' time. Teachers shared that they are always feeling pressured for lack of time and get very frustrated when they have to attend a professional development meeting that was not beneficial. When discussing time, they mentioned two separate issues: (1) the "time" it takes to learn a new technology; and (2) the "time" when TPD is scheduled.

First of all, both teachers and researchers agree that when learning a new technology, it takes a certain amount of time to learn depending upon the difficulty or complexity of the task. Participants mentioned administrators having unfair expectations of technology adoption when adequate amounts of time are not set aside to learn it. For example, meeting once a term or once a semester may not provide sufficient exposure and time to truly learn how to perform a new technology skill. Even

more so, a half-day class during a professional development day may not provide sufficient time either, especially if there are no follow-up sessions scheduled in a timely manner. Sometimes, waiting until the next scheduled professional development day is too long to wait to get help, ask questions, or receive support when learning to use new hardware or software.

Secondly, teachers in this study do not want to attend TPD classes either right before or right after school. These are very busy times for teachers and they get frustrated when an opportunity to learn about a technology they are interested in is offered during a time when their priorities are dedicated to preparing for class or helping students after school. Teachers commented that: “[T]hese are very stressful times, right before and right after school. Teachers are either trying to get ready for their day, or preparing for the next day by grading papers, entering grades, tutoring students, or meeting with parents or colleagues.” Besides being pressured for time, a technology professional development course needs to be structured so that there is ample time during the class to not only watch what can be done with it, but also to have time to experiment with it. Participants said that they prefer to have a TPD class scheduled on a professional development day or in a summer institute, when they are not experiencing their regular pressures of the school day. One interview participant suggested that:

Districts should require summer institute classes that teach technology, so everyone will learn new skills and teachers would have time to experiment, receive support, and discover ways to integrate it. During the year, they could meet for short, follow-up courses. We need not only time in the training to learn new programs, but time to put it to use too. (N. Castañeda, personal communication, March 18, 2010)

By offering TPD during times when teachers are less pressured, there is a greater chance of success and better development of technology skills. Teachers need time for “trial and error.”

English teachers in this study were asked in the survey, focus groups, and interviews about what technology skills they want to learn more about. The teachers were not asking for classes that taught basic skills, but for ones that were more advanced and required some tech-savvy skills. They not only want to learn more advanced skills, but want hands-on classes and to be shown how they can integrate the technologies into their curriculum. Teachers requested classes on: interactive whiteboards, Google docs, class websites, digital videos, how to use netbooks (a more compact, simplified version of a laptop), create podcasts, and in multimedia.

Equal access to computers and equipment was another important theme. The majority of the participants shared their frustrations with not being able to have their students use computers, digital cameras, or other technologies when they would like. Typically, there are a set number of computer labs at each school and they are available on a first-come, first-serve basis, which means that the teachers are not able to use computers with their students as often as they like because there is such a high demand for time in the computer labs by teachers in every department. “Every English classroom should have laptops. That would be amazing,” said a participant. The exceptions to this situation were the focus groups at Snowy Pines, Creekside, and Aspen Grove. All three mentioned that they have a computer lab they share with the other teachers in their department and that they have first access to before other departments are allowed to sign up to use it. With enough planning ahead of time, most

teacher participants felt that they could usually get in to use the computers when they want to. Typically, there are a set number of computer labs at each school and they are available on a first-come, first-serve, basis, which means that English teachers are not able to use computers with their students as often as they wanted. “Every English classroom should have laptops. That would be amazing,” said another participant.

Several suggestions were made about ways to improve a TPD session, which would result in higher levels of satisfaction and improved learning. “Teachers know what good pedagogy looks like. When we are expected to be ‘trained’ or ‘taught’ anything, the least they [administration] could do is to make sure the teaching is done professionally,” said one participant. Suggestions included:

- Content-specific TPD (teach specific classroom applications).
- Hands-on training (no more “glamorized lectures”).
- Working equipment (teachers can log-in, Internet works, etc.).
- Handouts (to be able to refer back to after the training).
- Knowledgeable instructors (who understand good pedagogy).
- Attentive pacing (ensuring everyone is in the same place).
- Provide time for practice and experimentation (trial and error).
- Proper infrastructure (a person to help with technology issues).
- Follow-up sessions (to be held in a timely manner).
- Support from administration (to provide desired TPD, and to allow creativity).
- Collaboration time with colleagues (time to share and ask questions).

Each of these suggestions was made in all three groups of data, which represents the voice of the English teachers who are asking for a change to be made so that TPD can be more effective and beneficial for all faculty members. These suggestions, along with the recommendations to have a more equitable distribution of technology; allow for teacher input, provide a better support structure, grant additional access to technology, and to have an improved attitude by those in charge to lighten restrictions and allow teachers to experiment with technology more, would all be methods of meeting English teachers' needs in technology.

Summary of Results

This chapter presented the background and context of each state where the six school districts reside. Information was provided about each state's technology plan, their education budget, their graduation rate, as well as their technology grade. District information included the student/teacher ratios, the per pupil expenditures, diversity rates, school operating budgets, and any Technology Plans that were available. The contexts for each district were described in detail to be able to understand better the current challenges and environments that the participants are coming from.

The second section of this chapter provided the data analysis for each of the four research questions. The data for each question were divided into the quantitative and qualitative results. The quantitative descriptive statistics added support and essential information to the qualitative results in this descriptive study.

English teachers agreed that they have a responsibility to integrate technology and therefore, needed to learn how to use it. They stated that they are not only held accountable to their administration, but to state standards that are tested in their core curricular exams. Even more so, teachers felt a huge responsibility to their students, who being digitally naive expect and want to use technology in the classroom. Because of the responsibility they feel towards technology integration, teachers have had to seek out a variety of ways to learn about it. Much of what they reported about the TPD at their school/district level was “inadequate” and a “waste of time.” Teachers reported spending their own time and money attending conferences, purchasing their own equipment, and participating in conferences and university classes to learn about new technologies.

The teachers also mentioned that they obtain a lot of their ideas and support for technology from their colleagues, but not so much from their administration. Teachers felt that the responsibility to learn about technology does not only lie upon their shoulders, but also on those who control their professional development time. School administrators and district officials tend to make the bulk of the decisions when it comes to what will be taught, who will teach it, how long it will last, and who will attend it. Since they control how teachers’ professional development time is spent, then they need to make equal efforts to stay abreast of new forms of technology, good pedagogical instruction of technology, and be role models in using technology.

The kind, quality, and quantity of technology professional development that is currently being provided for English teachers is insufficient as well. It was difficult for participants to describe or critique the kind of TPD being offered because most of them

participate so seldom in one at the school or district level (aside from the teachers at the new high school). The most popular TPD came in the form of online grade book training, which is important, but does not instruct teachers on how to integrate technologies into their classrooms. Teachers also described the poor quality of instruction that occurs during TPD. They cited examples of instructors on speakerphones, delivering the session in a lecture format, not providing handouts, not offering hands-on training, or not ensuring that all teachers were keeping up with the pace of instruction. Teachers were frustrated that TPD is not more content specific and that teachers at varying ability levels are all grouped together. Participants indicated that they were very willing to learn about new hardware, software, Internet resources, and applications, and would be willing to attend training sessions on them if scheduled at appropriate times. This willingness to learn about new technologies was evident when they reported taking classes, attending conferences, or spending individual time teaching themselves about technology. Some of the participants in this study have participated in district courses occasionally, and have rated them as “average” in content and delivery.

Teachers were also asked to evaluate the TPD provided by their school districts. Results showed that participants were not satisfied with what was being offered because either there really was not any TPD offered, or that the classes were not advanced enough. Participants wanted to have an opportunity to provide input and make decisions about TPD, technology budgets, what technologies are adopted by the school, and how often schools/districts should provide TPD and follow-up trainings. When teachers did have TPD at their school, they reported that it was more of a lecture, where faculty

members were expected to sit, watch, and take notes. This type of training was frustrating because it did not provide time for teachers to experiment with the new technology, or even hope to take enough notes so that they could duplicate the technology demonstration on their own. Teachers additionally felt that monies spent on technology were not equitable and that most administrations did not give equal priority to providing English teachers with technology as they do other departments.

Finally, teachers were asked to offer recommendations and suggestions for ways to improve the TPD at their school/district levels. In addition to having more input about technology decisions, more available access to computers, and more equitable distribution of technology funds, teachers wanted TPD that followed good pedagogy. They are highly favorable about having TPD be content specific that would show examples of classroom integration. Handouts should be provided and instructors should be aware of their pacing, so as to not leave novice learners behind the others. When possible, teachers would prefer to have classes offered at more advanced levels, so those who are more tech-savvy can learn more complex skills at their own pace. Instructors should not teach about technology in a lecture format, but have it be hands-on and provide ample time for trial and error, an opportunity to ask questions, and receive support. Teachers are willing to spend time in the summer learning about technology, which would provide a pressure-free environment, free from the daily stresses of teaching, so that they could have time to experiment with what they are learning. The participants also suggested providing TPD during professional development days, instead of trying to squeeze in time before or after school.

The role of the administrator was mentioned throughout all four research questions. Their position places them in a crucial role, which determines, for the most part, what TPD (if any) is offered, how much money to spend on new technologies, and how often it is provided. Participants in this study expected their administrators to take personal responsibility to learn about new technologies, so when teachers are experimenting and being innovative, they are supported instead of denied. Teachers also wanted their administrators to lighten their Internet restrictions and be treated in a more professional manner. Finally, teachers wanted their administrators to solicit their input when making decisions about technology. They want to be given an opportunity to communicate their needs and what type of TPD they would like to learn about.

In conclusion, English teachers in this study have a strong sense of responsibility towards technology. They seek out a variety of ways to learn about it. The current programs in place at their schools/districts are not adequate. They desire more advanced TPD opportunities to learn things such as webpage design, digital video, and how to create multimedia projects. They would like administrators to also have a sense of responsibility to learn about new and innovative uses of technology, as well as provide more technology learning opportunities. Teachers would like to provide input when decisions about technology are being made. Further discussion and application of these results will be presented in the following chapter.

CHAPTER 5

DISCUSSION

Introduction

This chapter discusses the results of this study focusing on English teachers and how their needs in technology professional development (TPD) are being met. The purpose of the study was to: (1) define how English teachers define their responsibility for integrating technology into their teaching; (2) explore what kinds, quality, and quantity of technology professional development their schools/districts provide for them; (3) evaluate the adequacy of the technology professional development provided by schools/districts; and (4) share the recommendations English teachers have for improving the content and delivery of technology professional development. This final chapter presents a summative discussion of the results of this study, followed by a description of the limitations. Finally, this chapter concludes with implications and recommendations for improvement for secondary school administrators, school district officials, and suggestions for future research.

The discussions in this chapter will follow the order of research questions and will be tied back into Change Theory as well as the previous literature presented in this study. An overall descriptive picture will be painted of the current state of TPD so that the gaps in the teachers' needs will be identified in order to determine how better to meet their technology needs.

Discussion of Results

How Do English Teachers Define Their Responsibility for Technology Integration?

English teachers shared their belief that they do feel a major responsibility towards technology integration. Participants commented that using technology was not only a responsibility they felt, but was also expected of them by their administrators, school districts, state curriculum, and also by their students. Using and integrating technology is just one of the many responsibilities of an English teacher, but with the onset of a new form of literacy, digital literacy, for which English teachers will be responsible to teach, it is necessary that English teachers embrace technology and learn how to integrate it as well as how to teach students how to use it to meet their learning objectives.

Findings from this study provide evidence that the participating teachers demonstrated their responsibility towards technology integration by the multiple ways in which they use it. Teachers used technology for communication, lesson planning, teaching, as well as in having students utilize it in a variety of ways to complete a wide range of assignments. If teachers are making an effort to use it as well as have their students use it, they are demonstrating a student-centered philosophy by abandoning a traditional lecture-style method of teaching and moving toward a project-centered way of instructing (Honey & Moeller, 1990).

The participants were questioned about the expectations placed upon them to use technology by their school and district administrators as well as by their state curriculum standards. About half were aware of a technology standard on their annual

teaching evaluations, and nearly all of them were familiar with the technology standards in their state English curriculum. These expectations pose an additional responsibility for English teachers to find ways to integrate technology in their classroom.

Aside from school and state pressures, and pressure from students to use technology, teachers were asked the reasons why they used technology. All of the participants agreed that they use technology because it is a valuable instructional tool. They also use it because it facilitates active learning and fosters collaboration among other students. Teachers mentioned that they use technology because it enhances student and teacher creativity, provides valuable life skills, and increases student motivation. For all these reasons, the majority of teachers in this study have a strong dedication towards technology integration. Their beliefs and dispositions about why they use technology concur with Albion (1999) about the importance of positive teacher beliefs in their ability to use and integrate technology. Teachers who value and are motivated by technology will take more risks and are willing to act as more of a facilitator when using it. They will seek out opportunities to learn about it and are not afraid to test it in their classroom.

Their dedication and technology ability was verified when they were asked about the many software programs and Internet resources they employ and the types of hardware they use. Moreover, the participating teachers were branching out from using typical word processing programs to using digital cameras, creating student videos and multimedia projects, to creating classroom blogs and webpages. Besides using a computer as a glorified typewriter, teacher participants were using technology for research, educational games, online testing, student presentations, teaching reading

skills, and for the creation of graphs and charts. The amount of technology and skills that these participants have to use technology in such a variety of ways illustrates a “substantial knowledge base” (Wepner & Ziomek, 2003, p. 55) that would be needed in order to effectively integrate technology into the classroom.

My conclusion is that English teachers feel responsible to integrate technology and do so because they are motivated by students, administrators, and state standards in addition to their own personal motivation for it. Their personal motivation was shown by the variety of projects and ways they use technology beyond basic word processing and research skills they are expected to teach. They displayed personal characteristics of being open to change and creatively intertwining technology into their pedagogical beliefs of teaching and learning. Vannatta and Fordham (2004) also support these findings about the importance of teacher beliefs and dispositions in relation to successful technology integration.

The teachers in this study expressed a desire to dedicate their time outside of contract hours to learn about technology and showed an adventuresome attitude toward the use of technology. Teachers with these characteristics are more likely to experiment and use technology with their students. This study revealed participants who have a positive attitude towards change in favor of using technology in a learner-centered context which, they feel, creates greater levels of success in their students. They feel responsible for learning about technology because of their own motivation and excitement for it rather than because of outside pressures from administrators and state standards. Additionally, teachers feel that school and district administrators should share in the responsibility for learning about technology so they can be more supportive

and knowledgeable when teachers are seeking out new and innovative ways to use it. If administrators do not share in the responsibility for learning about technology, then teachers become extremely limited in their resources and ability to use technology in the classroom.

What Kind, Quality, and Quantity of Technology Professional
Development Do Schools and Districts
Provide for English Teachers?

The purpose of the second research question was to find out more about the TPD programs that school and district administrators were providing for their English teachers. Astonishingly, participants reported that very few, if any, TPD programs were offered at the school level aside from receiving trainings on their online grading program. One school that had recently opened the previous year was the only one that specifically provided any type of TPD classes beyond online grading. A dozen interview and focus group participants mentioned taking an occasional class at their district office, but even then, they were not very content specific and teachers had a difficult time, for the most part, gleaning any valuable skills from them. Fullan's (2006) Change Theory specifically states the importance of TPD being content-relevant in order to provide sufficient motivation and buy-in from the learner and that the learner needs multiple levels of engagement in order to connect what they are learning with their curricular goals. Teachers in this study were mostly disillusioned with the poor quality of TPD being offered. Many participants remarked that they do not have any

opportunities afforded by their schools or districts to learn about technology and they are very frustrated by this.

On the rare chance that teachers did receive TPD, they were very critical about its quality, quantity, and usefulness. Most of the English teachers had never participated in a TPD specifically designed for English teachers, unless it was a course in their undergraduate studies as a preservice teacher. Teachers were critical about the lack of advanced classes provided by their schools/districts and mentioned that most of the classes offered were still trying to teach basic skills such as word processing and PowerPoint. Teacher participants made it clear that they wanted TPD that was content-specific, but that most of the workshops they attended gave them no new ideas on how to integrate the new technology they just were just taught into a content area.

Although the participating teachers had rated the quality of the TPD they had attended from average to good, when asked in detail about what they liked about the classes, they could not provide specific details or experiences for why they rated them as “good.” Teachers, instead, shared stories about how frustrated they were with inadequate instructors, lack of examples, handouts, or other materials to help them learn the skills. They mentioned that they hardly, if ever, had sufficient time during a class to practice with the new skills or have any follow-up support. Unless the teacher was participating in an ongoing technology class at the district or university, where they had time between classes to practice, regular school or district TPD rarely produced any positive results. Fullan (2006, 2007) included in his Change Theory the fact that teachers need time for reflection, for doing, and practicing. They need support from

colleagues and administrators during the learning process. Without these factors, the ability for teachers to change and adopt new technology skills is less likely to occur.

Other criticisms of the TPD provided by schools/districts included poor pacing and requiring teachers with varying ability levels in technology to attend the same classes. This caused great amounts of frustration on both sides. On one hand, teachers with very few technology skills, who moved at a slower pace, usually got left behind because the instructor was teaching too fast and did not stop to check on individual teachers' progress. On the other hand, teachers who had advanced skills felt slowed down by those with few skills. The more tech-savvy teachers expressed feelings of frustration because their time was being wasted while they had to wait for the nontech-savvy teachers to catch up.

Many times, instructors who were invited to teach a TPD session would not be familiar with good pedagogy and as a result, have poor teaching skills. For example, they would not walk around and make sure all participants were at the same spot, they would not allow for collaboration or questioning, they would not provide content-specific examples, nor would they bother to learn about the needs of their students. Inadequate instructors also neglected to provide handouts, so when teachers tried using the new technology on their own, they could not remember how to do it. Instructors did not bother to group participants into ability groups, so those with similar skills could advance together.

Multiple studies have identified what successful TPD should look like. Successful TPD should have: (1) adults organized into learning communities, (2) a supportive administration, (3) training considered useful by the recipients, (4)

instructors who provide support during and after the training, and (4) an opportunity for participants to collaborate (Council, 2001; Kanaya et al., 2005; Richardson & Placier, 2001). Evidence from the surveys, focus groups, and interviews indicated that almost all of these areas were not being met when participating in school or district technology training. A few participants mentioned administrative support at their schools, but it was more common to find TPD not happening at all. When TPD did happen, it was poorly designed: Participants were not placed in learning communities or grouped by ability; the administration did not always attend the training or offer follow-up training; the TPD itself was of such a general nature, or the presenter did such a poor job, that very little learning occurred; and the participants had no time to collaborate with each other. Due to the poor training provided by the school or district, the majority of participants sought elsewhere for technology training.

This scenario of poor TPD is not singular to this study. The research literature supports the assertion that teachers who have participated in technology professional development training in their schools are being subjected to one-time only classes that provide little or no support for teachers afterwards. Furthermore, the trainers did little to provide content specific connections, provide time for collaboration, or utilized proper pacing, and left teachers disenchanted with the training (Baurer & Kenton, 2005; Hughes, Kerr, & Ooms, 2005; Hughes & Ooms, 2004;). These deficiencies are more common for what is occurring at the school and district levels.

The lack of quantity was another concern for participants in this study. Participants from the surveys, focus groups, and interviews all asked for more TPD because they were either not receiving any at their schools or districts, or the course

offerings were scarce. Because of the lack of TPD availabilities at the school/district level, nearly all of the participants sought opportunities elsewhere to learn about technology. They utilized their colleagues, participated in university courses, attended workshops and conferences, read research, and experimented on their own. The most common form of TPD, when provided, was a one-time only class with few or no follow-up classes. The importance of providing ongoing training is seen in the research literature over and over, due to the fact that learning new technology skills takes practice, support, and time (ACOT, 2008; Haetel & Means, 2003; Lawless & Pellegrino, 2007).

My conclusion for this question, based on the data from this study and supported by the research literature, is that a large majority of English teachers are not receiving the kinds of technology professional development that they need. The most common form of school TPD is limited to training sessions about their school's online grading program, and little else is offered at the school level. Most English teachers either do not have any TPD provided to them at the district level either, or if they do, they are unaware of it, or it is inaccessible due to grant restrictions, time of day it is scheduled, or due to lack of variety. The quality of TPD that the teachers participated in was most commonly ranked from average to poor. Those teachers who have participated in a school or district TPD, were very critical of its delivery, lack of good teaching strategies used, or were not able to see its immediate value in their content area. As far as the quantity of TPD, teachers were disappointed due to the lack of opportunities to take classes or courses. Several participants repeatedly mentioned throughout the surveys, focus groups, and interviews, that they wished their school would provide TPD. They

would really like to see their administrators organize quality TPD classes where teachers would have the opportunity to learn advanced technology skills. Most of the participants felt their administrators were capable of providing quality TPD, but did not due to other matters on their agenda. The problem is not with teachers' motivation to learn about technology, or not realizing their responsibility for it, rather it lies with the unavailability of accessible TPD classes at their school and district levels.

Given How English Teachers Define Their Responsibility for Integrating
Technology into Their Teaching, How Adequate Is the Technology
Professional Development Provided by Schools or Districts?

English teachers in this study reported that their school and districts' technology professional development programs are not adequate. Teachers are the recipients of administrative decisions being made without them about how to use their professional development time. The lack of teacher input in how their time is being used is of much concern for the participants. English teachers reported not being consulted when administrators are deciding what types and amount of TPD that is provided for them. The result of little to no communication between teachers and administrators is that teachers are not receiving the types and amount of TPD that they require in order to further their technology skills.

More specifically, teachers desire content-specific technology training. This was mentioned by all participants throughout the surveys, focus groups, and interviews. English teachers felt that it was reasonable to receive TPD that was specifically tailored to their needs or to have instructors do a better job of providing content-relevant

examples when teaching new skills. Content-based technology inquiry groups are not a new concept in the research literature, yet this strategy is seldom applied at the school setting (Crockett, 2002; Hughes & Ooms, 2004; Richardson & Placier, 2001). Providing teachers with time during and after the training for collaboration is crucial in the learning process. They need time to practice, reflect, ask questions, receive support, and continue practicing. This concept is also supported by Change Theory (Fullan, 2006, 2007): For optimum learning, teachers need to learn in context, have sufficient time to practice, reflect, and receive support. The context not only need be in a familiar environment, but teachers need to be able to make connections between what they are learning to their own practice. This conclusion is supported by research that studied the benefits of collaboration among teachers who were organized into inquiry groups when learning to use computers (NCREL, 2000; Stevenson, 2004/2005; Wells, 2007). Technology instruction needs to be contextual and content-specific so that it supports teachers' practice as well as school and district goals for improvement.

Another concern with the adequacy of the TPD offerings for English teachers was the lack of availability and variety of technology classes. Participants in this study were motivated to learn about technology integration, but had very few opportunities to do so during their professional development time. Besides this, when courses were offered, they were not the advanced courses many of the teachers were desiring, such as digital videos, multimedia, interactive whiteboards, blogs, and webpage design.

Teachers also reported that many of their administrators do not understand the frustrations and challenges they have with inadequate technology and opportunities to learn about it. The participants stated that they felt their administrators did not value

their technology needs in an equitable fashion, and that quite often, their requests for technology went unfulfilled. Additional challenges with administrative support were in the restrictions imposed upon teachers. Several participants shared experiences of not being able to access specific websites because of the strict Internet security settings. Others reported not having sufficient access to computer labs or equipment. Furthermore, teachers mentioned having the technology, but not knowing how to use it, so it just sits in their library media center. Ironically, their administrators want to see their teachers utilizing technology, and several administrators even included a technology component on their formal evaluation for teachers, but did little to provide training and support for it.

Several participants criticized their administrators for not staying current with technology trends. This creates difficulties when teachers make requests for new forms of technology or experiment with new uses of technology. Administrators who are not tech-savvy are more likely to discourage technology use because of their reluctance to take risks on unknown practices. Having administrative support is essential for effective TPD (Fullan, 2006; Mouza, 2002/2003; NCREL, 2000). School principals and district technology coordinators need to understand the value of technology and be willing to stay abreast of current trends and practices if they expect their teachers to use technology. In addition to providing equitable funds among all school departments, administrators must model effective technology use and attend TPD trainings with their faculty. Professional development in technology cannot be successful unless the administration is invested in the process as well (Mouza, 2002/2003).

The final theme in judging the adequacy of English teachers' TPD was the lack of time teachers were given to experiment and learn new skills. Even though conferences and workshops may be offered in technology, if they take place during a regular school day, many teachers are less likely to attend. Furthermore, conferences, workshops, and one-time trainings after school provide insufficient time for teachers to practice with the new technology. Many of the teachers would prefer to attend technology conferences and classes during the summer when they are not burdened with their usual teaching responsibilities. During the summer, teachers would have time to practice, collaborate, and plan ways to integrate their new skills or technologies. Research has shown that teachers who are able to attend summer workshops to learn about technology have a much improved level of self-efficacy and a greater chance of implementing their new skills in their classrooms (Watson, 2006).

Due to the great responsibility English teachers have in educating students on how to read and analyze text, write creatively and persuasively, appreciate literature, conduct research, speak fluently, and how to integrate technology in all of these areas they need to be kept abreast on the multitude of resources that are available to them through the use of technology. English content learning is affected when teachers are not knowledgeable about technology. With the amount of information available on the Internet, it is necessary that English teachers know how to access and use the resources and content that is related to literature, writing, research, digital presentations, and digital texts. Students' content knowledge and preparation for higher learning could be dramatically affected if they are not taught how to use online resources such as library databases for research, how to evaluate websites and be able to filter through content,

how to create multimedia presentations, and how to use word processing programs to write, edit, and cite their essays. New software for secondary students is being developed to improve their reading skills and had shown to be very successful. Book publishers are providing classrooms and school libraries with digital access to research articles, periodicals, dictionaries, podcasts, images, historical documents, critiques, and digital copies of their textbooks. All of this potential content knowledge goes wasted when English teachers are not properly educated in the multiple uses of technology.

My conclusion about the adequacy of current TPD programs is that they are severely inadequate at the school and district level. When I began this study, I was expecting to find at least some schools or districts that had good TPD programs in place, but instead, was surprised to find out that no school was providing any TPD that the English teachers considered useful or beneficial. It is alarming to discover that with the amount of technology resources available in every school in this study, the English teachers felt under-educated on how to use them or limited on how they were allowed to use the technology. With the many responsibilities all teachers have, it is shocking to realize the amount of precious time wasted by poorly designed TPD. Instead of English teachers feeling like they were learning and developing their technology skills, overall, I would have to say that they were very frustrated because they were not being taught what they wanted to know and they knew that their schools and districts were capable of providing better TPD.

English teachers want to have more input and better communication with their administrators when deciding what types of technology courses to offer during professional development times. They want technology in their classrooms, just as the

math, science, and history teachers do. English teachers want more content-specific TPD, so they can have relevant and immediate uses for the new technology being taught. English teachers want greater availability and a greater variety of classes, and administrators who are supportive in providing technology in an equitable manner and who are tech-savvy about effective uses of technology.

What Recommendations Do English Teachers Have to Improve the
Content and Delivery of Technology
Professional Development?

This research question provided participants with an opportunity to provide suggestions and recommendations to their school and district administrators to improve their technology professional development programs. The recommendations provided in this section are a compilation from the surveys, focus groups, and interviews. The order in which they will be discussed is in alignment with Fullan's (2001, 2006, 2007) Change Theory, which provides seven basic premises that underpin the successful creation of technology professional development programs that create more tech-savvy teachers.

The first premise is that motivation to change is required. Teachers in this study exhibited sufficient motivation to learn about technology. Their motivation came from students, administrators, state and national standards, as well as from their own intrinsic value they place upon technology. Where motivation is lacking is when teachers are required to attend school TPD sessions that are poorly designed, offer no support and no collaboration time, and are not specifically content-specific. Teachers in this study feel

that it is reasonable to request their administrators to provide relevant, content-specific trainings that are well designed by knowledgeable instructors who understand good pedagogy. This would help teachers be less frustrated and disillusioned when attending technology trainings. If teachers knew that they were going to receive relevant and useful techniques and ideas that would enhance their teaching and student learning, then they would have an increased motivation to attend when TPD is being offered (Byroom, 1998; McGrail, 2005; Sprague, Kopfman, & Dorsey, 1998).

Capacity building is the next premise. This focuses on raising the bar and closing the gap in learning to use technology. This is done through the use of good pedagogy that utilizes cooperative learning groups or grouping teachers in professional learning communities (Lawless & Pellegrino, 2007). This approach to learning gives teachers the cooperative structure they need when learning to use new technologies. Teachers want technology instructors to provide well-designed handouts that will provide teachers with a tool to refer to when practicing with the technology individually. Instructors need to have good pacing. If the faculty has to be grouped together for training, then the instructor needs to be aware that they are dealing with a group of individuals who have very low to very high abilities in technology. A differentiated approach to teaching should take place, so more novice learners receive the support they need, while advanced learners are allowed to further their abilities (McNabb, 2006).

Program availability was the next premise. Teachers would prefer to learn about TPD in familiar settings where they work. Many of the participants remarked that they seldom have opportunities for TPD at their schools, and resort to attending conferences,

taking university courses, getting help from colleagues, and/or learning on their own. English teachers in this study were very adamant about wanting to have more opportunities to learn more advanced skills, beyond basic word processing and presentation software. Providing technology workshops during the summer months was one suggestion, which would provide greater availability for teachers to learn in an ideal learning environment. Other mediums by which TPD could be made available include ongoing workshops, online instruction, special courses, Saturday workshops, or after-school classes provided later in the afternoon and on a weekly or monthly basis (Kanaya, Light, & Culp, 2005; Levy & Murnane, 2004; NCREL, 2000; Wells, 2007).

Opportunity for collaboration was another premise suggested by Fullan (2001, 2006, 2007). Too often, the instructor at a TPD course delivers the training in a “glorified lecture” format and does not provide time for departmental collaboration. English teachers expressed the need to be able to talk with their colleagues in order to share ideas about technology integration, get their questions answered, and to receive support during the trial-and-error phase of technology adoption. Teachers as well as administrators need to be aware and concerned about each others’ success at their schools. A supportive and collaborative environment encourages dialogue where teachers can create a shared meaning in deciding the best pedagogical uses of technology (Hughes & Ooms, 2004). Using technology for the sake of technology is not a sufficient reason to use it. Providing time for teacher collaboration allows them to discuss the best uses and practices for the integration of technology in teaching and student learning (Stevenson, 2004/2005).

Having ample time to learn new technologies was the fifth premise suggested by Fullan (2001, 2006, 2007). This was an important recommendation from the English teachers. Teachers not only requested additional time to learn to use new technologies, but time to design ways to integrate it into classroom practice. English teachers in this study suggested that administrators provide time during and after training for practice and reflection. Teachers cannot be expected to master a new technology skill after only one class; therefore, they want more time to practice whether through follow-up trainings or during a collaboration time (Schrum, 1999; Schrum, Skeelee, & Grant, 2002/2003). As it is, teachers are very pressed to find additional time before, during, or after a regular school day, and it is unlikely that teachers will attend any sort of TPD during these times. Some ideas for better times to hold TPD would be during a teacher professional development day or as a summer workshop. In either case, teachers are relieved from their usual daily pressures and are given the opportunity to concentrate on developing their professional skills.

Teachers need a supportive administration if change is going to occur. The participating English teachers suggested that administrators attend and become tech-savvy along with their teachers. This way, they are more involved in the current trends in technology so when a teacher requests a new type of technology or is experimenting with the use of existing technology, administrators are supportive instead of fearful. The participants also asked that administrators be more equitable in the distribution of technology monies and ensure that all departments, including English, receive equal amounts of technology or at least equal access to available technology. Having open communication with the administration is also very important. Teachers mentioned

several times about wanting input when their principals were making decisions about what types of TPD to provide. Some teachers expressed a slight fear in even asking their administration to provide TPD. If principals and district leaders want their teachers to meet community, district, and state goals in technology, then they need to be listening to the needs of their teachers and make every effort to fulfill them, and in doing so, learn about new and innovative technology practices (Kanaya, Light, & Culp, 2005; NCREL, 2000).

The seventh, and final, suggestion from Fullan (2001, 2006, 2007) is to provide support and follow-up. Learning and adopting new technologies takes persistence and flexibility to persevere when struggles arise. Teachers can become very frustrated with technology when they need to use it with their students, but it is not working properly. Each school should have someone designated to provide computer support both the hardware and software. This person can provide invaluable support to teachers who use technology with their students and is someone that can help with trouble shooting minor issues in malfunctioning equipment or be used as a resource person to whom teachers can ask questions and receive help themselves. Levy and Murnane (2004) suggested that it is not enough to have the equipment and computers to practice with, but someone is needed to make sure it stays working properly and is reliable. Teachers need to be provided with follow-up training as well. Many times, attending a single class about technology does not provide sufficient time for practice, collaboration, or in receiving help. Follow-up sessions do not need to be long in duration, but need to be scheduled so that teachers can get their questions answered, receive help, and get additional practice (Fullan, 2006, 2006). Technology should never be a one-time, one-shot workshop

(Schrum, 1999). Participants in this study were not pleased with the lack of follow-up sessions and requested that they be offered in a timely manner after the initial training. Teachers require time to make changes in their technology skills, and as such, administrators need to plan their TPD programs according to a longer time frame that include follow-up sessions (Speck, 1996).

More specifically, English teachers need TPD to know how to utilize word processing programs more fully. They need to be taught how to use advanced features to help students develop better writing skills. English teachers need to be taught about the mountain of resources available through the Internet in such areas as online library databases, encyclopedias, historical information, literature critiques, short stories, novel study guides, and the many websites that provide free opportunities to create multimedia presentations. English teachers need to know how to teach student how to evaluate online resources to determine their value and also how to cite the information correctly. They need to know what programs are available to improve students' reading and writing skills, as well as software and other online resources to improve language development.

In summary, recommendations from the English teacher participants in this study suggested that technology professional development be content-specific. They would like instructors to use good pedagogy and teaching practices. They want programs designed with the multiple ability levels of the learners involved and be provided with support from the instructor in their pacing, in giving time to ask questions, and in providing handouts. Teachers want time for collaboration with their departmental colleagues so that they may share ideas and receive additional support.

Teachers suggest a better use of time, so that the time they spend in TPD is worthwhile because it is well designed and provided during less stressful times (e.g., late afternoons, professional development days, and/or summers). Additional time needs to be scheduled for follow-up sessions and time to allow teachers to practice with the new technologies. Teachers requested more supportive administrators who develop their own technology skills and who also provide an equitable distribution of technology funds among all school departments. Finally, teachers requested sufficient support from a member of staff who is assigned to maintain the computers, but also support from their administrators when experimenting with new forms of technology.

Limitations of the Study

Limitations of the study include my own bias about technology. I believe that the role of the teacher is changing and that technology has had a major influence on that change. I believe that the attitudes of teachers play a critical role in their adoption and use of technology. I also believe that all teachers should know how to use a computer, even if it is just for grading, Internet, and emails, and that technology can change their pedagogy, even if only slightly. I believe that areas of change can be found in any of the following circumstances: teachers learning to use new grading programs, issues about students completing original work, the quality of work teachers receive now, as compared to before computers were readily available, and how teachers use technology during instruction.

My own personal experiences as a Language Arts teacher explain why I wanted to interview only English and Language Arts teachers. I'm assuming that English

teachers have a harder time integrating technology into their curriculum because their content area is heavily based in reading and writing. A huge majority of new educational technology programs has been developed to support the science and math curriculums, which has lead to many schools offering exclusive computer labs for only the math and science departments, and not considering the computer lab needs of English departments. Many districts and administrators, in my experience, have overlooked English departments by not providing them their own computer labs, based on the assumption that the need is not there. Ironically, this is not the case. Most English teachers use computers for their writing assignments, to conduct research, and to even read and access literature and articles on the Internet or through databases or software programs. English teachers are also required to use technology while teaching as well as have their students use it when making presentations (Utah State English Core Curriculum, 2007). Much of their core specifically mentions or alludes to the use of technology, yet equipment and proper training are continuously overlooked.

There is also the possibility of participant bias, suggesting that participants may possess a specific bias about using computers to complete online surveys and questionnaires. Teacher participants may have a negative bias for using computers to complete electronic surveys or questionnaires due to their particular difficulty in using computers or their personal feelings against them. Although bias cannot be controlled for participants that do not favor the use of technology, there should not be issues with the difficulty of using a computer or being computer literate since all of the schools where the research took taking place have provided each teacher with a personal computer, if not additional computers and technologies in the classroom. According to

recent studies about gathering data through the use of electronic surveys and emails, there are overwhelming benefits that support the use of technology verses gathering data through the traditional method of paper mail. “Surveys can take the form of emails with which researchers can send a poll to get numbers and statistics, or a questionnaire to obtain information, data, opinions, and numbers” (Nguyn, 2007, p. 9).

The sampling error in this study pertains to the nature of how the school districts in this study were selected. Several districts en all three states were invited to participate, but not all agreed. The districts that I finally chose were ones that first, responded positively to the invitation to participate, and second, ones that filled the demographic categories that I was looking for. I felt that by choosing districts in all three demographic levels, the results would be more representative of the larger sampling universe. Of course, six school districts among three states cannot hope to represent every school or district in the country, but hopefully, it is sufficient enough to gain a perspective of some of the circumstances, challenges, and recommendations they have that can be of benefit for many districts. All teachers who participated in this study were from schools where teachers are expected to stay current with reading and responding to emails on a daily basis.

Finally, the use of technology to gather data in this study is a noncoercive method, where participants were under no pressure to read and/or respond to the initial email sent to them that invited them to participate in the study. The decision to participate was made individually, which helped to maintain the participants’ freedom of choice (Gay & Airasian, 2003). Moreover, Babbie (1998) points out that the use of electronic surveys and emails to gather data supports ethical aspects in social science

research including voluntary participation of subjects, avoidance of doing harm to them, and protection of participants' privacy. If teachers who were invited to participate in this study possessed significant negative bias towards using computers, then they were able to self-select to not participate. Since the invitation to join the study was through an email, and their choice to participate was by completing the anonymous survey, there was no way of tracking that did or did not choose to participate, and thus their identity remained private. Also, there was no loss of participants; no one requested to be removed from the study.

The 61 survey participants, 10 interviews, and three focus groups are a respectively small number of people to represent six entire school districts. This low number of participants presents a challenge to be able to generalize their experiences as representative of their entire district. Additionally, having a purposeful sample, that being English teachers, reduced the number of potential participants who may have had different TPD experiences that could have been valuable to this study. Additionally, there was no distinction made between middle school teachers and high school teachers. The level the participants worked at could also have made a difference in their TPD experiences.

Furthermore, there is no guarantee that the results of this study apply to all English teachers across the country. The intention of this study was to select a variety of districts at different economic and population levels, across three states that would provide a population sample diverse enough where valid results could be collected. This study in no way claims that the experiences, opinions, and recommendations from the teachers in this study can be applied to all districts, only that it offers a glimpse of what

the struggles and challenges are of many English teachers. Hopefully, this study can provide ample recommendations and help for schools or districts who themselves are struggling with providing quality TPD.

Implications for Future Research

A future study that compares content-specific technology professional development with noncontent specific training could investigate the benefits of designing TPD programs that are tailored to the specific curriculums of the teachers. The results from the study suggest the lack of content-specific training leaves teachers disillusioned with a feeling that they wasted their time because they were not able to learn specific uses of a particular technology tool. With a little effort, administrators and technology instructors could design TPD in such a way that provides more useful suggestions for integration among the different curricular areas. Currently, most schools leave it up to the individual teacher to figure out ways to implement and integrate new technology into their classroom, yet participants in this study did not prefer this method because they do not have time during their stress-filled day to figure out innovative ways to use new technologies.

Another important study would compare the success of grouping teachers into technology learning communities. The study could be designed so that teachers are grouped according to the same ability levels, varying levels, or content areas, depending on the purpose of the group and the study. An advantage in grouping teachers according to ability levels, is that classes could be taught at their pace. Teachers who are more tech-savvy often complain of being held back by others who are at novice levels at

computers. Technology learning communities could be designed following good pedagogical strategies as outlined in this study and then evaluated for effectiveness, based on the feedback of the technology learning communities.

A logical succession to this study is to research school principals and district administrators to understand how they decide what types of technology professional development to provide. Nearly all of the districts that participated in this study had a district technology plan, but after surveying, questioning, and interviewing the participants, it did not appear that the districts' plans were being followed. Teachers in this study were critical of their administrators and their apparent lack of good TPD and in how they distributed technology monies. Current research continually mentions the gap between the haves and have-nots, in regard to schools that have money and schools that do not when it comes to technology (Baurer & Kenton, 2005; Cuban, 2001; Frederick, Schwiezer, & Lowe, 2006). However, gaps exist within schools. Some departments receive technology money and others are overlooked. This is an important issue among teachers, especially since teachers in nearly all curricular areas depend upon technology to support and enhance their programs.

Another suggestion for a future study would be one that utilized differential strategies in teaching technology professional development. Participants in this study did not like the fact that everyone would be grouped together to participate in the same technology training. Novice teachers were usually left behind, while advanced users found themselves being limited and wasting their time while others caught up. This study would develop a TPD model that employs the principles of differentiation so that all students at every ability level could learn and progress in the same technology class.

Studying how differentiation can be employed in a TPD class could result in a useable design model for faculty technology classes.

Since the contextual differences were so varied among the districts, additional research would be needed to examine in greater detail what the different challenges are with the individual sizes and budgets of districts and propose solutions for better technology professional development. Further research is needed to understand if the challenges that the high schools face with TPD are similar or different than middle schools. Another topic that would require further research would be to find out if the challenges English teachers have with TPD are representative of teachers in the other curriculum departments. Finally, since the role of the administrator was central to TPD success, additional research should investigate what administrators' beliefs and perceptions are about TPD and how they make their decisions about the types of technology they provide to their faculty, how their personal technology skills and knowledge determine how they make judicial technology decisions. Finally, another future study should attempt to explain how do administrators' beliefs and perceptions about technology affect the use and adoption of technology in the classroom.

Implications for Practice

One of the important implications of this study is that the experiences of the English teachers could possibly be applied to teachers in all departments. Designing TPD that is content-specific will not only enhance the learning and adoption of new technology skills by English teachers, but by faculty members from other disciplines. The majority of responses given by English teachers about their suggestions,

frustrations, and recommendations in TPD could be similar to teachers in other department areas. Suggestions for improved TPD design and practice could benefit all faculty members and the recommendations teachers provided for administrators can benefit all faculty members by improving the quality and delivery of technology professional development.

This study also provides relevant support for similar studies that examined successful components for TPD. What is unique about this study is that it focused on the needs and experiences of one particular department in a typical secondary school. The importance of content-specific technology training was mentioned by every participant group. Teachers are already pressed for time, and the way that current professional development programs are designed, solely by administrators with little input from teachers, creates feelings of frustration, especially when required to sit through a class where nothing was learned (such as in poorly designed TPD). Schools and districts spend large amounts of money on technology, and therefore, they should provide TPD that can maximize their investment by providing training that is useful, beneficial, and immediately applicable by the faculty.

This study provided important and applicable suggestions for administrators and district leaders in how to improve the content, delivery, and structure of technology professional development. Participants provided several ideas for ways to improve TPD through better instructors, using good teaching practices, providing sufficient time for practice and integration, and in providing more advanced technology classes, among other suggestions. Teachers want to provide input on what types of technology classes

are provided and would like to work with their administrators in improving the current state of technology professional development in their schools.

The results of this study speak to the important role that administrators have in providing technology and the TPD that should go along with it. Some recommendations for policy decisions would be to create a technology committee at each school that would include a member of the administration. The committee should be responsible to put in place the schools and districts' technology plans and to make decisions on what types of technology to provide for the school and teachers. Policy decisions regarding technology should be made by an administrator on behalf of the technology committee. Standard policy for new or existing technology should require an active TPD program where teachers are receiving ongoing training throughout the year and be given several opportunities to develop their skills. Careful planning of who provided the trainings and how they are to be taught should be given careful attention, so as to create an environment where teachers at all technology levels can learn.

Conclusion

The purpose of this study was to describe the current state of technology professional development among English teachers by having them share their beliefs about their responsibility towards technology, asking them about the types and quantity of technology professional development, having them evaluate their current programs, and offering recommendations for improvement. This study is relevant because as technology becomes more ubiquitous throughout schools in this nation, expectations placed upon teachers to use and integrate technology are constantly increasing. English

teachers have a unique role in the dissemination of technology integration due to the fact that they are responsible for teaching students to be digitally literate. This means that English teachers have the responsibility to teach students to not only write and edit stories and reports on the computer, but to know how to interpret web pages, conduct research using online databases, create multimedia projects, study language, learn to read, and give presentations, all with computers and other forms of technology.

The research literature presented in this study provided a description of the characteristics successful technology professional development programs should have. It also explained the importance of teacher beliefs in technology and change, and how teachers best change to adopt new technology practices. Several previous studies have investigated different technology professional development models, but only a handful specifically examined English teachers and their uses of technology. Successful TPD programs follow the same premise of Change Theory in that they provide motivation for the participant, an opportunity to improve their skills, classes taught using good pedagogy, a collaborative environment, sufficient time to learn the new skills, a supportive administration, and follow-up sessions.

This mixed-method study gathered data by an electronic survey posted on the Internet, followed by three focus groups and 10 interviews. Participants were from six school districts, four of the districts were in the same intermountain state in the West, while the other two school districts were located in two neighboring states in the Midwest. A comparison of each state's technology and capacity grades was given as well as a detailed description of each school district. Change Theory was used as the lens by which to analyze the data.

Teachers in this study were not having their needs met in technology professional development. Only a small number of them had any technology professional development provided at their school or district levels, which caused them to seek other ways to learn about technology. What little TPD the participants had at the school/district level was not structured well and offered poor results. Teachers provided several recommendations for school and district administrators for ways to improve technology professional development so that teachers could receive the training they desire in a way that would be more successful. Teachers want to provide input on what they get trained in as far as technology. They want the trainings to be content-specific and taught using good pedagogical practices. Teachers want time for collaboration and integration of the new skills. English teachers asked that administrators be more supportive by being tech-savvy themselves and promoting innovative uses of technology, as well as funds to purchase new technologies. English teachers suggested having more follow-up trainings in order to receive support and help during the trial-and-error phase of implementation. Finally, teachers want to learn more opportunities to learn advanced technology skills.

In conclusion, this study points to new directions for further research and a renewal of decision making practices among administrators when deciding what to provide and how to present it. Future studies should look into the decision-making practices and belief systems of administrators when making decisions about what technologies to adopt, how to disperse technology funds, and how to make decisions for the use of teachers' professional development time. Other future studies could look into

the potential benefit of designing teacher learning communities, and into ways to differentiate the instruction of technology professional development.

This study provided a voice for English teachers to share their beliefs, values, and experiences about technology professional development. Clearly, a lot of work needs to be done in order to provide the programs, hardware, and training that these teachers desire. English teachers, as well as all others, have an important obligation to integrate technology into their classrooms so that their students can be prepared for the challenges and expectations of a society infused with technology.

APPENDIX A

LETTER OF PERMISSION

Gina Shelley
143 E. Poplar Dr.
Elizabeth, IL 61028
January 25, 2010
gina.shelley@yahoo.com

Dear Superintendent, Principal and/or Members of the School Board:

I am a doctoral student from the University of Utah who has recently moved to the Galena area and I am seeking permission to conduct research involving the secondary English teachers in your district. The purpose of this research is to complete my dissertation in the area of Technology and Teacher Education in the department of Teaching and Learning at the University of Utah.

I would like your permission to send an email to the English teachers in your district to invite them to participate in my study. The email will contain a link to an online survey that will take about 15-20 minutes to complete. At the end of the survey, I am asking for teachers to volunteer for follow-up electronic or in-person interviews. The electronic interviews would consist of typing their answers to a series of questions that would be sent through email. If a teacher would like to volunteer for an in-person interview, I would come to their school to conduct it. I would also like permission to conduct a short focus group during a department meeting that would last about 20-25 minutes. As the researcher, I am only interested in gaining the opinions and experiences from your secondary English teachers. I am requesting permission to be able to send an email to whomever you designate with the purpose of forwarding it through your secondary principals, which could then be sent to the teachers in their building. If you would like copy of the research questions before you give permission, I would be happy to provide them.

The purpose of this research is to discover what responsibility secondary English teachers have towards integrating technology in their teaching. I am also interested in their opinions of the current state of technology professional development their district and school provides. Additionally, I would like to know if they find the current state of technology professional development adequate and if they have any recommendations for improving it.

Results of this study will provide school districts with additional information on how to structure their technology professional development to meet the needs of their teachers in particular content areas, in this case English, and potentially to other secondary teachers in similar content areas as well. Quite often, English teachers are overlooked when it comes to new technologies; therefore, I purpose that this research has the potential to enlighten principals and district personnel in the beliefs and struggles of their teachers, as well as highlight their creative uses of technology to serve as examples for other secondary English teachers.

At all times, the identity of your school district and teachers will remain anonymous. If you have any questions or concerns about this research study, please contact me. Thank you for your support.

Sincerely,

Gina Shelley
Doctoral Student, University of Utah

APPENDIX B

ONLINE TEACHER CONSENT FORM

Online Consent Document

BACKGROUND:

You are being invited to take part in a research study. Before you decide whether or not to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you would like to volunteer for this study.

You are being invited to participate because you are a secondary English teacher in a Utah public school district. The educational technology community has investigated Preservice and in-service educators' ability and interest in using technology. This study seeks to examine how secondary English teachers: learn the knowledge and skills they have, use technology available at their schools in teaching, consider themselves responsible to learn and teach with technology, view the type and quality of their district's technology professional development program, and identify the challenges and successes that come when using technology. I am particularly interested in knowing about how you learn about technology and to know if it has met your needs.

STUDY PROCEDURE:

This consent form will be the first section of the electronic survey. By clicking through this section, you are agreeing to participate in the survey. You will have to select the button marked "I agree" in order to proceed to the actual survey. The survey will contain the following types of questions: multiple choice, open ended, and ones that ask you to answer using a rating scale. A message that contains a URL for a survey constructed Survey Monkey (an electronic survey instrument) was sent to the person in charge of approving research at your school district. This person sent the URL link through your district's listserv, which was then forwarded to all teachers that your district agreed to send it to. You will be asked to complete a survey that should take you no more than 15-20 minutes. Once you complete the survey (you will have the choice to not answer any question you wish), you will be asked to "submit" it, and the survey will be recorded. Your identity will be completely anonymous. The next screen you will see will invite you to participate in an interview where you will have the choice to complete the questions on your own and email them to the researcher, or set up an appointment to be interviewed in-person. Either way, if you choose to provide further assistance, you will be asked to sign another Consent Form that outlines the procedures of the interview. No classroom observations or photographs will be part of this study. The researcher will provide the results of the study to each participating school district.

RISKS:

The risks of this study are minimal. You may feel upset thinking about or talking about your use of technology. These risks are similar to those you experience when discussing professional activities and information with others. If you feel upset from this experience, you can send an email to the researcher, and she will tell you about resources available to help. There is no intention to offend or upset any of the participants.

BENEFITS:

We cannot promise any direct benefit for taking part in this study. However, possible benefits include informing policy makers, administrators, and teacher educators about the ways in which experienced English teachers have learned about technology and what your desires are to improve the technology professional development programs in your school and district. Additionally, this research will inform the educational technology community about the ways that technology may or may not be changing the pedagogy of teaching and what changes need to be made to make educational technology more accessible and beneficial to future generations of teachers.

ALTERNATIVE PROCEDURES:

If you do not want to take part in this study, you may choose to exit the survey at any time or you may choose not to participate.

CONFIDENTIALITY:

Every effort will be made to preserve your confidentiality, as no personal information will be entered into the survey and no electronic addresses will be collected while responding to the electronic survey. With this type of electronic survey, there is no way of identifying individual participants, or singling out how a certain participant responded. All data will be kept in a password-protected computer or locked in a file cabinet.

Person to Contact:

If you have questions, complaints or concerns about this survey, you can contact Gina Shelley, the researcher, at (801) 787-7634. If you feel you have been harmed as a result of participation, please call Dr. Doug Hacker, Department Chair of Teaching and Learning at the University of Utah at (801) 581-5080. He may be reached between the hours of 8 AM and 4 PM, Monday through Friday, or leave a voice mail. You are welcome to email the researcher at gina.shelley@yahoo.com as well.

INSTITUTIONAL REVIEW BOARD:

If you have questions regarding your rights as a research participant, or if you have questions, complaints or concerns which you do not feel you can discuss with the Investigator, please contact the University of Utah Institutional Review Board Office by phone at (801) 581-3655 or by email at irb@hsc.utah.edu.

VOLUNTARY PARTICIPATION:

It is up to you to decide whether or not to take part in this study. If you decide to take part, you will be asked to select the button labeled "I Agree" at the bottom of the Consent Form on the first and second section of the consent form on the first screens of the survey. You are still free to withdraw at any time. This will not affect your relationship with the investigator.

COSTS AND COMPENSATION TO PARTICIPANTS:

There are no costs to participate in this research project. There is no compensation for your participation in this research.

CONSENT:

If you would like a copy of this consent form, please print one now for your records.

By selecting the "I Agree" button on this Consent Form on the electronic survey, I confirm I have read and understand the information presented in it. I have had the opportunity to ask questions. I understand my participation is voluntary and I am free to withdraw at any time without giving a reason and without cost. I voluntarily agree to take part in this study.

Researcher: Gina Shelley

Date: January 21, 2010

APPENDIX C

ONLINE SURVEY QUESTIONS

ONLINE SURVEY QUESTIONS

Consent Document

Section 1: Definition of Technology

1. What is your definition of “Technology”?
2. On a scale of 1-5, how important do you feel it is for English teachers to incorporate technology into their teaching as well as have their students use it as well?
 - Not at all important
 - Somewhat important
 - Important
 - Very Important
 - Extremely important
3. What are the different ways you define your use of technology with your students? Meaning, how have students used technology to complete their assignments in your English class? Please mark all that apply.
 - Writing, editing, and revising reports
 - Writing, editing, and revising short writing assignments
 - Student presentations
 - Teacher presentations
 - Research
 - PowerPoint
 - Graphs, charts, and tables
 - Online testing
 - Reading
 - Student-created technology projects such as: websites, blogs, videos, etc.
 - Webquests
 - Posters and signs
 - Writing news articles, newsletters, brochures, and/or pamphlets
 - Writing business letters and/or memos
 - Communication: emails, websites, blogs, discussion groups, etc.
 - Moviemaker/Pinnacle
 - Inspiration mapping
 - Wikis
 - Other (please specify)
4. Do you feel responsible for integrating technology into your teaching? Why or why not?

5. Whose responsibility is it to help you learn about new technologies?
6. How are you made aware of your responsibilities to teach about and with technology?
7. Why do you use technology? Mark all that apply.
 - Increases academic achievement.
 - Promotes student collaboration.
 - Is a valuable instruction tool.
 - Makes me feel more competent as an educator.
 - Gives teachers the opportunity to act as a facilitator instead of information providers.
 - Helps to accommodate students' personal learning styles.
 - Enhances student and teacher creativity.
 - Motivates students to get more involved in learning activities.
 - Decreases teacher preparation time.
 - Improves student learning of critical concepts and ideas
 - Provides students with a productive activity during their free time.
 - Reduces the amount of papers to grade.
 - Makes classroom management easier.
 - Makes reading students' work easier because it is typed.
 - Teaches valuable job and life skills.
 - Provides instant access to a wealth of information.
 - Provides tools for the creation of complex, technical, detailed, and/or creative projects.
 - Other (please specify)
8. What responsibility do you have for integrating technology into your teaching?
9. Does an administrator evaluate you on your use of technology with your students?
10. Are you expected to integrate technology into your classroom by your state English core curriculum requirements?
11. Does the responsibility you feel for integrating technology into your teaching come from (mark all that apply):
 - Your personal feelings towards computers and technology.
 - Pressures you feel from school and/or district standards.
 - Pressures you feel from state and/or national standards.
 - Standards that colleges and universities expect from their students.
 - Public and/or media's expectations on teachers.
 - Other (please specify)

Section 2: Technology Professional Development Provided for English Teachers

1. Where have you learned to use technology during your career as an educator?
Please check all that apply.
 - Preservice courses (as a college student)
 - District in-service courses
 - Self taught
 - University course
 - Professional development courses, workshops, or conferences
 - Other (please specify)

2. How do you get your ideas about different ways to incorporate technology into your teaching?

3. How often does your school or district provide technology professional development courses?
 - Never
 - One or more a month
 - One or more a term
 - One or more a semester
 - One or more a year

4. If you have ever attended any optional professional development courses by your district, please list the classes you have attended.

5. Have you ever participated in a technology professional development course specifically designed for English teachers at the school or district level?

6. On a scale of 1-5, please rate your desire to participate in additional technology professional development courses to improve your own technology skills.

1	No desire
2	A little
3	Somewhat
4	Strong Desire
5	Very strongly desired

 - Microsoft Office (Word, Publisher, PowerPoint, Excel, etc.)
 - School's online grading program
 - Interactive whiteboard technology
 - Online research and database tools
 - Desktop publishing
 - Website creation
 - Digital video

- Multimedia projects
 - Creating online tests
 - Enhanced communication (blogs, podcasts, calendars, discussion groups, etc.)
7. If your district does provide technology professional development opportunities, are they provided in content specific courses? For example, are there courses designed specifically for secondary English teachers?
8. If your school or district does not provide content specific technology professional development courses, do you think there should be? Why or why not?
9. Would you be more likely to attend a technology professional development course if it was designed specifically for English teachers?
- Yes
 - No
10. What types of technology professional development does your district provide? Please mark all that apply.
- Content specific training on how to integrate technology into your curriculum.
 - Technology classes that any content teacher can attend to learn a specific program, technique, or how to use a new tool.
 - Basic level technology training, where teachers with little or no technology experience can learn basic computer skills.
 - My district does not provide any technology professional development courses that I am aware of.
11. Do you agree that technology is the newest form of literacy and that English teachers should be responsible for teaching their students how to use, navigate, and interpret the Internet as well as teaching them how to use the computer as a tool for writing and composing?
- Yes
 - No
 - Not sure
12. Who is mainly responsible for deciding what is taught in a technology professional development course?
- Principal
 - District personnel
 - Teachers

- Other (please specify)

13. On a scale of 1-5, how many teachers in your English department participate in the same technology professional development course?

- 1 None
- 2 A few
- 3 About half
- 4 Most
- 5 Everyone

14. On a scale of 1-5, how productive or beneficial do you think it would be if everyone in your department were to participate in a technology professional development course specifically designed for English language arts teachers?

- 1 Not at all beneficial
- 2 A little beneficial
- 3 Somewhat beneficial
- 4 Very beneficial
- 5 Extremely beneficial

Section 3: Assessment of the Quality of Technology Professional Development

1. Does your school or district provide the majority of technology professional development opportunities?

- School
- District
- About the same
- Not sure

2. What factors make for a beneficial technology training session?

3. How would you rate your school or district's efforts and programs that provide technology training?

- 1 Very poor quality
- 2 Poor quality
- 3 Average quality
- 4 Good quality
- 5 Excellent quality

4. As an English teacher, how adequate or applicable is the current technology training that you receive?

- 1 Not at all adequate

- 2 Very little adequate
- 3 Somewhat adequate
- 4 Very adequate
- 5 Extremely adequate

5. Do you think that it is reasonable to ask for or expect technology training that is tailored specifically to your content area?

Yes/No

Why or why not?

6. Do you feel that English teachers in your school and/or district are receiving the right types of technology professional development that will ultimately help to change or improve their use of technology in the classroom? Why or why not?

Yes/No

Not sure

Why or why not?

7. How much technology training would you consider an adequate amount for an English teacher to receive each year?

- Twice a month
- Once a month
- Once a term
- Once a semester
- Once a school year
- Other (please specify)

8. What the most time you are willing to spend on a technology training session when learning a new piece of software or hardware for the first time? (This would include new software or hardware.)

- 30 minutes
- 45 minutes
- 1 hour
- 90 minutes
- 2 hours
- More than 2 hours
- Other (please specify)

9. What is an adequate amount of time to spend on a follow-up technology training session?

- 30 minutes
- 45 minutes

- 1 hour
- 1 ½ hours
- 2 hours
- More than two hours

10. Do you feel that your school/district provides sufficient technology training opportunities that introduce new forms of technology?

Yes/No

12. Do you feel that your school/district provides an adequate amount of follow-up training and support after a new technology has been introduced?

Yes/No

13. Do you consider your school or district to be innovative and making sufficient effort to stay current with new trends in technology?

Yes/No

Section 4: Recommendations for the Improvement of TPD

1. How would you improve the current state of technology professional development in your school or district?

2. What recommendations would you like to give specifically for English teachers' technology professional development?

3. What are the top three technology topics/courses would you like to recommend to your district or principal to provide?

- First choice:
- Second choice:
- Third choice:

4. How would you like decisions to be made about what types of technology training is provided, how much the school should budget for technology, the amount of training provided, and/or who receives the training?

- By the teachers or a committee of teachers
- By the administrator(s)
- By a person at the district level
- A combination of teachers, administrators, and district personnel
- By state and/or national mandates
- Other (please specify)

5. How would you improve the teaching or delivery of technology professional development in your school/district?
6. Do you feel that you are receiving the right amounts/types of technology training?

Yes/No

7. What was your best technology learning experience?
8. What was your worst technology learning experience?

Section 5: Demographic Information

1. What is/are your position(s) at your school? (Please mark all that apply.)

- Teacher
- Advisor
- Coach
- Technology Coordinator
- Department Head
- Administrator
- Other (please specify)

2. What classes do you teach? (Please mark all that apply.)

- English Language Arts
- Creative Writing
- Research
- Literature
- Composition
- Newspaper/Yearbook
- Honors
- Regular Ed
- Remedial
- Other (please specify)

3. What grades do you teach? (Please mark all that apply.)

- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th

4. How many years have you taught?

- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- 25-30
- 30+

5. Please indicate your gender.

- Male
- Female

6. Please indicate the age group in which you belong.

- 20-30
- 31-40
- 41-50
- 51+

7. What type of district do you work in?

- Urban
- Suburban
- Rural

8. Is your school a Title One school?

9. How many students attend your school?

10. What is your average class size?

11. Please answer the following questions:

- How many computers are in your classroom (including the teacher's)?
- How many open computer labs does your school have?
- How many computers does your library have?
- Do you have an LCD projector in your classroom?
- Is your school equipped with wireless Internet?
- Do you have a mobile laptop lab available to you?

Conclusion

Thank you so much for your participation in this survey. A copy of the results will be sent to your school district. I am in need of some teachers who would be willing to fill out a short questionnaire in order to gather some additional opinions and insights about this topic. If you would be willing to have me email you the questions for you to answer, please enter your email address below. Thanks again for your time.

Gina Shelley

Doctoral Student

University of Utah

APPENDIX D

FOCUS GROUP/INTERVIEW CONSENT FORM

Consent Document for Focus Group and Interview Participants

Background:

You are being invited to take part in a research study. Before you decide whether or not to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you would like to volunteer for this study.

You are being invited to participate because you are a secondary English teacher in a Western or Midwestern public school district. The educational technology community has investigated preservice and in-service educators' ability and interest in using technology; however not much research has been done on educators who are already using technology. This study seeks to examine how secondary English teachers define their responsibility for integrating technology into their teaching, describe the current state of technology professional development available at their schools, explain how adequate it is, and what recommendations they have to improve it.

Study Procedure

This consent form pertains to those participating in the one on one electronic interview or the focus groups held in person. Each member of the focus group will be asked to complete a consent form. Interviews are conducted separate from the focus groups.

Interview participants will be asked to complete 15 open-ended questions that should take you no more than 15-20 minutes to complete. Once you are finished with the interview, if completing it electronically, please email back to the researcher. For interviews and all focus groups completed in person, the researcher will write down your responses and also audio record the session to ensure accuracy. All audio taped sessions will be transcribed. No classroom observations or photographs will be a part of this study. The researcher will also provide results of the study to each participating school district.

Focus groups will be held following the completion of the electronic survey. The researcher will visit the school hosting the group. The focus group, containing English teachers, will be audio taped. Participants will be asked a series of 15 questions. Answers will be audio recorded and then transcribed at a later time.

Electronic interviews will be conducted after all of the focus groups have been completed. Participants in the interviews will have volunteered their email addresses at the conclusion of the electronic survey. A series of 15 questions will be emailed to each interview participant with instructions for them to type their answers and then email them back to the researcher.

Risks:

The risks of this study are minimal. You may feel upset thinking about or talking about your use of technology. These risks are similar to those you experience when discussing professional activities and information with others. If you feel upset from this experience, you can send an email to the researcher, and she will tell you about resources available to help.

Benefits:

We cannot promise any direct benefit for taking part in this study. However, possible benefits include informing policymakers and teacher educators about the ways in which experienced English teaching educators have learned about technology in order to provide possible suggestions to school districts about ways to meet the needs of this particular group of teachers. Additionally, this research will inform the educational technology community about the ways that technology may or may not be changing the pedagogy of teaching and what changed need to be made to make educational technology more accessible to older generations of teachers.

Alternative Procedures:

If you do not want to take part in the study, you may choose to stop the interview at any time or you may choose not to participate.

Confidentiality:

Every effort will be made to preserve your confidentiality, as no personal information will be asked in the interview. All data will be kept in a password-protected computer or in a locked file cabinet. Both you and your school district will be given a pseudonym to protect your privacy. The researcher cannot guarantee that what is shared in the focus group will not be disclosed by other people in the focus group.

Person to Contact:

If you have questions, complaints or concerns about this study, you can contact Gina Shelley, the researcher, at (815) 858-5012 . If you feel you have been harmed as a result of participation, please call Dr. Doug Hacker, Department Chair of Teaching and Learning at the University of Utah at (801) 581-5080, who may be reached between the hours of 8 AM and 4 PM, Monday through Friday, or leave a voice mail.

Research Participant Advocate:

You may also contact the Research Participant Advocate (RPA) by phone at (801) 581-3803 or by email at participant.advocate@hsc.utah.edu .

Institutional Review Board:

Contact the Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Utah IRB may be reached by phone at (801) 581-3655 or by email at irb@hsc.utah.edu.

Voluntary Participation:

It is up to you to decide whether or not to take part in this study. If you decide to take part, you will be asked to sign the bottom portion of this form. You are still free to withdraw at any time. This will not affect your relationship with the investigator.

Costs and Compensation for Participants:

There are no costs to participate in this research project. There is no compensation for your participation in this research.

Consent:

If you would like a copy of this consent form, please print one now or ask the researcher for one.

By signing below, I confirm I have read and understand the information presented in it. I have had the opportunity to ask questions. I understand my participation is voluntary, and I am free to withdraw at any time without giving a reason and without cost. I voluntarily agree to take part in this study.

Printed Name of Participant

Signature of Participant

Date

Gina Shelley
Printed Name of Researcher or Staff

Date

APPENDIX E

FOCUS GROUP AND INTERVIEW QUESTIONS

Focus Group and Interview Questions

Number of participants: _____ Location: _____ Date: _____

1. What responsibility do English teachers have for integrating technology into their teaching?
2. What are your personal feelings about your responsibility to learn about new technologies, or ways to increase your technology skills?
3. Do you think that English teachers are involved enough in learning about new technology practices? Why?
4. Do you think that learning about new software and hardware technologies is the responsibility of all members of the English department, or should the decision be made individually?
5. What would be the pros and cons be of requiring all department members to attend the same technology training?
6. Have you attended a technology professional development course that you feel has really impacted or changed the way you use technology? What was it like and what made it so useful?
7. Would you be more likely to attend a technology professional development course if it was specifically designed for the English curriculum verses one that was more general where any teacher could attend? Why?
8. Do you think that your school or district would have the resources to provide content specific technology training?
9. What type of technology are you most interested in learning about currently? Why?
10. Can you share with me your opinion of what a typical technology training session is like at your school or district?
11. How adequate is the current state of technology professional development you receive?

12. Do you feel that the technology professional development you have participated has directly changed the way you teach? Why?
13. What new technologies are you learning to use right now? Have you had adequate time and support to learn how to use it effectively?
14. How accessible is the technology at your school or in your classroom? Are you able to have your students use computers when needed?
15. What suggestions would you like to give to your district technology team or your principal about how to improve technology professional development?

APPENDIX F

IRB APPROVAL

IRB Approval Document

**IRB 00027115****Principal Investigator: Gina Shelley****Title: Technology and Teacher Education: Is Technology Professional Development Meeting the Needs of English Teachers??**

This Amendment Application (Title & Methods Revision) has been reviewed and approved by a University of Utah IRB convened board. The convened board approved your amendment request for this study on 7/7/2010. The approval of this amendment request does NOT change the expiration date of this research study as noted below.

Your study will expire on .

Any future changes to this study must be submitted to the IRB prior to initiation via an amendment form.

APPROVED DOCUMENTS**Protocol Summary**

IRB Research Summary April, 2010, Final

Informed Consent Document

Consent Doc, Interview & Focus Groups, May 2010
Online Consent Doc, Final

Other Documents

Scales Mound Acceptance.doc
Alpine Approval
Invite for Electronic Interview.doc
Jordan School District Acceptance Letter.doc
Nebo Acceptance 2010.doc
Jordan School District Acceptance Letter.doc
Davenport School District Acceptance.doc
Beaver School District Acceptance Letter.doc
Davenport Acceptance, Signed Approval
IRB Completion Cert.doc
Beaver Acceptance 2010.doc

Click [AM_00007461](#) to view the application and access the approved documents.

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