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Increasing Inclusive Students' Achievement Through Use of USATestPrep's Integrated Learning Systems

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COLLEGE OF EDUCATION

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MA, Francis Marion University, 2008

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Dissertation Submitted in Partial Fulfillment

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Abstract

Integrated learning systems (ILS) are effective ways to increase academic achievement for students, including those with disabilities. However, many teachers do not fully or properly implement this type of educational technology in their classroom teaching. The purpose of this qualitative bounded case study was to examine the perceptions of high school educators and administrators toward ILS use. The study was grounded in Ely's conditions of change theory. Research questions focused on educators' perceptions of barriers toward implementation of an ILS in the classroom. Participants included 8 inclusive secondary school teachers and 2 local administrators in a rural school system in a southeastern U.S. state. Administrator participants were familiar with the ILS USATestPrep (UTP) and teacher participants had either limited or discontinued their use of that ILS in the classroom. Data were collected through the use of semi structured interviews and then analyzed for key themes. Findings showed that barriers of time, leadership, and available resources affected full implementation of the technological program in the local setting. Recommendations for future technology implementation included encouraging school leaders to provide teachers with time for implementation and pursue grant funding to minimize the impact of insufficient technological resources. Improving access to an ILS such as UTP may help teachers enhance the learning of students including those with disabilities and foster positive student successes and social change in the school and community environments.

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Chapter 1: Introduction to the Study

Educational institutions across the United States are increasingly adopting integrated learning systems (ILS) for instructional purposes (Means, 2010). Since 1998, USATestPrep (UTP) has marketed an ILS also abbreviated as UTP for educators' use (Christian, 2012). UTP has been found to increase student achievement outcomes (Christian, 2012). Although more than one million patrons have used the company's specialized technology, some educators have not incorporated it or any other ILS in their classrooms (Liu, 2011). An ILS is a technological system that disseminates instructional content while tracking, monitoring and reassessing the information that is used. UTP is a specialized ILS that offers several programs to enhance student achievement. UTP increases student achievement by providing standards based questions and problems for students to use in conjunction with the material taught in classrooms across the U.S. Some teachers are reticent to use UTP because of their personal biases, lack of time, lack of knowledge or other barriers that prevent its use in classrooms.

The purpose of this study was to examine teachers' perceived reasons for not using UTP at the local setting in rural South Carolina. Study findings may provide local administrators with insight about how to increase the use of UTP. Integration of the technology may result in improved test scores for students at the site. It may also help teachers better meet the needs of students with disabilities or those who have had an educational intervention. To gather data, I conducted semi-structured interviews with teachers at the site. Administrators were also interviewed to gauge their perceptions of

why the school's teachers had not yet incorporated UTP. This chapter provides a synopsis of the problem, barriers that contributed to the problem, the research questions and the purpose of this study.

Background

A considerable body of research on technology integration in classrooms exists. According to Tamim, Bernard, Borokhovski, Abrami, and Schmid (2011), several studies have been conducted about technology and its impact on education since the 1980s. McCabe and Meuter (2011) noted that use of educational technology tools enhances learning opportunities for students. Abachi and Muhammad (2014) found that students with disabilities felt equal to other students because they had access to the same ILS; also, use of the ILS improved these students' reading comprehension. Cheung and Slavin (2013) also commented on how use of an ILS can reform education and increase academic performance.

Other researchers have found evidence showing that use of educational technology is not beneficial to student success. Rindermann and Thompson (2011) presented several arguments against educational technology use. The authors debated whether use of educational technology hinders a student's ability to learn and whether this results in increased cognitive load and a reduction in a student's overall understanding. To avoid hindering the learning curve of students, educators need to be consistent and remain current in their knowledge (Rindermann & Thompson, 2011).

In my review of the literature, however, I found much evidence of the benefits of educational technology use in the classroom. According to Means (2010), educational technology use can support students' academic achievement. Rindermann and Thompson (2011) found that students who used educational technology such as UTP in the classroom became active learners who collaborated with peers and took charge of their educational experiences through skill-building processes. Use of an ILS can provide an element of differentiated instruction that is beneficial to students' learning (Whitehead, Jensen, & Boschee, 2013). Students in Means' study indicated that they practiced certain skills more frequently because they received immediate feedback from the program. Teachers who implement educational technology in the classroom encourages student learning and promotes self-esteem and collaboration among students, peers, and teachers (McCabe et al., 2011).

Additionally, according to Tamim et al. (2011), U. S. schools began to implement technology in the classroom and offer computer-based instruction in 1985. Teachers received training on how to fully implement these programs within their instructional practices and support the learning of students with disabilities (McLeskey, Landers, Williamson, & Hoppey, 2012). Teachers can then use these strategies to engage students with disabilities into learning standards based curriculum content.

Ottenbreit-Leftwich, Glazewski, Newby, and Ertmer (2010) noted that many teachers used such technology for "house-keeping" tasks (e.g., communicating with administrators and parents, taking attendance, and keeping records) rather than to

increase student learning. Some teachers did not require students to use computer-based programs on a regular basis (Ottenbreit-Leftwich et al., 2010). Because of their aversion to fully implementing technology within the classroom, many teachers did not engage their students in inquiry-based, problem-solving activities (Ottenbreit-Leftwich et al., 2010).

More access to such technology in recent years has not increased its overall use in U.S classrooms (Inan & Lowther, 2010). I found evidence of this problem at my research site. School leaders provide UTP as well as computer labs for educators' use, but more than half of the teachers do not use them (C. Hill, personal communication, February 2014). Teachers at the research setting only signed into the program 842 times within a school year (USATestPrep, 2014). This number of sign-ins is low considering the fact that this web based program can be accessed from any location that has Internet access and it is available 24-7 for teachers and students (USATestPrep, 2014).

In my research, I sought to provide local administrators with knowledge about why teachers were not integrating UTP so they could address this issue. Increased use of such technology at the local setting is also important because it may increase students' reading achievement. Only 36.9% of South Carolina students with disabilities earned passing scores on End of Course tests in 2012. (South Carolina Department of Education, 2013). Exposure to UTP or another ILS might improve these students' exam scores (see Means, 2011). Liu (2011) noted that special education and inclusion teachers need to consider using technology in their daily classroom practices because students increase

their reading skills by using an ILS as a form of assistive technology. Also, the technology is a tool for further practice and data collection in daily classroom activities (Liu, 2011). In conducting my study, I also wanted to contribute to a body of research (see Beetham & Sharpe, 2013; Eteokleous, 2008; Hightower, 2009; Inan & Lowther, 2010; Liam & Chai, 2008) on why teachers do not adopt evidence-based practices such as educational technology to enhance their students' learning.

Problem Statement

The global problem was that ILS technology integration is lacking in many classrooms in order to support the needs of all students, including those with disabilities. This problem is affecting rural southern high schools, as well as countries across the countries. Many teachers at a high school located in South Carolina had not used or discontinued to the use USATestPrep, despite research that supported the use of ILS (L. Alford, personal communication, July 2014). UTP documented the actual number of logins per student and teacher on a monthly basis and the most recent data showed that the amount of logins for teachers was 842 over a 10-month period (USATestPrep, 2014). A high school principal concurs that this problem exists because the teachers have access to the resources to implement UTP, but teachers are not utilizing them (C. Hill, personal communication, February 2014). Means (2010) explained that teachers who do not use an ILS are not creating ample learning opportunities for students of varying abilities despite the proven benefits of an ILS in the classroom.

Chen, Shih, and Yu (2012) argued that learning tools are widely accepted when the user accepts the benefits of the instructional tool. Therefore, teachers needed to accept the benefits of an ILS in order to create learning experiences that inspired and motivated the students. The authors also stated that the students who are motivated to learn are more engaged while using an ILS in class. Teachers who have available resources should use an ILS in order to create meaningful and motivational learning opportunities for all students (Aldunate et al., 2013). Despite the wealth of research to support the integration of an ILS, especially one as effective as USATestPrep, teachers are simply not adopting it as a tool to meet the needs of students with disabilities.

Roehl, Reddy and Shannon (2013) commented that many school leaders and teachers are still struggling with implementing technology in the classroom, which can increase student achievement for students with disabilities when implemented. Aldunate et al., (2012) explained that there is a copious amount of research that identified the barriers that prevent teachers from implementing educational technology because it is documented that teachers do not effectively use technology in their instructional practices. Despite the possible benefits for students, there were still teachers who have not implemented technology for instructional purposes.

Purpose of the Study

The purpose of this study was to examine teacher and administrator perceptions of the barriers preventing the implementation of UTP in order to provide recommendations for improved implementation. These analyzed data were used to help school leaders

make informed changes to increase the adoption rate of the program based on the administrators and teachers' perceptions. Research based recommendations based on the analyzed data could be used by other school settings facing the same problem.

The rationale for this study was the need to increase student learning at the local setting and to meet the needs of students with disabilities. Lumpe, Czerniak, Haney, and Beltyukova (2012) stated that student achievement increases when effective, research based strategies are maintained over time, collaborative, concentrated on the content to be taught, and provided multiple opportunities for classroom application. The implementation of an ILS meets these criteria and can increase student achievement when properly implemented (Livingstone, 2012).

Maddux and Johnson (2012) stated that computers are omnipresent in today's classrooms. However, with the advancement of technology there were still some educators who preferred the standard lecture style approach to teaching rather than the kinesthetic approach of incorporating technology. The current trend of high stakes testing requires that students take some standardized tests with the use of the computer. Roehl, Reddy and Shannon (2013) explained that specific skills such as analyzing, reading and problem solving promotes deeper learning and understanding rather than surface learning, which are skills that help increase student achievement. Proctor, Daley, Louick, Leider, and Gardner (2014) explained that the use of technology in the classroom promotes student achievement. The South Carolina department of education (2012)

recorded the passage rate for the local school was 65.5% for the End of Course exam (EOC), which was 57.8% in the previous year.

The students are struggling to succeed academically and all options to increase student learning need to be considered (Louick, Leider & Gardner, 2014). This fact was evident when looking at the test scores and the graduation rate for students with disabilities. The graduation rate for students with disabilities in the state of South Carolina is 28.6% (SC Department of education, 2013). The increased use of UTP provided teachers with a great tool to increase student achievement, but teachers needed to actually use UTP in order to determine its impact on student learning. Beetham and Sharpe (2013) support this when they explained that educational software is an effective tool to teach students and Means (2011) argued that utilizing technology provides students with more opportunities to succeed, but it must be used and used effectively.

Research Questions

I posed the following research questions to examine why teachers at the local setting were not adopting UTP and to identify what support they need to integrate UTP effectively:

RQ1. What barriers do South Carolina high school educators perceive prevented them from implementing USATestPrep?

RQ2. What support(s) do South Carolina high school educators find necessary to promote full implementation of the USATestPrep program in the local setting?

To provide additional information regarding the lack of integration of UTP within the classroom, I posed the following research questions to administrators:

RQ3. What barriers do South Carolina high school principals perceive prevented educators from implementing USATestPrep?

RQ4. What support(s) do they provide to foster educators in their usage of USATestPrep?

Conceptual Framework

The conceptual framework that grounded this study is Ely's (1999) conditions of change theory. His theory suggests certain conditions must be established in order to successfully integrate technology. They are (a) dissatisfaction with the status quo, (b) sufficient knowledge and skills, (c) the availability of resources, (d) time, (e) commitment, (f) leadership, (g) incentives or rewards and (h) participation (Ely, 1999). The purpose of this study was to identify which of these conditions were not being met at the local setting. These conditions are reviewed in more detail in chapter 2.

Weiner (2009) explained the conceptual theory of change as it relates to organizational readiness. Increased readiness of an organization or school leads to the students overall success in academic achievement. Ely's theory of change explained the process for educational change and helped school leaders improve organizational readiness when implementing a new technological program. Ely (1990) explained that teachers who have sufficient knowledge of the program actively participate with the new innovation. Teachers who are adequately prepared to use an ILS in the classroom are

creating a level of readiness that will help the students academically (Aldunate et al., 2012). Educators who want to promote positive change in their classroom practices will work hard to implement technological changes because the status quo is no longer efficient in terms of promoting student achievement (Roehl, Reddy & Shannon, 2013).

When educators are on board for change their effort is greater along with persistence and a positive attitude toward the change (Weiner, 2009). Educators who were advocates for change in the classroom became willing participants in the change process. By changing the mindset of the teacher, the process for organizational change can take place (Weiner, 2009).

Nature of the Study

The research design was a case study and consisted of interviews with 8 teachers and 2 administrators. The criterion for the participants was based on teachers who used UTP in the past, but no longer used it or had limited use of the program meaning that their sign-ins were limited to 5 times a month or less than 2 times a week. Additionally, 2 administrators were also interviewed to better understand their perceptions regarding the integration of UTP. Hegel (2012) explained that a case study is the overall study of each participant's individual experiences. Creswell (2012) explained that a central phenomenon is a concept or process to be explored using qualitative research. The purpose of this study was to explore the teachers' perceived barriers that prevented them from using UTP in order to understand why teachers were not using the program at the local setting. In this study, the goal was to interview 8 teachers and 2 administrators

about their experiences using UTP during the semester to better understand the phenomenon of teachers choosing to no longer integrate UTP as an instructional tool. An additional data source came from interviews with administrators to add to the richness of the results. Administrators had insight about the cost of the program and other conditions that supported or hindered the use of the program. The administrators provided valuable information about why teachers were not using UTP more frequently at the local setting. The analyzed data was compared to determine if the administrators and teachers had different or similar perception about why UTP was not adopted.

Sampling Size

The sampling for this project was purposive sampling with teachers who used the program in the past or had limited use of the program, which meant that the teacher signed in fewer than 5 times a month or less than 2 times a week. There are 28 teachers who have accounts with USATestPrep (USATestPrep, 2015). From the list of teachers, I inquired about their use of the program and with that information I invited them to participate. In addition to the teacher participants the administrators were interviewed. Creswell (2012) explained that purposive sampling involves selecting specific participants, sites and programs to understand a particular phenomenon. These teachers and administrators were invited to participate in the interview process until at least 8 agreed to participate. The 8 teachers and 2 administrators were acceptable in providing a strong sample size and purposeful sampling for this case study was justifiable because the local setting was the only school in this area that had a current license to implement UTP.

The teachers and administrators at the local setting currently have some knowledge and previous use of UTP and can provide information that is relevant to this study, which is critical in this case study (Creswell, 2012).

Data Collection

The data for this case study was based on semi-structured interviews that were recorded and transcribed. Once the data was collected it was then organized for analysis. The data will be coded based on the predetermined themes based on Ely's conditions of change theory which concentrates on the external factors of an innovation, but other themes emerged during the analysis of the data (Creswell, 2012).

Open and axial coding was used and Mertens and Wilson (2012) explained that coding in qualitative research is developed after careful reading of the transcripts. Coding the data involved highlighting the information for the purpose of understanding the phenomenon of teachers not integrating technology in the classroom. With coding the data the researcher then highlighted particular themes that were prevalent among the participants. Then the researcher generated a narrative discussion of the findings. The narrative discussion is a written passage where the scientist summarized and explained the information that was gathered throughout the process (Creswell, 2012). The findings were used to better understand the participants' perceived barriers that caused them to discontinue its use and what was needed to increase its use. In addition, the date collected and analyzed from the administrators provided insight regarding the problem from a different perspective. The data was used to write recommendations for the increased use

of USATestPrep in the final chapter of this study. Chapter 3 provides a detailed explanation of the methods used in this study.

Definitions

Integrated Learning Systems (ILS): Computer software that is used for educational purposes (North Central Regional Educational Laboratory [NCREL], n.d.). Each system provided instructional content that consisted of skills based practices, assessments and management tools. An ILS is designed to have specific objectives along with software that enabled students to master the learning goals and objectives (NCREL, n.d.)

USATestPrep (UTP): A comprehensive ILS that offers students the opportunity to participate in computer-based learning for high stakes tests such as graduation exit exams and college entrance exams (USATestPrep, 2012).

Assumptions

The assumption in this study was that the teachers and administrators contributed accurate and honest information for this study. The information gathered from these teachers was based on the individual teacher's integrity and therefore, as the researcher I did not have information to dispute their findings. Corley (2012) explained that in qualitative research there is a level of objectivity that goes along with the data collected. The level of objectivity that coincided with data collection was that the researcher collected the data without infusing personal beliefs during this stage.

Scope and Delimitations

The experiences of teachers and administrators were explored during the implementation of one specific ILS UTP. The study focused on the experiences of teachers and administrators in a southern school district in South Carolina. The data was collected through interviews with 8 teachers and 2 administrators. The participants of this study were teachers who worked with learning disabled students in an inclusion setting with regular education students. The administrator participants supervised all of the inclusion teachers. The data collected during the study was based on the teacher's experiences when using UTP, and the barriers that prevented them from using UTP. The effectiveness of UTP for each teacher was not included in the study. The impact that the program had on test scores was not the focus of this study.

Svensson and Doumas (2013) stated, "there is usually no clear delimitation of investigated phenomena from a theoretical perspective or based on the formulation of a research problem" (p. 444). This study evaluated the process in which UTP was implemented as an ILS and not the effectiveness of the program on student achievement. Current research supported this rationale. Svensson and Doumas (2013) stated, "a case of teaching within an educational system may be delimited as an episode between a teacher and a student within a lesson, a whole lesson, or an educational program" (p. 444). Teachers needed to fully implement an ILS such as UTP in order to evaluate the effectiveness of the program in terms of student achievement.

The reasons for discontinuing the use an ILS by teachers who taught students with disabilities in a rural area in South Carolina was explored during this study. This study did not include the experiences of English teachers, art teachers, physical education teachers, librarians, parents, and students from other school districts or other geographical regions. Differences between the classroom settings and grade levels were not considered. This limited my ability to determine specific barriers regarding the setting and the grade level.

Significance

The potential contribution of this study was to increase the usage of UTP by the inclusion teachers in the local setting which improved student achievement. There were barriers that prevented teachers from using UTP in the classroom. One barrier that prevented teachers from using UTP was the lack of resources to provide adequate student usage. Liu (2011) recommended that an ILS is highly effective when students are engaged in the program for an extended amount of time per week. The amount of time ranged from 120-150 minutes per week. This recommendation was important because inclusion teachers who did not have adequate technological resources were not using UTP. These teachers did not provide this experience for students in the classroom because the school did not have the recommended resources such as ILS lab or available computers. Livingstone (2012) explained that the lack of adequate equipment is a problem when trying to implement technological resources on a regular basis.

The ILS recommendation for full implementation also poses logistical barriers for teachers and administrators because of the exorbitant cost of establishing and maintaining an ILS program (Tamim, Bernard, Borokhovski, Abrami, & Schmid, 2011). UTP was a costly system that had to be renewed yearly and because the teachers were not adequately using the program then the administrative team evaluated the practicality of maintaining an ILS lab that was reserved to be used for UTP. Livingstone (2012) explained that teachers who have adequate resources in order to implement the usage of an ILS are more likely to incorporate technology within the classroom. However, the main point was that logistically a teacher had to be able to access the resources in a timely manner and that was a problem when schools did not have sufficient mobile labs or computer labs available.

Howley, Wood, and Hough (2011) explained that integrated learning systems are computer-based systems that deliver curriculum material to students in the form of an individual program that allowed students to work over a period of weeks or months to enhance their achievement. The significance of the ILS was important because over time students can saw an improvement in their overall achievement with the continued use of UTP. The potential contribution of UTP as an ILS was that the program helped students to become successful in all of their courses because UTP provided individual instruction that enhanced a student's overall achievement. Livingstone (2012) explained that the continued use of an ILS promotes academic achievement. Students who did not have universal access to the program were not be able to practice the skills learned in class.

Before 1975, students with varying abilities were placed in the classroom that fit their individual needs. McLeskey, Landers, Williamson, and Hoppey (2012) indicated that students with varying abilities are now placed in the least restrictive environment (LRE) that is inclusive because educators realized that special education students achieved at a higher level than previously thought. Regular education and special education teachers were now charged with the task of creating lessons that appropriately challenged students and provided instruction that was versatile to fit each student's varying needs. Education has evolved so much in the past 20 years and with the current trends of implementing resources such as technology, an ILS such as UTP is a tool that benefits students of varying abilities (L. Alford, personal communication, August 2014).

Buffum, Mattos and Weber (2012) explained that research based interventions such as an ILS helps students with disabilities because these supports are relevant to educational programs and activities. An ILS provided immediate feedback, data for RtI, goals and objectives, and allowed teachers to differentiate instruction based on the student's individual needs. If teachers are not using UTP, then the students are not being exposed to an educational tool that is supported by research confirming the effectiveness of the program (Livingstone, 2012). The main points of this section are reviewed in greater detail in chapter 2.

Summary

Teachers in the rural school district in South Carolina are experiencing difficulties with implementing UTP in the classroom (L. Alford, personal communication, July

2014). The program was effective, but many teachers were not utilizing the program because of perceived barriers. The purpose of this study was to explore the barriers that prevented teachers from using UTP in an effort to minimize the barriers and promote the use of UTP. This study was grounded in the conditions of change theory to better understand what needs to be changed for improved implementation of USATestPrep.

This study was important to the rural school district in South Carolina because there was a need for more of the schools in the district to implement this program. The focus of this study is to change the local environment in order to promote growth or change (Watkins, 2012). Teachers needed to take every opportunity to increase the use of UTP in the classroom in order to promote a positive change in the learning environment. This study showcased the gap in literature and practice that existed between the benefits of educational software and the barriers that prevented teachers from using the program.

The next chapter is the literature and a review of current literature about the barriers that prevented teachers from using UTP will be provided. The literature presented a foundation for the literature of the past, present and future. In other words, the literature explores historical research, presents new information, and identifies the gaps in the current research, which highlights the need for this current study (Watkins, 2012). Chapter 3 explained the methods and procedures used to conduct this study.

Chapter 2: Literature Review

Increased usage of ILS in classroom teaching has the potential to increase student achievement. Manuguerra and Petocz (2011) affirmed that ILS use can help educators adopt an adaptive teaching style as well as positively change the way that students learn. The purpose of this study was to identify the barriers that prevented the use of an ILS specifically UTP in the daily instructional practices of classroom teachers in order to provide recommendations for addressing those barriers.

I used the current literature to explain the significance of using UTP as an ILS in the classroom. Howell, Patton and Deiotte (2008) acknowledged that teachers who are highly qualified use varying methods of instruction, including ILS. Buffum, Mattos and Weber (2012) also noted that teachers who are highly qualified often teach a variety of students who might benefit from use of an array of pedagogical strategies. Discussing the response to intervention (RtI) strategy, Buffum, Mattos, and Weber (2012) explained that more U.S. schools have a system in place where students who have particular needs are placed with teachers who are highly qualified to address these needs; this is done because the most effective teachers use an assortment of instructional strategies and practices to enhance student achievement. All schools need to place students at risk of low achievement, or who achieve at a lower level with teachers who are highly qualified and well versed in using instructional strategies such as UTP (L. Alford, personal communication, July 2014). Students who are placed with inexperienced teachers or teachers who do not incorporate a variety of instructional practices often remain at a

lower academic level than their peers who receive a variety of instruction from highly qualified teachers (Buffum, Mattos & Weber, 2012). Therefore, students of all levels benefitted from teachers who are highly qualified in a variety of instructional practices.

In this chapter, I reviewed the history of an ILS in U.S. education and considered this technology's benefits and drawbacks as an instructional tool. The conceptual framework I selected, Ely's conditions of change theory (1990), is also presented. I also highlight barriers to use of ILS and I discuss how these barriers might be resolved. The last section includes a description of the research method I used to evaluate the problem at the local setting my rationale for selecting it.

Literature Search Strategy

The literature search strategy started with online articles from the courses that I had taken throughout my time in the program. I also searched online databases, which I accessed via Walden University Library. Education Resource Information Center (ERIC) was one of the databases I searched. This is a national informational system that provides access to online journal articles and is supported by public money (Creswell, 2012). I also searched Google Scholar. ERIC is Additionally, EBSCO and SAGE Publication databases were used to find literature on UTP and ILS.

The search terms used to collect articles were integrated learning systems, USATestPrep, technology integration, teacher perceptions about technology and the barriers that prevented teachers from using technology in the classroom. These search terms provided a plethora of articles, which were used to focus the discussion of the

literature review. I primarily used peer-reviewed articles because I wanted to use scholarly and reputable content in my research. I felt that the peer-reviewed sources provided the most relevant information to my research. Creswell (2012) explained that articles that are reviewed by a committee of reviewers from various parts of the country are considered high quality. These manuscripts are critically reviewed and are now included in national journals.

Conceptual Framework

The conceptual framework that grounded this study was Ely's (1999) conditions of change theory. Ely's condition of change theory has been around for over 20 years. Ely is a respected professor whose work in the field of education has been well documented (Beetham & Sharpe, 2013; Fullan, 2010; Inman & Lowther, 2013; Mamma & Hennessy, 2013). Ely's theory of social change is based on eight conditions: (a) dissatisfaction with the status quo, (b) sufficient knowledge and skills, (c) availability of resources, (d) time, (e) commitment, (f) leadership, (g) incentives or rewards, and (h) participation (Ely, 1999). The status quo in education is when there is little to no progress and the educational leaders recognize the need for change (Ely, 1999). Educational change is slow in theory, but when the stakeholders recognized the need for change, educational leaders became proactive in creating or implementing the required changes. The knowledge and skills aspect of Ely's theory is important because this is the basis for innovation in the educational classroom. Ely further explained that the person with the

knowledge and skills is the innovator. Innovation in education is important because educators had to implement new instructional strategies such as UTP.

The third condition in Ely's (1999) change theory is the availability of resources. The availability of resources is a point of contention for all educators in schools where there was a lack of sufficient resources. Ely explained that resources are important for full implementation of any innovation such as software, hardware, and ancillary materials. In order to obtain these resources, funding is a factor that needs to be addressed within each school district. Funding is one of the central factors that contributes to the lack of resources in the schools.

The fourth condition in Ely's (1999) theory of social change concerns the time allotted for educators to learn about innovative solutions for the classroom. UTP is one innovation that requires teachers to have ample time to learn the program (L. Alford, personal communication, July 2014). Ely discussed this condition and stated that implementers need training time that is arranged by the organization where the innovation takes place. In the case of UTP, educators needed time to learn about the program in a setting where the program would most likely be implemented.

Commitment requires that the principal or leaders within the designated setting continuously support the new innovative strategy. Ely (1999) discussed the idea that with commitment there may be no public support, but that the principal or board of trustees needs to continue to endorse the new educational strategy by supporting the program and those who were implementing the program within the school setting. This type of

commitment was demonstrated by reinforcements. Principals were the school leaders who reinforced the strategies and techniques that were needed to enact a positive change in the local environment.

There were two major components for leadership in Ely's theory of change. The first condition of leadership was centered on the leaders of the organization. The organizational leaders are the principal or board members who implemented new policies or procedures. The second component of leadership focused on the educational leaders or project leaders who provided support to colleagues and students. Educational leaders or project leaders are the individuals who implemented a hands on approach in terms of completing the daily activities that were involved in implementing an educational software program such as UTP. Ely (1999) explained the importance of leadership by explaining that educational leadership is the key element in producing long lasting change.

The rewards and incentives condition was the seventh element of the conditions of change theory. This component explained how stakeholders were rewarded after the implementation of a new program. Rewards and incentives are the reasons that stakeholders continue to implement new directives (Ely, 1990). An example of a reward or incentive is increased time for professional development or even some sort of remuneration because payment is often the reason that a change is considered in educational practices (Ely, 1990). Intrinsic or extrinsic rewards were necessary

components to the implementation of a technological program because participants needed to see or feel the value of the program.

Participation was an integral component of the theory of change because it required that all stakeholders were important in the decision making phase of implementing a new innovation. Ely (1999) explained that in participation all stakeholders are important to the decision making process. In participation, regardless of availability all stakeholders had equal responsibility in making the decisions. Fullan (2010) explained that participation from all stakeholders is an integral component to the success of any educational system. In order to create an atmosphere where all stakeholders were in agreement with the new innovation, every stakeholder had an opportunity to voice an opinion and express concerns.

Rationale for the Study

The rationale for this study was the need to increase the teachers' use of a research based educational software program that improved student achievement. Mama and Hennessy (2013) explained that teachers are concerned about the curriculum, but those who do not utilize technology are not providing the students with every opportunity to succeed. Beetham and Sharpe (2013) explained that educational software is an effective tool in teaching students. This study helped promote the use of a program that increased the achievement of students with and without disabilities because teachers who were dissatisfied with the status quo found inventive ways to implement alternative teaching strategies in the classroom such as UTP.

Hightower (2009) stated that only 20% of the states require technology related professional development as a requirement for a teacher's recertification. This requirement prevented teachers from learning how to use technology effectively. Technology resources are becoming more abundant, but the availability of technology in the classroom has not increased the overall use of technology in the classroom (Inan and Lowther, 2010). Teachers needed training and support in order to effectively integrate technology in the classroom. Limniou and Smith (2010) explained that teachers feel more comfortable with using an ILS if they have the support they need when asking questions. Teachers needed time and assistance to create an online program that was pedagogically worthwhile. The time taken to create an effective online program allowed teachers to implement technology, which is the foundation of Ely's (1990) theory.

Eteokleous (2008) argued that student achievement outcomes are disappointing because teachers lack the skills to effectively incorporate technology in the classroom. In addition, the teachers' attitude toward integrated technology was a significant factor in the decision to integrate technology in the classroom. Lim and Chai (2008) illustrated the problem of the teacher's attitudes as a contributing factor as to why educational software programs, similar to UTP were underutilized in the classroom. The results of this study allow teachers to describe any perceived barriers and possible reasons for not adopting UTP and the results are grounded in Ely's conditions of change theory (1990).

Positive Effects of an ILS in the Classroom

In this section, I researched a variety of literature that explained the positive and negative effects of an ILS in the classroom. In this section, I also explored the barriers that prevented teachers from using an ILs in the classroom.

UTP is one specific ILS that provided a positive impact on classroom practices. UTP integration in the classroom was the new phenomenon in educational facilities. Technology increased the opportunities for students to explore new concepts and ideas at a rate that was faster than previous generations. Information was now at one's fingertips with a certain immediacy that was unparalleled. This current generation of students is aware of technology and how it works, but incorporating their knowledge of technology and integrating educational supports is an enhancer that benefits students of all levels (Manuguerra & Petocz, 2011).

Another benefit of technology in the classroom was that today's students had a variety of ways to access instructional programs. For example, IPads, electronic notebooks and mobile devices allow students to have instant access to online education (Manuguerra & Petocz, 2011). Handheld devices allowed students to access necessary educational technology even when the student was not in the classroom which meant that the student was able to take the concepts learned at school and continue the learning process at home. Hicks (2011) stated, "students with disabilities benefit from the many rehabilitative tools that aid them in gaining cognitive skills, physical skills and abilities. Students with disabilities often rely on technology to function in everyday life" (p. 189).

Technology had many benefits in the educational setting and helping students of varying skill levels achieve a higher level was crucial to the student's future.

Kopcha (2012) explained that two additional benefits of an ILS is that it promotes critical thinking skills and promotes the learning of content that was specific to a subject. These skills were valuable to all students because critical thinking was paramount to the success of students in and out of the classroom. Students of all levels needed to be able to think critically in order to solve school based problems and real life problems. ILS's promoted thinking and content based skills and UTP is just one ILS that promoted these skills.

Burns (2013) detailed the positive effects of an ILS within a school system. One positive effect was that an ILS promoted tutorial learning of content knowledge in science and math. Tutorial teaching was an approach that allowed students to practice certain skills using a technology tool that was created to increase learning opportunities. Math and science skills were important, but aside from specific subjects the skills learned in math and science classes promoted skills for the future. All students needed reasoning and problem solving skills to survive in their future academic careers and in the real world. Additionally, Burns (2013) explained that an ILS had proven benefits of promoting improved writing skills for students. Students who participated in web-based writing tutorials increased their scores on standardizes. The link between improved writing scores and word processing on a technological tool is evident since the 1980's according to Burns (2013).

The gaps in the literature explained how this study impacted students with and without disabilities. Buabeng-Andoh (2012) explained that there are several articles that encourage the practice of an ILS within the classroom and there are several articles that discourage the practice of an ILS within a classroom. This study discussed the positive impact of an ILS on all students, but especially those with disabilities. The gap in research is evidenced by the fact that many articles illustrated the barriers that prevented teachers from utilizing UTP rather than how well an ILS such as UTP created a positive impact on student achievement. Kopcha (2012) discussed that the integration of technology showcases an improvement in student achievement, whereas teachers who did not incorporate technology saw a decline in student achievement. The point is that students who are able to use technology showed an increase in skills and those who did not integrate technology show a decline (Kopcha, 2012). Therefore, students with and without disabilities had an opportunity to practice using UTP to improve basic skills.

Negative Effects of an ILS in the Classroom

The negative impact of online learning is that technological resources such as Internet service or Wi-Fi are not always available (Manuguerra et al., 2011). This type of barrier was a problem for students whose parents were not able to afford Internet services. The lack of sufficient resources such as Internet service in rural areas was a potential problem that affected students who lived areas where service was not always stable or constant. This problem resulted in students not having Internet access and therefore these students were not able to practice online learning skills beyond the

classroom environment. Maurer, Nelms, and Swartz (2013) discussed the impact of financial resources and the impact that it has on educational tools. The students who did not have resources at home often were not willing to stay late at school to make good use of the materials there. This problem has the potential to create a negative impact on student achievement because many students do not take the initiative to use on site resources (Buabeng-Andoh, 2012).

Another negative impact of online learning is that not all students feel a significant change in their educational achievement (Manuguerra et al., 2011). The authors explained that although students utilized the online programs, there was no significant change in their academic progress. This problem was important because if the student does not see the benefits of the ILS then he was likely to discontinue using the resource.

Barriers that Prevent teachers from using UTP

Limniou and Smith (2010) explored the perspectives of teachers regarding technology in the classroom. Educators who were hindered by barriers limited their instructional practices repertoire, which was one barrier that prevented teachers from incorporating UTP as an ILS in the classroom. Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur (2012) explained that educators who are not willing include other instructional best practices are limiting their instructional practices. In order to be effective in the classroom, an educator included additional teaching strategies to engage students. Furthermore, teachers need to realize that incorporating teaching strategies that

include the use of an ILS creates a learning environment that includes varying modalities for students (Buabeng-Andoh, 2012). Not using an ILS in the classroom is one barrier that teachers will have to overcome because the problem is the perception of the educator and not the instructional capabilities of the program (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012). The teacher's mindset was difficult to overcome because many teachers were using strategies that worked well in the past and for many educators it was difficult to integrate new strategies that were different from previous instructional practices.

Another barrier that prevents teachers from utilizing UTP in the classroom is the lack of training, which is another barrier identified in Ely's (1990) theory. Many educators were reluctant to utilize an ILS because of the lack of adequate training on how to use the program. Professional development to train teachers on UTP required several sessions. Many school districts provided professional development for the purpose of training teachers on how to effectively utilize an ILS such as UTP was provided for only one or two days. In order for teachers to effectively incorporate an instructional strategy such as UTP the teachers need to feel confident in their own knowledge of the program (Limniou & Smith, 2010).

Kopcha (2012) explained the lack of a connection between the amounts of technology available in the schools versus the teacher's usage of the technology for the purpose of instruction. Teachers were using technology for the purpose of grading and recording attendance, but an ILS was a form of technology that aided in the overall

classroom instructional practices, which benefitted student achievement. Many teachers were aware of what instructional technology was available, but the barriers that prevented the teachers from using the technology was the apparent problem. Sang, Valcke, van Braak, Tondeur, and Zhu (2011) explained that the barrier of not having enough computers is a problem that was difficult to overcome. Schools that do not have adequate equipment did not provide ample time for all students to have access to the resources.

The second barrier that prevented teachers from using an ILS in the classroom was the absence of time. The lack of time for teaching students to use an ILS in the classroom is a barrier that is difficult to overcome according to Sang, Valcke, van Braak, Tondeur and Zhu (2011). That barrier was difficult because teachers had standards that had to be taught and the flow of instructional time in the classroom determined how often a teacher did use UTP in the classroom.

Another barrier that prevented teachers from using UTP in the classroom was the teacher's perception of an ILS or the teacher's attitude toward an ILS in the classroom. Research suggests that over the past 17 years there has been some progress between teacher perceptions and computers (Sang, Valcke, van Braak, Tondeur, & Zhu, 2011). However, with the gains there was still a long way to go in order for teachers to fully implement an ILS such as UTP in the classroom on a regular basis. Teacher perceptions were the building blocks of full implementation of an ILs in the classroom.

Additionally, Kopcha (2012) explained the perceptions of some teachers is the lack of confidence in using the program effectively once the training is completed. This

barrier was important because teachers were often trained to use a program, but once the training was completed the mentorship stops. Ely's (1999) theory relates to this problem because the teachers who are not confident when using the program will not continue using the program. This was a barrier that was overcome with mentoring after the training was complete.

Difficulties with the Implementation of UTP

Teachers were vital to the success of UTP in the schools. The implementation of a new program such as UTP became an overwhelming experience for teachers and various barriers arose as a result of these factors. These barriers can result in the lack of implementation of UTP by teachers, administrators, and students, which means that the students with disabilities as well as the other students will not be able to practice basic skills with assistive technology (Sang et al., 2011).

There is not sufficient research identifying specific barriers to the implementation of UTP (Sang et al., 2011). These authors identified ease of use, reliability or functionality of the program, availability of technical support, teacher perceptions and support, administrative support and staff training as the top barriers. Although this information is valuable there is a need for further studies investigating this process (Sang et al., 2011). In order to learn more about UTP teachers worked with the program, identified the barriers that persisted in the implementation of the program and found strategies to overcome the barriers. Teachers needed to know this information because without it UTP was fully implemented.

Research revealed several difficulties with the implementation of an ILS such as UTP, but the focus of the studies varied. This section reviewed specific studies that highlighted the specific barriers associated with implementing an ILS. Several studies focused on teacher perceptions, availability of resources and funds as the outlying barriers. Many studies did not focus on UTP specifically, but there were several studies that focused on the integration of an ILS in the classroom and those studies were used to highlight the barriers that prevented the successful implementation of an ILS such as UTP. Then I explained how the established theoretical concepts developed by Ely (1990) and Rogers (2010) help ground the research regarding the barriers discovered in the literature.

In a recent study, Sang et al. (2011) described external and internal barriers in the integration of technology process. The author described external barriers as the obstacles that inhibited the effective use of technology such as: Internet access, bandwidth, and technology related equipment. These barriers were discovered through research of other articles about the barriers of integrating technology.

The internal barriers in the Sang article were described as the teacher's perceptions to technology integration. The internal barriers are about the teacher's perceptions of teaching and learning, and the conception of knowledge (Sang et al., 2011). These barriers were rooted in the daily practices of classroom teachers and therefore these issues took time to explore and explain.

The next current study described the perceptions of teachers when integrating technology in the classroom. Ertmer et al. (2012) explained the two barriers that hinder the integration similarly to the Sang et al. (2011) article as being external and internal barriers. The external barriers are hardware, Internet access, software, support, tools and training (Ertmer et al., 2012). These barriers were explored in several articles and therefore these facts made a case that explained the barriers that prevented technology integration in the classroom.

The third study focused on similar barriers, but also included additional barriers that contributed to the perceptions of teachers when integrating technology. Liu (2011) stated, "teacher professional development and training, administrative support, positive school environment, adequate technological resources, technology access, technical assistants, adequate planning time, sustained funding for technology, instructional styles, attitudes toward learning, pedagogical beliefs, and personal characteristics" (p. 1014). These contributing factors affected the teacher's usage of technology in the classroom because teachers who were not confident in using technology simply did not incorporate such practices into their teaching routine. An and Reigeluth, (2011) discussed the fact that there is not a clear definition for the integration of technology within a classroom. Educators needed a clear definition of how to implement technology within a classroom because without a clear model of integration there were significant barriers that prevented the successful implementation of the technological program within a school or school district.

After an analysis of these main studies, four overlapping characteristics were revealed including a lack of knowledge, issues regarding the attitudes of teachers, lack of support, and lack of time. These critical elements were not the only barriers that prevented teachers from using UTP in the classroom. In addition to these barriers, the next section evaluated the next element of Ely's theory. This next element continued to explore the barriers that prevented teachers from using UTP in the classroom.

Conceptual Foundation

Ely's (1990) conditions of change theory is the basis for the conceptual structure that was used to explain the problem that some teachers had implementing UTP. Ely (1990) explained that change is constant and inevitable. He explained that in education, technological changes had to be carefully reviewed because the implementation consisted of implementing an idea, program or set of activities that were new to the people who are attempting to or expected to change (Ely, 1990). Ely suggested that participants should make changes deliberately in order to increase the effectiveness of the change.

Ely related his idea to Rogers's diffusion of innovations theory (Rogers, 2010; Ely, 1990). Rogers (2010) theory explained that the process of change theory argued that in order for change to be accepted, the participants must invest in the idea that the innovation has great relative advantage, compatibility, trial ability and observability. These four innovations were paramount when new innovations were adopted. Rogers also identified the four elements that were necessary in implementing a new technological program and those elements were: the innovation, communication channels, time and the

social system (Rogers, 2010). Ely (1990) also recognized these elements, but instead proposed that there are eight conditions that contributed to the adoption of a new innovation. The eight conditions were: 1) dissatisfaction with the status quo, 2) sufficient knowledge and skills, 3) availability of resources, 4) availability of time, 5) rewards or incentives, 6) participation, 7) commitment, and 8) leadership. Each of these conditions needed to be addressed at some point or the change process was at risk of being unsuccessful.

The stages of Rogers (2010) theory explained the process of change and with that understanding an agent of change can better understand the conditions for change that Ely's theory provides. Educators who embraced the notion of the change theory were capable of understanding the systems change from a local classroom level to the broader global educational level. Hargreaves and Fullan (2012) explained that educators who are invested in the profession are constantly finding ways to improve or increase their own knowledge in order to encourage positive changes within the school and the school district. Additionally, Means (2010) stated, "hence, to make technology an agent of educational change, the field needs to understand the kinds of learning outcomes that technology enhanced and the circumstances under which that enhancement was realized in practice" (p.287). As an agent of change the researcher's role was to present UTP as an agent of change to the other teachers. The goal was to ignite an educational reform or agent of change that did become a part of the social change within the school and the district.

Each of Ely's conditions contributed to the success of educational change. Ely (1990) explained that not all conditions must be met in order for change to occur. However, change is more likely to be effective if each condition was addressed (Ely, 1990). Ely (1999) highlighted the relationships among the conditions. Usually one or more conditions were linked with another condition. Ely (1990) identified the following relationships:

- Dissatisfaction with the status quo was linked to leadership.
- Knowledge was linked to rewards, leadership, resources and commitment.
- Resources were linked to commitment, leadership, and rewards.
- Time was linked to participation, commitment, rewards and leadership.
- Rewards were linked to dissatisfaction with the status quo.
- Participation was linked to commitment, time, knowledge, and rewards.
- Commitment was linked with time, resources, and rewards.
- Leadership was linked to time, participation, commitment, resources, and rewards. (p. 298)

Several of these conditions had been described in the literature about technology integration. Keengwe, Schnellert and Mills (2012) identified time and knowledge as barriers to the implementation of an ILS in the classroom. The authors explained that time was necessary to fully investigate the problems that were often associated with the implementation of a new program. Time was needed to plan and prepare for a full evaluation of the program as well as for participants to learn how to use the program. The

other component was knowledge. Knowledge according to Keengwe et al., (2012) is important because often the negative attitudes of the participants and their lack of knowledge lead to the lack of participation from teachers. This was categorized under time and knowledge according to Ely's (1990) conditions of change. For the purpose of this study, combinations such as those listed were coded as a separate category.

Dissatisfaction with the Status Quo

The first condition in Ely's theory is dissatisfaction with the status quo (1990). This idea was paramount to the idea of change in education. Educators were often dissatisfied with the current trends in education. However, in order to move beyond the status quo an educator had to recognize that change was inevitable and with the incorporation of technology in the classroom the changes made specifically helped students with disabilities. Hargreaves and Fullan (2012) explained that when teachers facilitated practices that enhanced student achievement such as incorporating technology and differentiated instructional strategies special education students benefitted from the varying teaching methods. Students with disabilities benefitted from a variety of instructional practices which was the basis for incorporating UTP in daily classroom practices. McCabe and Meuter (2011) stated, "technology-based learning environments have also been shown to increase understanding" (p. 149). Teachers who were willing to incorporate technology based learning assessments provided instruction that benefitted all students. Technology was an ever changing element that was prevalent in the lives of the teachers and students. Therefore, one of the best methods of teaching students in the

modern classroom incorporated elements of technology. Koc (2013) explained that teachers are more comfortable incorporating technology when there is proof that the change benefitted students academically. Teachers need guidance on how to incorporate technology that produces positive learning and gains in achievement because of the teacher's efforts in using technology as a tool for educational change (Means, 2010.) Again, the goal was to promote change, but to also produce academic elements that increased student achievement.

In order for educators to move beyond their dissatisfaction with the status quo, teachers had to learn strategies that promoted student achievement. Teachers were instrumental in creating changes in the classroom. Ely (1990) stated, "change is usually expressed by individuals who want to bring about changes, but do not know where to begin" (p. 24). Creating change in education was the foundation for a successful outcome such as student achievement and student learning.

Knowledge and Skills Exists

Ely's second condition of change was knowledge and skills. In order to incorporate educational reform with the use of an ILS such as UTP, the teacher needed to have sufficient knowledge and skills of the program being implemented. Professional development for training teachers on how to use UTP was important. Hargreaves and Fullan (2012) explained that sufficient training is necessary in order to ensure that a true academic change took place. The authors also stated the lack of time for professional

development was a problem because teachers needed more than one training session to learn a new program.

Musanti and Pence (2010) stated that knowledge is envisioned in a variety of ways, but that knowledge is given, received, procedural and constructed. The knowledge received during professional development was the information that translated into a best practice model for the classroom. Knowledge was necessary to fully implement UTP in the classroom. Professional development was an area where educators learned new material for implementation in the classroom. In the local district the amount of time allotted for professional development results in teachers retaining the knowledge (K. Mack, personal communication, February 2015). However, there is no significant evidence that states that professional development for teaching a new technological concept results in a change in student achievement (Hargreaves & Fullan, 2012). This was important because teachers learned how to teach with technology was a new development in teaching 21st century learners. Social capital was the amount of investment on the part of the innovators to ensure that the program that was utilized was fully implemented and that those who had expert knowledge of the innovation were available to help facilitate a smooth and meaningful transition toward implementation. The success of any innovation within a school is based on the amount of social capital that is involved (Hargreaves et al., 2012). Knowledge and skills must be present in order for a change to occur (Ely, 1990). Again, the educators developed adequate training in

order to acquire such knowledge and with that knowledge these individuals were equipped to teach using UTP.

Resources are Available

Technology innovations required sufficient resources for implementation. Resources included software and hardware along with knowledgeable teachers who provided meaningful instruction to students. According to Sang et al. (2011) technology integration is more successful when teachers accept technology. This study was important because teachers needed to embrace the idea of incorporating new innovations with a copious amount of available resources. Teachers who used UTP more frequently because there are resources available at the local setting. The local setting has purchased an unlimited site license of UTP so that all students had sufficient access to the program in and out of school (C. Hill, personal communication, March 2015). The technology coach and the principal approved the funds for the continued use of the program on an annual basis. The lack of funding was a potential problem that caused a delay in the progression of utilizing the program. Therefore, if the program is not available school-wide then the teachers and students will not have full access to the program (Mertens & Wilson, 2012).

Availability of Time

Time was an essential element when learning or implementing a new innovation. Ely (1990) explained that time is necessary and that time is a resource that needs to be made available. Time was needed for learning, implementing and revising lesson plans and teaching strategies. UTP was an innovation that took time to explore so that teachers

learned how to use it effectively. Ocak (2011) explained that some studies believe that the time teachers spend on learning the innovation is more time consuming than actually teaching the necessary material. The problem was that some teachers felt that the time it took to learn the new innovation was a waste of their overall time. Buabeng-Andoh (2012) explained that time is a difficult element to manage, but it is necessary with the implementation of an innovation such as UTP. McCabe and Meuter (2011) explained that effectively managing time allows teachers to use technology to create an effective learning environment for students. Time was critical to the success of utilizing UTP in the classroom because time allowed the teachers and the students the opportunity to learn collaboratively.

Rewards or Incentives Exist for Participants

The rewards or incentives portion of Ely's (1990) theory is just as important as all of the other conditions. There is an intrinsic or extrinsic reward with the implementation of a new innovation (Ely, 1990). The intrinsic reward for some teachers was knowing that their teaching practices benefitted the students in their classrooms. An example of an extrinsic reward could be resources such as ancillary materials (Buabeng-Andoh, 2012). Rewards equal change which is why there had to be some benefit attached to the innovation because the teachers needed to feel that there was a reason for the change (Ely, 1990). Panagopoulos (2013) explained that in order for intrinsic motivation to be maintained that some individual's actions toward success are externally motivated which means that incentives or rewards backfired frequently. This was a problem because

teachers had to incorporate technology because the knowledge of the program was beneficial to the students. Teachers needed to think of the student's personal gain which was an increased level of achievement which was a reward for the teacher. Incentives promote effort and performance which are the necessary ingredients for the full implementation of UTP (Panagopoulous, 2013). Praise from school leaders was another incentive that promoted the increased efforts of the teachers to utilize UTP in the classroom.

Participation

Participation was an element that had to be present in order to reach maximum participation from all stakeholders. The participation of parents, teachers, administrators, and students was necessary in order to implement an innovation such as UTP. Margaryan, Littlejohn, and Vojt (2011) explained that participation among stakeholders is paramount to the success of a technological program that is driven by the amount of emphasis placed on the program by students and teachers. In other words, teachers and students who were supportive of the program promoted the program with prolonged use in and outside of the classroom. Lee, Olson, and Trimi (2012) stated, "the key element of innovation is to provide compelling experience with network effects for valued creation" (p. 824). Consequently, providing a compelling experience with UTP allowed the stakeholders to benefit from the value of the program.

Participation from all stakeholders meant that everyone involved took the time to fully learn the program. After learning the program, the stakeholders implement the plans

and goals created by the team (Kopcha, 2012). Mertens and Wilson (2012) explained that with the implementation of any new strategy the participants rely on the experts who already have a plan in place in the event of any challenges that did occur. Challenges were anything that hindered the progress of the program.

Commitment from all Stakeholders

A commitment to an innovation was vital to the success of the innovation. Ely (1999) explained that the level of commitment varies for each stakeholder depending on their role in using the innovation. Teachers and students were key innovators who used the program more intently. Parents and administrators were acting in a more supportive role to aid teachers and students. Ely (1999) further explained that commitment requires support and the support of those who believe in the program is important to the success of the innovation. Mertens et al., (2012) stated, "appropriate accommodations are needed to ensure that stakeholder participation is supported" (p. 201). UTP required support from all stakeholders to ensure the success of the program within the schools.

Another problem with the implementation of a program was recruiting participants. Mertens and Wilson (2012) explained that the recruitment of participants is a challenge when the program is voluntary and not mandatory. UTP at this point was a not a mandatory program at the local setting. Some teachers were using it as a rewards program where students earned bonus points for missing or poor assignments. This study highlighted the other facets of the program to promote a prolonged use among the students with disabilities. Inclusive teachers were the focus of this study because these

teachers worked with students who were not all on grade level and a program like this did help these students achieve a higher reading level. UTP helped students of all levels, but with students with disabilities this program did highlight how well a student read. Implementing a program that is specific to a student's disability created a positive impact on how well the student achieved a higher level (Mertens et al., 2012).

Evidence of Leadership

The final condition of Ely's theory was leadership. Leadership was comprised of two roles. According to Ely (1990) the first role of leadership is the executive officer of the organization and the second role was the project leader who was more closely involved in day-to-day activities. An example of this relationship is described as a relationship that is similar between the principal and teacher (Buabeng-Andoh, 2012).

Administrators played a pivotal role in the implementation of a new innovation. Keengwe, Schnellert and Mills (2012) explained that administrative support is vital to the implementation process of any innovation. Without administrative support, the technological program was futile. Support for teachers implementing a program such as UTP was needed because teachers worked with a variety of learners. With all students, support is definitely needed for teachers who work with students with disabilities while trying to incorporate a new innovation (Mertens et al., 2012). School leaders had to provide the support because they were the ones who became instrumental as a sounding board or as problem solvers.

Teachers were the second position of the leadership team described by Ely. Teachers were the facilitators of the innovation. The role of the teacher was to learn the program and successfully implement the program within the classroom. Teachers who are implementing the program became evaluators in the sense that they have firsthand knowledge of what is working well versus what is not working (Mertens, et al., 2012). Teachers then became the experts because they were well versed about how well the program worked. The teacher's role or responsibility then moved toward monitoring student achievement because once the students logged onto UTP and selected their teacher for feedback, the teacher then viewed the areas of weakness for all students.

Resolving Barriers

Most of the research in the past focused on the barriers that prevented educators from implementing an ILS such as UTP in the classroom. The barriers that prevented teachers from using UTP were specific, but by resolving Ely's conditions many educators now had more reasons to implement the program. The current research highlights the barriers that prevented the use of technology, but there was no significant research that highlighted the barriers that prevent the use of UTP. Keengwe et al., (2012) explained that there are many barriers to effectively implementing a technology program which includes: the lack of administrative support, negative staff attitudes, lack of computer knowledge, along with problems with time, space, technical support and problems with curriculum integration. By addressing these barriers teachers moved beyond the programs and worked toward creating meaningful learning situations for all students.

With the knowledge of what barriers were the most prevalent in the school system, researchers made informed decisions to overcome these barriers and supported teachers in the implementation of UTP. This knowledge impacted teachers, administrators, guidance counselors, students, and their families. Research provided evidence that technology not only allowed a student to share their knowledge and advance their own level of achievement, but it was also vital to the success of these students in the future. Technology integration in education is a critical element to engaging students in an era that is digital (Keengwe et al., 2012).

Research Method

Most research in the area of barriers to technology integration was performed through qualitative research designs. This design allows researchers to investigate "why" or "how" a phenomenon occurs (Creswell, 2012). According to Creswell (2012), "the central phenomenon is the concept or process explored through qualitative research" (p. 129).

A variety of qualitative studies were used, however, half of the articles identified for this study used previous research as the primary source of data. The qualitative method was chosen because case studies involved a detailed exploration of a single classroom, subject, individual, group or event (Mertens et al., 2012). The benefits of a qualitative case study allowed the researcher to focus on the nature of the case, the historical background, setting and the overall understanding of the case itself. In this study, the nature of the study was to understand the barriers that prevented teachers from

using UTP in the classroom. A quantitative study focuses on the effectiveness of an intervention or is descriptive in terms of the proposed subject (Mertens et al., 2012). Mertens et al. (2012) explained that the quantitative design focuses on, "using the experimental, quasi-experimental or single group quantitative designs to determine an intervention's effectiveness is to be able to say whether the changes that occur in the participants' behavior skills, or attitudes (dependent variable) are the result of an intervention (independent variable)" (304). This study's focus was on the barriers that prevented the use of UTP. Additionally, this study also focuses on the perspectives of the participants and not on whether or not UTP helped teachers become more effective in the classroom. According to Mertens et al. (2012) the qualitative case study focuses on understanding a particular object or case. Case studies were descriptive and focused on a particular case and provided an understanding for a particular phenomenon.

An and Reigeluth (2011) generated a study that focused on the barriers and perceptions of teachers that prevented the use of technology in the classroom which is similar to the case study that I wanted to conduct. Interview questions were designed to explore the participants' beliefs, attitudes, and knowledge of UTP which coincided with the structure of a case study. After interviewing 8 core secondary teachers and 2 administrators in individual settings, an analysis of the data was coded based on the emerging themes. These themes included: (a) perceptions and use of UTP, (b) best practices, (c) administrative support, (d) the barriers in using UTP, (e) technological struggles, and (f) teacher expertise.

An and Reigeluth (2011) utilized a case study design, evaluating the experiences of teachers during the implementation of an innovation in an inclusive classroom setting. These researchers interviewed participants and completed document analysis to evaluate their research questions. The researchers also evaluated the teachers schedule and experiences in the classroom when implementing technology. The data was coded to reveal barriers to the implementation of a technological program such as UTP.

Summary and Conclusions

The use of technology in the classroom has been an in depth discussion for several decades. Technology used to be nonexistent, and now with the advancing of time technology is prevalent in society and in the classroom. For this study, technology was not limited to computers only, but technology was available in the form of handheld devices such as tablets and smart phones. Research found that a number of barriers were identified that threatened the implementation process of an ILS such as UTP. By using Ely's (1990) conditions of change theory and research regarding barriers, I have examined this study's framework according to dissatisfaction with the status quo, sufficient knowledge and skills, availability of resources, availability of time, reward or incentives, participation, commitment, and leadership. It was evident that a study was required to determine which of the factors, combination of the factors or additional factors impacted the use of UTP at the local setting. This qualitative case study, helped fill in the gaps between the literature and teacher practices by exploring the teacher's perceptions of the barriers that prevented the usage of UTP in the classroom. I also

discussed the implementation of UTP in order to increase student achievement and discussed ways to maximize usage among teachers. The next chapter highlights the methodological practices for the development of this study. The components of the next chapter include the research design, research questions, ethical protection of the participants, and the methods for protecting human subjects, role of the researcher, data collection, and data analysis.

Chapter 3: Research Method

Using semi structured interviews; I interviewed educators about their perceptions of the use of an ILS in classroom teaching. I also considered possible barriers to use of this educational technology. To better understand the experiences of educators who had tried to implement the ILS UTP at the research setting, I conducted interviews with eight secondary inclusion teachers and two administrators. This chapter includes a review of the research design, research questions, procedures for protecting participants, and collecting and analyzing data, and my role in the research process.

Jacob and Furgerson (2012) described how the qualitative research design addresses the research problem where the variables are unknown and need to be explored.

I began with a central idea that required exploration and then conducted a literature review, which I presented in Chapter 2. The literature review provided critical information about the barriers that prevents teachers from using UTP. I decided that semi structured, in-depth interviews would elicit the best information from participants in order to understand the problem of teacher not using UTP in the local setting. Miller, Birch, Mauthner, and Jessop (2012) explained that one common component to the qualitative research process is conducting interviews with participants who have practiced the phenomenon or focus of the study.

A quantitative design was not selected because in quantitative research there are known variables. In the qualitative case study methodology, the variables are unknown; therefore, the focus is the participant's perspectives about UTP. Davis, Golicic, and Boerstler (2011) affirmed that there are multiple variables in quantitative research designs. Quantitative research starts with a hypothesis or theory about a variable that the researcher wants to explore. I conducted this study to identify the barriers that caused the lack of or partial implementation of UTP and to explore themes that were presented through data analysis. For this study, I examined the barriers that were hindering the use of UTP at the local setting and provided the framework for future research that was quantitative in nature and included a hypothesis. The potential barriers that hinder the use of UTP are the lack of time, lack of resources, teacher perceptions, and insufficient training to educators (Ertmer et al., 2012). The goal of this study was to explain why some educators were not using an ILS in their daily instructional practices.

Exploratory case studies provide an in-depth analysis or exploration of a bounded system based on the extensive amount of collected data (Creswell, 2012). Case studies are based on an activity, event, process, or an individual (Davis, Golicic, & Boerstler, 2011). Bansal and Corely (2011) observed that researchers use more than one source of data to research a case study to ensure that several aspects of the event are explored. I collected multiple sources of data by interviewing both the teachers and administrators at the local setting so that the collected data could be triangulated. Stake (1995) explained that a case study is a means of exploration for the individual who was interested in learning more about a particular subject. Stake also stated that a case is "a specific complex functioning thing" (p. 2). In this case study, I sought to explore the perceived barriers that impeded the implementation of UTP.

Other qualitative research designs such as an ethnographic, grounded theory and phenomenological were considered. Ethnographic design was rejected because its focus is on describing, analyzing, and interpreting a cultural group's shared pattern of behavior, language and beliefs (Jacobs & Fergurson, 2012). An ethnographic approach requires a researcher to become a vital member of the group being studied (Jacobs et al., 2012). An ethnographic approach was not ideal for this study. Grounded theory was also rejected because the theory focuses on the views of the participants to develop a theory, but this study is grounded in a conceptual framework (Creswell, 2012). A phenomenological design was also considered for this case study and was rejected because it focused on the initial superficial understanding of a lived experience that later reached a deeper

understanding because of the overall experience of the participants (Mertens et al., 2012). These design methods do not support the preferred outcome of this study.

Research Questions

The local problem related to the barriers that prevented teachers from implementing UTP in the classroom. With the information gathered from the review of the current literature, two research questions were developed to ask teacher participants:

RQ1. What barriers do South Carolina high school educators perceive prevented them from implementing USATestPrep?

RQ2. What support(s) do South Carolina high school educators find necessary to promote full implementation of the USATestPrep program in the local setting?

In addition to the teachers there were two research questions that have been developed for administrators. The research questions for administrators were:

RQ3. What barriers do South Carolina high school principals perceive prevented educators from implementing USATestPrep?

RQ4. What support(s) do they provide to foster educators to foster their usage of USATestPrep?

These questions were used to guide the data collection and the development of the interview protocol (see Appendix A).

Role of the Researcher

I was aware of the potential risks for biases based on my own conceptions or ideas that influenced the participants and impeded the accurate analysis of the data. Credibility is

the point at which all evidence pointed to the intended purpose of the study (Creswell, 2012). Trustworthiness is maximized when the researcher is able to keep personal biases to a minimum (Bansal et al., 2011). To minimize bias, I conducted interviews with heightened awareness of bias that could influence participant responses.

I was aware of my own bias toward UTP, which were my perceived barriers that impeded its use, such as the lack of time, sufficient amount of resources, and the lack of adequate training on how to use the program. I identified these biases in the form of reflective field notes which is a practice in qualitative literature to address bias (Creswell, 2012). I also believe this program should be used more at the research setting because it can improve student achievement.

Researcher Bias

As an educator for the district, I work in the secondary educational setting where I serve as Chairperson for the English department and therefore, I did not invite English teachers to participate in this study. For this particular study, I knew all of the participants due to my employment status within the district and because of the proposed location of the study. However, my experiences and relationships were not likely to affect how the participants answered the questions because I was not their supervisor. To avoid any potential bias with participants, I established a relationship with participants that was based on my role as a researcher and their role as a participant. There was no guarantee that there would not be any bias, but if the situation occurred then I would have reported it accurately. Mertens et al. (2012) explained that sometimes in the leadership role

conflict arises, but that conflict is not always a problem. As an educator, I did not work with any teacher from within my department because I am a department chair; therefore, the participants were not under my direct supervision. To assist in facilitating truthful responses from participants, I reiterated the importance of participants being honest and forthwith, asked the same questions of all participants, and reaffirmed that all responses were confidential.

I asked the same questions for all teacher and administrator participants. Before the interviews, I expressed the importance of honesty for all participants and that their experiences would be used for the purpose of the research. I also assured them that all interviews were confidential and that their identities would remain confidential.

Participant Selection

To conduct this study, I emailed the director of secondary education in a rural South Carolina district office to set up a meeting about my case study proposal. Upon receiving the school district administrator's approval email to conduct my study, I then received IRB approval (#01-07-16-0302262) from Walden University. Participant selection began following IRB approval. The principal of the local setting was aware of the case study. I generated a list of UTP participants at the research setting from the UTP website (www.usatestprep.com), which lists all of the teachers who have UTP accounts at the research setting. After compiling this list, I emailed the 28 prospective participants for the study. The email consisted of my email address and cell phone number in case a potential participant wanted to speak by phone rather than email.

Eight teacher participants were selected based on the subjects taught, and the fact that they had an account with UTP. These teachers were inclusion teachers who taught core classes at the local setting. The administrator participants provided information about their perceptions of the teachers' discontinued or lack of use of UTP. Through the use of purposeful sampling, eight secondary core teachers and two administrators were invited to participate in semi structured interviews to explore the problem of the barriers that prevented teachers from using UTP at the local setting. These teachers and administrators were emailed to participate in the study. In this email, I included explicit information about criteria for participation.

I had two criteria for administrator participants: that they (a) had collaborated with the inclusion teacher participants, (b) had knowledge of the curriculum, and (c) had knowledge of supporting teachers who were incorporating technology in the classroom. In addition to the administrator participants, teacher participants met the following criteria: (a) worked with students with disabilities; (b) taught core subjects or special education classes: math, science, social studies or study skills, and (d) lack of, or limited use of the program.

Ethical Protection of the Participants

According to the Walden University (n.d.) website, The Institutional Review Board (IRB) ensured that all Walden University research complied with the university's ethical standards as well as U.S. federal regulations. I completed the process to gain

Walden IRB approval before any further action was taken. Once all forms were submitted, I received approval to begin my study.

Following IRB approval, I completed the participating district's Conduct Research Application and gained approval from the South Carolina School District's Director of Secondary Education, and the Superintendent of Instruction and Accountability. This application included a summary of the research purpose and scope, methods, evidence the study had been approved through the human subject's process, and evidence that building principals and teachers were aware they could have opted out of participation without consequence, and the assurance that the researcher would report results at the conclusion of the study.

Upon receipt of the SC School District's Director of Secondary Education approval, Superintendent of Instruction and Accountability, and Walden University's IRB, the Letter of Cooperation from a Community Research Partner was signed by the Superintendent of Instruction and Accountability. One email request for participation was sent to all potential teacher participants and administrators that explained the study and the necessary qualifications for their participation in the study. The 8 teachers and 2 administrators responded within three days of the email.

Informed Consent

Informed consent was obtained from the teacher and administrator participants. This consent form included participants volunteering their time to participate in the study, comprehension, and disclosure (National Institutes of Health Office of Extramural

Research [NIH Office of Extramural Research], 2011). I met with each potential participant to fully explain the study to the participants allowing time for questions, answers and further discussion. Each participant signed the consent form stating they were clear on the goals, purpose, and procedures of the research. Although there were no foreseen risks involved with this study, a disclosure was provided as a part of the informed consent to participate. According to the National Institutes of Health Office of Extramural Research (2011) included the purpose of the study, any reasonable foreseeable risks to the individual, potential benefits to the individual or others, the confidentiality protections for the individual, contact information for questions regarding the study, and the conditions of participation, including the right to refuse or withdraw without penalty.

Data Collection

I facilitated individual semi-structured interviews as my qualitative methodology component. Interviews had been found to be a common form of data collection for individuals and groups (Mertens et al., 2012). I asked broad, open-ended questions that allowed common themes to emerge throughout the study (Creswell, 2012). Interviews allowed me to explore common topics that were connected to the foundation of the study that were present during the interview phase. More control is given to the researcher to ask more probing questions which leads to a deeper understanding of the problem being explored (Creswell, 2012). For this study, interview questions were developed that were grounded by Ely's conditions of change theory. Interview questions were created to help

me identify key themes during the implementation of UTP that connected to Ely's theory and any other potential themes. The information gathered from the interviews was placed in a locked file cabinet at the researcher's home to safeguard all information gathered during the interview process.

The teachers and administrators participated in semi-structured interviews that were recorded using a digital voice recorder. Prior to each interview, I instructed each participant on how to state information off the record as well as in the basic operational functions of the digital voice recorder. I transcribed the responses of each participant and then the participant signed off on the correctness of their own data. In accordance with best practices of qualitative research, of member checks (Creswell, 2012), I implemented participant member checks to ensure validity of data transcription, which included asking additional questions for clarification of the original interview. This occurred within two days following the interview.

The protocol for the interviews (Appendix A) included questions that explored the experiences of the teachers when using UTP. The interviews lasted approximately 40 minutes. The research questions were used to conduct the interviews and were followed by the guided follow-up questions. The guided follow-up questions were asked in conjunction with the research questions during the 40 minute interviews. The follow-up questions helped ensure a deeper understanding of the problem and helped me clarify the information presented as data that emerged from the research questions. The descriptions of the participant's body language, tone of voice, stance, and other nonverbal gestures

were noted during the interview. After the interviews were concluded, I wrote additional notes to document the description of the participants, personal reflections, conversations and bias. These field notes were taken as a best practice strategy that validates qualitative research (Creswell, 2012). This additional information benefitted me because it helped me understand the data that was presented during the time of the interview. Other nonverbal cues such as excitement, eye rolling, facetiousness and hyperboles were noted to provide additional meaning to the interview. A designated time that allowed for a quiet interview that was free of distractions within the school was used to establish a meeting area for all interviews and did not impact instructional time for students.

While conducting the interviews, I began with the pre-selected questions and then I asked the follow up questions. The follow-up questions included: (a) describe that in more detail; (b) tell me more about that; and (c) explain that in more detail. These probing questions were used to assist in the clarity of the participant's perceptions of the data that was provided by the participant (Mertens et al., 2012).

The participants for this study were identified by using a numerical system, which increased the confidentiality of each participant (NIH Office of Extramural Research, 2011). I was the only one with access to the numerical system. To increase the credibility and dependability of this study an audit trail was documented. Evans (2014) explained that an audit trial is an indicator of good internal control that formed the basis of objectivity within a study. The system for data collection included raw data, products of

data reduction and analysis, data reconstruction, synthesis and notes of the process (Evans, 2014).

Data Analysis

The collection of data began with the semi-structured interviews that were tape recorded and then transcribed. The data was coded for themes based on the work of Guba and Lincoln (1994) who employed the constructivist paradigm for the purpose of understanding personal knowledge and experiences. The constructive paradigm explores understanding that knowledge is constructed by those who are active in the research process, and that researcher's attempt to understand the complex world of the lived experience from the point of view of those who live it (Guba & Lincoln, 1994). I used descriptive axial codes based on elements of the conceptual framework to identify emerging themes from the interviews. The descriptive codes helped me to compare and contrast the perceptions of each participant, and determined the frequency of the recurring theme. For example, if four out of eight participants agreed that sufficient training was needed to implement UTP, then frequency of that condition was recorded. In the results section, I stated that half of the participants believed that training was a condition that was needed for the successful implementation of UTP.

Once the data was collected and transcribed, the process of analyzing it began. Bogdan and Biklen (2007) explained that the analysis process involves arranging the data in a way to identify themes and report the results. This process was completed by coding the data (Bogdan & Biklen, 2007). Ordinary themes or statements associated with Ely's

theory were color-coded and categorized. I coded the themes using red, green, blue and yellow. Additional colors used were orange, pink, and brown to address the unexpected themes. Color coding the themes helped me synthesize the data. This included situations where the participants discussed a combination of Ely's categories. For these combinations, if two or more of the conditions overlapped then each condition was highlighted separately. For example, if the participant stated that there was an insufficient amount of time to learn the program, then the lack of training time became a barrier as well as time in general. Time was labeled with a green highlighter and every time a participant mentioned time as a barrier then it was coded green and reported accurately in terms of frequency. This also included themes that were unexpected or minimally noted in the data.

A summary of each code and theme was developed to determine which barriers were most prevalent at the local setting. The synthesis process allowed me the time to carefully color code the data and I evaluated which theme was the most prevalent and labeled it by using a descriptive narrative. Data was presented in a narrative format rather than table format. This allowed me to describe in detail what the data revealed and provided evidence from the interview results. The researcher also provided a section for the teacher results and the administrator results that will be compared and contrasted in chapter 5.

Validity and Trustworthiness

To ensure validity and trustworthiness I conducted member checks with the participants. Member checking was completed when I gave the participants copies of the draft findings to review for fit with the context and for the accuracy of their own data included in the findings. Creswell (2012) explained that member checking is the formal or informal process of allowing participants to check their data for validity when compared to the data found in previous studies. This process is used to validate data analysis and ultimately increase the validity of the findings and assures accurate interpretation of the data (Creswell, 2012).

Triangulation of data was completed through a comparison of interview data from the teachers and administrators. The color coded themes were reviewed to determine the frequency of the occurrence of the themes, compared and contrasted for similarities and differences in terms of the participant's perspectives. All interviews were compared and contrasted for themes related to Ely's (1990) condition of change theory. This contributes to the accuracy and credibility of the study by providing two different perspectives on the same problem in the same local setting (Creswell, 2012).

Personal bias was reviewed at the beginning of this proposal as well as the assumptions, limitation, and delimitations associated with this study. Personal bias is controlled by writing reflective field notes after each interview described personal feelings, insights, or ideas regarding the interview (Creswell, 2012). The field notes that I wrote were based on the participant's body language, verbal and non-verbal cues during the facilitation of UTP in their classrooms.

Transferability was achieved through a description of the interviews that took place. Houghton, Casey, Shaw, and Murphy (2013) explained that transferability is the process of detailing a study to ensure that the study would be replicated. I provided a clear description of the context of the interviews. I conducted this study by interviewing the participants in a private location within the research setting and recording the data for member checking. Once the participants were able to member check their draft findings each individual discussed discrepancies and other questions that related to the study with me.

Summary

In this section, I described the research design as a qualitative case study. Developing a detailed research method allowed me to produce data that is legitimate, with valid results and accurate conclusions (Bunke & Riesen, 2011). The research questions were developed focusing on the perceived barriers to the implementation of UTP. The ethical protection of the participants as well as the methods used to accomplish this have been discussed. This involved gaining the South Carolina School District's conduct research application and IRB approval, as well as completing the letter of cooperation from the school district designee, and consent forms. Once these steps were finalized the data collection process took place through individual semi-structured interviews and lesson plan reviews. The data were analyzed evaluating which of Ely's conditions emerged and what combinations of barriers the participants presented. Results of data analysis are presented in Chapter 4.

Chapter 4: Reflections and Conclusions

Teachers and administrators in a secondary school in a southern U.S. state were experiencing barriers that prevented them from implementing UTP as an ILS. The focus of this study was to understand the problem with implementing technology at the local setting in order to propose changes for the full implementation of UTP. Personal issues that may affect the results were based on the attitudes of the participants. Finch, Deephouse, and Varella (2015) explained that personal attitudes affect the outcome of what one thinks of an innovation. For example, some teachers feel that a technological innovation should be implemented on a daily basis whereas some teacher's attitudes about technology are not as positive. This means that some teachers believe that technology has a limited role in education and should be used sparingly. The teacher and administrator participants in my study had experience with UTP at the research setting. In this chapter, I describe the research procedures and analysis methods that I used to address each of the research questions for this study.

The research questions I used for teachers were the following: (a) what barriers did South Carolina high school educators perceive that prevented them from implementing USATestPrep? and (b) what support(s) did South Carolina high school educators find necessary to promote full implementation of the USATestPrep program in the local setting? The research questions related to the administrators at the research setting were: (a) what barriers did South Carolina high school principals perceive

prevented educators from implementing USATestPrep? and (b) What support(s) did you provide to educators in their usage of USATestPrep? Data were collected to answer these questions through semi structured, individual interviews with eight teachers and two administrators.

Collection of Data

On January 10, 2016, I emailed the 28 teachers who had experience with UTP at the research setting. The participants were secondary core teachers who also teach special education students in Grades 9-12. Eight teachers and two administrators responded and provided consent within 2 weeks of this initial email. Out of 28 potential teacher participants, eight teachers expressed an interest in participating in the study and signed the consent form attesting to their willingness to participate. The 20 other potential teacher participants did not respond to my email. I sent a follow-up email to those participants and thanked them for their consideration. Regarding administrator participants, only three had knowledge of the curriculum, UTP, and the needs of special education students. The other three administrators worked more with discipline, scheduling and art programs. Of the three potential administrator participants, two of them gave consent. The other administrator declined to participate.

Between January 10, 2016, and February 22, 2016, I conducted interviews with the teacher and administrators participants. I confirmed participants' answers throughout the interviews by paraphrasing their responses and asking for clarification. An example of a clarification question was, "I heard you say that this program has changed how you teach certain skills. Is that correct?" I did this during all of the interviews in order to gain

a clear understanding of participants' thoughts and ideas. After all of the interviews were complete, I began transcribing and coding information for common themes. After all themes were identified, I began the process of analyzing the data. Once the process of collecting, coding, and analyzing data was complete, I then delivered the draft findings to the individual participants to be reviewed. None of the participants made any changes to their drafts. This entire process was concluded after 6 weeks.

Participants

The teacher participants were certified secondary classroom teachers who taught regular education classes, which also include special education students. These teachers specialized in the core subjects of social studies and math. Participant 1 was an African-American female with 17 years of experience teaching math. Participant 2 was an African-American male social studies teacher with 9 years of experience in the classroom. Participants 4-8 were social studies teachers. These teachers were Caucasian females with 16-19 years of experience in the classroom. Participant 3 was an African-American female math teacher with 16 years of classroom experience. All of the teacher participants used UTP with their students on a weekly basis. Participant 9 was an African American female with 18 years of experience in education. Participant 10 was a Caucasian female with 26 years of experience.

Setting

The setting for this study was a local high school located in rural South Carolina. The school is located on a large campus that serves approximately 1700 students and has 100 faculty and staff members. This school's demographic profile for students was 55%

African American, 40% Caucasian, and 5% Hispanic. At the time of the study, approximately 75% of the students were receiving free and reduced lunch.

The interviews took place in the conference room that only had one entrance/exit. There were no interruptions during the interviews. Each interview lasted approximately 40 minutes and all interviews took place after school during the appointed time scheduled between the participant and me.

Data Analysis

The interviews were transcribed into a Microsoft Word document and saved according to participant number from 1-10 which I assigned to each participant. All field notes were handwritten and later typed. I kept these notes in a folder on my portable hard-drive. I reviewed all drafts to identify themes. Once I identified the themes, I then printed the drafts and color-coded them for similar themes. Then I created an Excel spreadsheet to track the information that unfolded during each interview.

I used different colors to code the different themes that emerged during the interviews that are associated with Ely's theory (1990). Several responses from the participants were coded for more than one theme. For example, Participant 2, a teacher, stated, "we need to empower department chairs and administrators to come in and push teachers to include the program into their lesson plans because we can use the program for summative and formative assessments. Teachers need to be made to use the material." I coded this quote under the theme of participation and leadership.

The second column of my table was used to code each participant's response according to the research question it addressed. After color-coding the transcripts for similar themes, I then paraphrased the responses from the participants for the third column of the table to increase my understanding of the different themes and data. By coding the information into a table, I analyzed the data using axial coding derived from elements of Ely's (1999) theory. Statements related to each construct of the theory were arranged in a table form. I used the last column to note nonverbal behavioral cues, tone during conversation, and overall demeanor demonstrated by each participant. Then I applied filters to each spreadsheet to further support the analysis of the themes and research questions. The filters separated each theme by color. Each theme presented was assigned a color. For example, time was coded as yellow. The spreadsheets were then printed for further review during the analysis phase.

Results

The focus of this study was to understand the perceived barriers that educators experienced while implementing UTP in a rural public secondary school in the south. The analysis of data revealed the following results for the research questions. The two sets of research questions contained two questions for teachers and administrators along with follow-up questions.

Research Question 1 for Teachers: What barriers did South Carolina high school educators perceive prevented educators from implementing USATestPrep?

The information gathered during the interviews expressed the teachers' perceived barriers using UTP. During the interviews, several barriers emerged that connected to Ely's theory (1978). The conditions ranged from lack of time, knowledge, insufficient technological resources, and lack of funding, participation and leadership. An additional concept that emerged was the program not aligning to the curriculum standards of math. This concept was not included in Ely's (1978) theory and is a discrepant case that was included in this section.

The standards for math specifically state where the student's skill level should be at the conclusion of the course. The problem is that UTP does not address these specific standards and that is the reason that the math teachers are not utilizing the program for probability and statistics. According to the SC Department of education (2014) the standards for probability and statistics are:

- Describe events as subsets of a sample space and use Venn diagrams to represent intersections, unions, and complements.
- Relate intersections, unions, and complements to the words and, or, and not.
- Represent sample spaces for compound events using Venn diagrams.
- Use the multiplication rule to calculate probabilities for independent and dependent events.
- Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of

A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.

- Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.
- Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.
- Calculate the conditional probability of an event A given event B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model.
- Apply the Addition Rule and the Multiplication Rule to determine probabilities, including conditional probabilities, and interpret the results in terms of the probability model.
- Use permutations and combinations to solve mathematical and real-world problems, including determining probabilities of compound events. Justify the results.

These standards are used to teach probability and statistics and these standards do not align with the standards on UTP. Therefore, teachers who are teaching probability and statistics are not able to use UTP effectively because the required standards do not align with the standards on UTP.

Lack of time. Six teacher participants reported that the lack of time to fully implement the program on a regular basis was a barrier. Participant three stated, "time is another concern for many teachers because many teachers feel they don't have time to explore the technological resources." Participant two stated, "I don't have time to explore the program like I want to nor teach the students more about the program. Time is something I don't have." This theme of inadequate time affirms Ertmer, and Ottenbreit-Leftwich (2013) study results which also identified the lack of time comes from teachers not feeling proficient with their level of skills when it comes to implementing a technological resource. This fact is evident according to Ertmer et al., (2013) because the authors stated that many teachers rate their technological skill set as below average because these teachers have not invested the time to learn more about how to use technology as a learning tool. This also demonstrates a strong connection between time and knowledge.

Participant five stated, "time is barrier in that many teachers do not feel that they have adequate time to learn the program which makes them hesitate to use it." Participants five and eight spoke about time as a barrier to the full implementation of an ILS such as UTP. Participant eight stated, "time is a crucial factor when it comes to implementing UTP. Teachers barely have enough time to teach the standards because of other outside factors and therefore, taking the time to learn a program and implement it fully is a crucial factor to the success of UTP in the classroom." Lack of time was a consistent barrier mentioned by the participants, which indicates that time as an area of

concern to be addressed. Participant four explained, “training has been sufficient, what we need is more time in the schedule to implement UTP.” When probed to further explain participant four stated, “if we could move away from four by four block scheduling and back to a more traditional schedule, then I think teachers could do a better job of implementing UTP because we would have more time to implement it [UTP].”

Ely’s (1990) theory explained that time was an element of change that ensured the continued implementation of the ILS within a setting. From my observations and conversations with participants, time was an element that teachers did not have an adequate amount of to substantially explore UTP or even use it. Ertmer et al., (2013) explained that teachers who have not invested time into using an ILS often rely on their standard lecture style teaching methods and do not adopt technology in classroom instruction.

When I probed the other participants about time as a barrier two of the three participant shared similar responses. Participant one stated, “teachers make time to do what they want to do and therefore, time is not really a barrier. Teacher participant seven stated, “I believe that teachers who are interested in UTP will definitely find time to learn how to use it. Time is a mind thing, we all have planning periods and that is the time that can be used for UTP exploration.” Participants one and six did not make a comment about time. I think the lack of discussion about time reflected that time was not a barrier for these teachers.

Knowledge. Seven teacher participants reported that knowledge was another factor that needed to be addressed in order to fully implement UTP within the classroom. Participant three explained, "in the beginning, using the program was easy because we had training where we were taught how to setup classes and create assignments. We were taught how to use the program by someone who knew what they were doing." Participant six stated, "it [training] was nice having someone [technology coach] explain the program and how to use it. Especially since our school did not purchase all of the available products, I really think it was helpful having someone show me how to use the program because now I can show my students what to do." These statements confirmed that knowing how to use the program is important if a teacher does use the program in the classroom, but the lack of knowledge, leadership, resources and support are the other barriers that were found at the research setting. The statements provided by participant six also connect to support, leadership and a lack of resources. Ertmer et al., (2013) explained that many teachers lack knowledge about technological resources despite the fact that technology has evolved every year. This finding connects to the findings in this study and supports why there is limited teacher use with UTP. The afore mentioned statement was affirmed by Junco, Elavsky, and Heiberger (2013) who explained that many teachers do not have sufficient knowledge of technological resources, which is why teachers are not utilizing them in their classroom practices.

Participant four stated, "having a technology coach in the building was beneficial to the success of the program because we had a resident expert who understood how to

help teachers incorporate the program." Additionally, participants one and two shared similar views because both participants made statements that reflected their views of knowledge, but also connected to the themes of support and leadership. Participant one stated, "working with colleagues who use the program frequently made it easy to learn UTP. Having a resident expert besides the technology coach is beneficial because there is more than one person on campus who has knowledge of the program." Participant two stated:

> I was introduced to the program by a colleague because I began teaching at this school after the initial trainings were completed. I liked having a neighbor who was able to help me understand how the program worked. I also liked that this person was close by in case I had additional questions. My colleague made me feel comfortable using the program and now I use it all the time.

Participant two was not a passive user of the program, but rather a proactive user in that once he learned how to use the basic components of the program he then used it as a collaboration tool with other colleagues to help students with the EOC. Ertmer et al, (2013) stated, "there are many teachers who have successfully used technology to enable and support meaningful student learning" (p. 178). Although every teacher is not using an ILS to support student learning, participant two believed that the lack of knowledge of the program was the reason that some teachers were not using UTP.

Participant five mentioned knowledge in terms of teachers needing to take the time to learn how to use the program at their own pace. After further probing, the

participant clarified the point and stated, “if a teacher can learn the program then he or she will find creative ways to incorporate UTP in the classroom which will benefit the students.” This statement also connects to the lack of knowledge and time which are consistent barriers at the setting and in the research. Participant 7 stated:

> Knowledge of the program is crucial to the implementation of UTP. If teachers don’t know how to use it [UTP] then they won’t use it [UTP]. I know how to use the program and I have offered to help others, but they are content with the status quo. None of them are willing or have a desire to change. They do not see the need to change. I think knowledge is a barrier for some. It certainly was a barrier for me because I did not have sufficient knowledge of the program when I began using it.

Knowledge is a critical component to the implementation of UTP and the teachers who lack knowledge of the program will not use it. Ertmer et al., (2013) explained that teachers who have not embraced student centered learning based on the use of technology are not likely to use it. Bell, Maeng, and Binns (2013) explained that many teachers do not have the content knowledge of a non-traditional pedagogical resource to implement it fully in the classroom. Participant seven explained that she has offered support for other teachers and none of them accepted the offer for help. This emphasizes the notion that teachers who refuse to accept help in their usage of UTP are not likely to use UTP.

Lack of technological resources. The lack of technological resources was an additional factor that emerged during the interview process. In terms of technological

resources, the teachers reported that not having sufficient hardware was also a problem that was prevalent in the research setting. Participant two stated, "one barrier that is present is the lack of one to one technology. Many schools do not have access to the program." This barrier was a fundamental component that needed to be addressed because without access to the technology students could not practice skills and concepts in core subjects. Schmid and Hegelheimer (2014) explained that teachers often lacked the resources needed to incorporate technology in a learning environment.

Participants four and five shared similar views about the lack of computers within the local setting for the use of UTP. Participant four stated, "I use the program, but I would use it more if I had a computer cart that was strictly for my classroom only. Some teachers have computer carts for their classes, but because I have to compete for the library, labs or carts then I can't guarantee that I will be able to use it as often as I want." Participant five explained, "there just aren't enough resources to utilize UTP on a daily basis. I encourage my students to use it, but the accountability is greater when I can monitor their usage of the program within the classroom setting. We need more resources." This lack of available computer and technology resources caused a problem when planning lessons around UTP. Participant one stated, "not having access to the computer lab weekly is a problem because right now we are competing for time in the labs, library or to get a cart which makes it difficult for teachers and students to use the program on a weekly basis." Bonnand and Hanson (2016) explained that scheduling time

in a library or lab is an important component to implementing an ILS. Teachers who have access to a lab are more likely to implement UTP on a more regular basis.

Participant nine stated, "if we had more funds we could also purchase additional UTP subscriptions in English, science and social studies courses to help the students further their skills in those subject areas."

Participation and Collaboration. Participation was an area of concern for three of the teacher participants because these participants were interested in collaboration. Participant two was the only participant who collaborated with a colleague, but that colleague did not participate in this study. During the interviews, the participants discussed participation and collaboration because all of the participants viewed collaboration and participation as a common element that was necessary for the successful implementation of UTP. Participant two explained how collaboration helped when creating common assessment for students. Participant two stated:

> A colleague of mine and I worked together to design assessments around UTP so that we can share good ideas and discuss problem solving to make the program useful for students. In the areas where our students are the weakest we have an easier way to reassess the material that students are missing rather than on material they already know.

This participant expressed how collaboration was helpful in terms of creating meaningful assessments for students, but again this participant was the only participant who had a colleague to share ideas with. Participant six expressed a desire to collaborate, but

reflected on the difficulties in finding a colleague who shared the same interest. Participant six stated, "in my discipline there are several of us who teach the same subject, but when I asked others if they are using the program, they said no." Participant six continued to use the program without collaborating with a colleague. Participant four explained that in her discipline she used UTP, but that she has never collaborated with anyone else. For this participant, participation and collaboration was an area that needed to be addressed among all teachers within the department.

The lack of collaboration among colleagues was a barrier that needs to change in order to promote the use of UTP in the local research setting. Collaboration and participation among colleagues was an area that needed to be addressed in order to promote the usage of UTP in the research setting. Schmid and Hegelheimer (2014) explained that when teachers collaborate about the use of an ILS that creates sustained usage of the program. Only one participant collaborated with a colleague in the same discipline, which reiterated the point that collaboration and participation were not a continuous practice at the research setting. Junco, Elavsky, and Heiberger (2013) explained that collaboration among colleagues is integral in promoting academic achievement. Teachers who collaborated saw increased student engagement and increased academic success when using UTP.

Leadership. Three participants stated that leadership was a key factor that was necessary in order to create changes in their classroom and leadership is a necessary component of change according to Ely (1990). Participant one stated, "Based on taking

the time and committing to the program and getting to know the program leadership is needed. As educators we have to be leaders in our disciplines to encourage others to use the program." Leadership was a necessary component according to the participants because with a model classroom other teachers can see how to implement UTP on a more regular basis.

Participant six stated, "teachers who are experienced with UTP have a responsibility to showcase the program in a way that will endorse continued usage among teachers." Participant six showcased the program by offering demonstration lessons to other teachers during the showcase night that is held at the school every year. During the showcase, teachers from across the disciplines demonstrate model lessons on various topics and provide examples of student work to display for visiting stakeholders. Participant nine stated, "administrators encourage the use of UTP, but teachers who are using the program often are better equipped to lead other teachers in the prolonged use of UTP."

Hamel, Turcotte, and Laferrière (2013) explained that leadership among stakeholders is an important component to the success of educational technology within a school setting. Leadership is an area that needs to be explored further because leadership involves teachers who are knowledgeable about UTP coaching other teachers who lack the knowledge. Until the active teacher users become more comfortable teaching and leading the other teachers, then the usage of UTP could remain at its present level. This also requires additional time for teachers to coach other teachers and collaborate with

each other. Bonnand and Hansen (2016) explained that administrative leadership is paramount in creating a scholastic system that supports an ILS.

Commitment. Teachers who committed to the use of UTP were more likely to use the program over an extended period of time. Aldunate and Nussbaum (2013) stated, "faculties who commit more time to integrating educational technology into their teaching have a greater chance of adopting new technology" (p. 519). The participants in this study who committed to UTP expressed their views on how the program has enhanced their teaching practices. However, the number of participants who committed to participating in this study represented a small number of the overall faculty. Some teachers only teach elective classes, which does not require the use of UTP. Participant three stated, "more than half of the faculty still does not have a UTP account, which means those teachers are not using the program. This shows that there is no commitment from those teachers in terms of integrating UTP." I followed up this statement with administrator participant nine and she said, "it is true that many of the faculty still do not have a UTP account. There are only 28 teachers who have UTP accounts at this time, therefore, many of the teachers do not use UTP." Participant nine's comments emphasize the notion that many teachers are not using UTP.

Participant four explained that commitment was necessary to increase the usage of UTP within the classroom. Participant four stated:

> We have purchased several subscriptions and now we all need to do is commit to using the program. The fact that UTP is not being used within every classroom

> shows a lack of commitment. I realize that some teachers cannot use UTP based on the subjects they teach, but what is the problem for other teachers who could be using the program but aren't?

Another participant stated similar concerns about commitment and how teachers needed to commit to using the program in order to see an increase in student achievement. Participant three stated, "if all teachers committed to using the program then we could collaborate more by creating common assessments that will help increase student achievement." There needs to be a greater commitment from the teachers in order to generate more usage of the program among teachers and students. Tondeur et al., (2012) explained that teachers who are committed to an ILS are more likely to collaborate with peers. Teachers who are committed to implementing UTP will collaborate with others in order to generate resources that will increase the success of implementing an ILS.

Funding and Availability of Resources. The lack of funding was another element that emerged during the interviews. Participant three stated, "there is a financial barrier. Just last year our principal asked us to write grants to purchase UTP for all mathematics courses. We have UTP for some courses, but not for all." Currently, the local setting has purchased UTP for algebra 1 and geometry. Additional math courses would include calculus, and algebra 2. Participant two also stated, "funding is a pivotal component to establishing continued use of UTP in the classroom. Our district is considering one to one technology for our schools and if we can put a laptop or a tablet in

every child's hand then we can ensure that the students at least have access to UTP." This statement was important because the lack of technology is a major barrier for implementation of any ILS, including UTP.

Several participants mentioned funding as a means for providing additional resources such as technology software and hardware. Participant six stated, "we need more computers and if we had more computers then we could take our classes to the labs or library more often." Funding was a resource that is necessary in order to purchase more subscriptions and more technology for students to use. Buabeng-Andoh (2012) explained that funding needs to be secured before embarking on a program that requires technological resources. The teacher participants' perceptions connected to this finding because they believed that without ample financial resources then additional UTP subscriptions could not be purchased. Without additional subscriptions of UTP such as English II, English III, geography or geometry the number of teachers who would use UTP was limited. Additional funds would be used to purchase additional computers and subscriptions of UTP.

Research Question 2 for Teachers: What support(s) did South Carolina high school educators find necessary to promote full implementation of the USATestPrep program in the local setting?

Several topics emerged from this data when discussing the supports needed to implement UTP. The main themes discussed were curriculum, professional development, coaching and collaboration. Data from these themes will be described.

Curriculum. Curriculum was a supportive element that was provided by the state. The teachers felt that the curriculum was one factor that promoted student achievement. The teachers believed that an ILS could only enhance a rigorous curriculum and therefore the curriculum expectations needed to align with the overall expectations for students. Participant two explained that curriculum is a necessary element to incorporating UTP in the classroom. Participant two stated:

> We need to adequately teach the curriculum with a variety of instructional practices. We need to empower department chairs and administrators to come in and push teachers to include the program into their lesson plans. We need to use it for formative and summative assessments.

This participant expressed that curriculum was important in order to implement the program fully in a classroom. Curriculum also connects to assessment. With further probing, participant two explained that the curriculum is there, but that teachers needed to use a variety of instructional tools to ensure that the students are learning the material in a way that will promote academic achievement. The curriculum that is currently in place allowed teachers to implement a variety of instructional practices which supports the use of UTP in the classroom. Participant two also explained that teachers who are frequently using the program are using it at least three times a week. With additional probing, participant two stated, "I am using UTP for quizzes and tests and I think if other teachers were using it the same way then we [teachers] would see an increase in students' scores

and an increase in student logins for UTP. Participants six and seven expressed similar beliefs about curriculum. Participant six stated:

> The curriculum as it is now is based on our new standards. Since our standards are new and the materials that we are using is new, then we definitely have the support of the curriculum so we should incorporate the technological aspect to help the student learn the material in a way that provides instant feedback.

Participant seven explained, "curriculum is important, and so is UTP. By using the new curriculum and standards and incorporating those with UTP my students are better equipped to do well on the EOC." Participant eight expressed a different point of view, but she still viewed the curriculum and standards as a necessary component to support the use of UTP in the classroom. Participant eight stated:

> For a while the program [UTP] was just there and no one was using it. I then began to use it as a supplement to my current teaching practices. Many teachers are reluctant to use UTP because they are not sure how UTP will support their instructional practices. I want to help them improve in these areas so the students can perform better on the EOC.

Tondeur et al. (2012) explained that the curriculum is often theoretical and should relate to the skills needed for real-world applications. This statement supported that fact that teachers are not comfortable with integrating technology with the curriculum because of the lack of alignment between the curriculum and the technology.

Professional development. Participant one explained that professional development was a critical component that was necessary to implement UTP continuously with in the research setting. Participant one explained, "professional development and an in-building expert [technology coach] who can help train teachers." According to participant one, this component is necessary to increase the usage of UTP because the teachers would have some effective training and an expert who is available for questions and problem solving. An on-site expert is paramount to the successful implementation of an ILS (Bonnand & Hansen, 2016). On-site experts such as the technology coach provided a wealth of information and expertise that was necessary in order to successfully implement UTP at the research setting.

Participant three expressed a similar opinion to participant one in that teachers need to see how UTP will work in the classroom. Participant three stated:

> I feel that teachers need to see what it looks like to use UTP in a classroom just like theirs. Often times, we get new resources and we are trained on how to use them. However, if we don't see how these resources really fit into our curriculum and lessons, we typically continue doing what we've been doing.

This indicated that some teachers wanted to incorporate UTP, but needed more training to see the technology at work in a real-life classroom rather than a simulated situation.

Participant four also explained that the training for UTP was sufficient by noting:

> The initial training was sufficient. I learned a lot and in the beginning I used the program several times a week. The problem was when I needed to take my large

> classes to the computer lab and we couldn't use it because of some other testing that was taking place, which shows a lack of resources.

The lack of technology to sufficiently incorporate the use of UTP was a problem that needed to be addressed in order for UTP to be used continuously within the local setting. Participant five expressed similar views. Participant five stated, "in the beginning I used the program three times a week. Now I use it about once a week in class, because I encourage students to use it as an at-home resource for further tutelage." Participant five further explained that when students use UTP from home she gets an email from UTP indicating what activity the student completed, the duration of time spent on the activity and the grade. When asked why she encouraged at home use, participant five stated, "I value this program, but with limited computer labs and computer carts I think the students can still use the program effectively from home and that is why I encourage them to use UTP daily from home."

Participant five explained that she felt that the training was sufficient, but that she needed more time to practice the skills she learned during the training. The four participants explained that the training was adequate, but that they needed additional time to practice using the program when class was not in session in order to provide better support for the student users who may encounter problems while using UTP. Buabeng-Andoh (2012) explained that training was often over the course of a few days, but that in actuality in order for to teachers to truly commit to an ILS training has to be ongoing, which requires time and will increase knowledge. The research setting lacks ongoing

training for UTP because the adoption of the subscriptions took place several years ago and each year the new teachers received an overview of the program. After reviewing the interviews, none of the teacher participants indicated that they asked for additional training from administrators to improve their knowledge or practice of utilizing UTP. Koc (2013) explained that teachers do not seek additional training because their conception of the function of the program is limited.

Collaboration. Participant three explained collaboration is a necessary component to increase accountability among the teacher participants in regard to their overall use of UTP. Participant three stated, "we [teachers] need to collaborate on the implementation of UTP. If there were a group of teachers trying to use the program together and they were accountable to one another for trying it out, they'd be more likely to use it." Participant three is describing a collaborative concept that worked well with many of the teachers who taught common subjects. Many of the math and social studies teachers often collaborate to create common lessons and assessments to that served the needs of the students.

Several participants expressed the same ideas about collaboration. Participant five stated, "I worked with a colleague to design assessments for certain standards in UTP. By collaborating we shared ideas to make the program useful for students."

Participant six said:

> In math we often collaborate and provide common assessments for the students, but with UTP I have someone who can help me create assessments that are

> beneficial for students. Collaborating with another teacher helps me to remain mindful of the student's needs as well as keeping track of the skills being taught in a similar classroom. Often, I teach a section from the book and then use UTP reinforce my teaching, but I didn't get this idea until I began collaborating with another math teacher teaching the same subject.

Tondeur, et al. (2012) expressed that collaboration was a key factor in the implementation process. Additionally, Eyyam (2016) explained that collaboration among teachers when using an ILS is one way to increase student achievement. Teachers who collaborate often find the support they need from their colleague, which helps to promote the continued use of UTP.

Research Question 1 for Administrators: What barriers did South Carolina high school principals perceive prevented educators from implementing USATestPrep?

The two administrator participants discussed the benefits of UTP and their experiences with providing support for the continued use of UTP. The administrators answered two research questions and the same follow up questions as the teacher participants. The themes that emerged were lack of time and sufficient technological resources.

Time. Participant nine was the administrator who works closely with the curriculum and the special education students. This participant stated, "UTP is a great program, but high-stakes testing requires every available computer in the building and therefore classes who want to use UTP cannot always get time in the lab, which connects

to the lack of resources." Additionally, this participant explained, "this is a problem that administrators have worked on, but at this time we have not come up with any solutions." This means that although the program has benefits, there is a lack of sufficient time within the school day to allow more classes time in the labs to implement the program.

Participant 10 explained that time is a difficult problem to navigate because there are 1700 students and not enough computers in the building for every student to use on a daily basis, which connects to a lack of resources. Participant 10 stated:

> We are hoping to incorporate one to one technology next year which might solve our problem. However, right now we have two computer labs and a library. The point is with the two labs and a library there just isn't sufficient space or time available for teachers to bring their classes to a lab three times a week. We also have two mobile carts that house about 30 laptop computers, but again the problem is that there are not enough carts for every class to use. A potential recommendation is to set a schedule.

Participant nine expressed a similar view about the amount of technology being utilized in the local setting. Participant nine stated, "we encourage teachers to use the computer labs, the mobile carts, and the library as much as possible. There is no substitute for good teaching. However, at this time there just isn't sufficient space for every teacher to use these resources on a daily basis." When probed further, participant nine further stated:

> UTP is a program that I value. With the number of courses that benefit from using the program there just isn't enough time in the schedule or resources for each

> classroom to use the program on a daily basis. Therefore, we encourage the students to utilize the resources of UTP outside of the classroom as much as possible. I support the program and I see the value of it, but I also know that with state-wide testing, EOC testing, and other tests that are mandated to be done on the computer, there will always be a scheduling conflict.

Tondeur et al., (2012) explained that time was an element that ensured the continued use of UTP. Time was a factor that the administrator participants were concerned about because the teachers who were using the program often did not have ample time to implement the program on daily basis. There were outside conditions that complicated the time schedule for the computer labs, computer carts, and the library, which hindered the daily use of UTP. Whitehead, Jensen, and Boschee (2013) explained that time is an area that administrators can control. Time is a component where administrators need to offer solutions to create scheduled lab time for classes to utilize UTP on a regular basis.

Technological resources. The theme of time and technological resources overlapped during the interviews with both administrators. Participant 10 explained:

> There are two computer labs, one library and two mobile carts and there still aren't enough resources for every classroom to utilize UTP on a weekly basis. The mobile carts are great, but the problem we have now is that one cart does not charge properly and therefore there is no guarantee that it [the cart] will last throughout the day with each class period being 90 minutes.

Participant nine stated:

> Each year we [administrators and teachers] look for ways to purchase additional resources by applying for grants. With each grant that we earn, we purchase additional subscriptions on UTP and we update or replace the technology that we have.

Both administrators expressed the same ideas about the lack of technological resources. The local setting was large and with approximately 1700 students there just was not sufficient technology for teachers to incorporate UTP daily. According to Tonduer et al., (2012) technological resources have to be sufficient in order to successfully implement UTP. When there are approximately 1700 students in school, the resources have to be sufficient for teachers to implement UTP within the classroom.

Research Question 2 for Administrators: What support(s) did you provide to educators in their usage of USATestPrep?

For this question, one theme emerged regarding the support needed to improve the usage of UTP based on the administrator's perspectives. The theme was funding to provide additional resources. Both administrators explained that they do not provide training, but that they constantly looked for ways to provide funding that supported teachers in their use of UTP. The goal was to purchase additional subscriptions of UTP so that more students were able to utilize the advanced programs in addition to the programs that are used for remediation and skill building.

Lack of funding. Both administrators stated that UTP was expensive. The current financial resources at this time did not allow the administrators to purchase additional

subscriptions on UTP. Each subscription was purchased for one year and was renewed annually. Participant nine stated:

> Last year several teachers wrote mini-grants to purchase additional subscriptions for the math courses. This helped offset some of the costs, but additional funds are needed because we still cannot purchase the AP courses on UTP nor the WorkKeys products to help our students prepare for the WorkKeys assessment.

Participant nine explained that funding was a critical component to incorporating more subscriptions of UTP. The subscriptions that we currently have are important, but if we could afford more subscriptions for math, science, social studies and English then we could help more students and especially those who are in special education classes. Participant 10 shared similar views as participant nine. Both participants believe that UTP is a beneficial program, but funding is necessary in order to incorporate it more effectively. Participant 10 explained:

> We have purchased several subscriptions for math, science, English and social studies, but with our ever-growing special education population we need tools that will help with the remediation of these students whose math skills are low. These students also have low reading stamina, which needs to be addressed. Fortunately, we have moved several of our self-contained students into the diploma track, but the problem is we do not have enough programs to help those who now have to learn algebra when all they have studied in the past was simple addition, subtraction and multiplication.

When probed further about how funding would improve this situation, participant 10 stated, “with more money to purchase additional programs, we can promote the use of UTP in our after school programs and at home for students who have access to the Internet. These students need additional support, and funding will allow us to purchase those necessary tools.” Both administrator participants explained how funding would help increase the amount of subscriptions that were purchased for the research setting, in order to increase the usage of UTP.

When probed further to determine if any other themes would emerge from the conversations, there were no other themes to discuss. The administrator participants explained that funding was an area of support that needed to be addressed because some teachers did not use the program because of the courses that they teach. Participant nine stated, “because we have not purchased the advanced level math or English courses some of our teachers cannot use UTP because the materials that we did purchase do not correlate to the courses that these teachers teach.” Additionally, participant 10 stated:

> We have several teachers who have taught English I or geometry in the past when we first purchased subscriptions on UTP and these teachers loved using UTP the program. However, because of changes to their schedules, these teachers now teach the Advanced Placement English Language and Composition or Advanced Placement Calculus and now there is no need for them to use this program. Unfortunately, at this time we do not have the additional resources required to

purchase the subscriptions for the upper level courses such as Advanced Placement Language and Compositions or Advanced Placement Calculus. This participant's statements emphasized the fact that the administrators cannot force teachers to use UTP especially since some of the courses offered at the research setting did not correlate to the purchased subscriptions of UTP. Buabeng-Andoh (2012) explained that before any school takes on a technological resource adequate funding needs to be carefully considered before signing on for an advancement that might cause a financial strain. Unfortunately, this was the negative impact of having such a wide variety of courses offered and so few resources to adequately support the needs of the students and the teachers. Eyyam (2016) also explained that funding is paramount to the successful implementation of an ILS because without proper funding the program will not be fully implemented on a long term basis.

Discrepant Cases and Nonconfirming Data

Overall, the participants discussed similar themes and expressed common experiences while providing their individual thoughts and ideas about the usage of UTP. There were two areas of concern that dealt with teacher attitudes, and the alignment of standards. The first identified discrepancy was teachers' attitudes. Participant one expressed her concern about the teachers' attitudes toward UTP and stated, "teachers can find time to do what they want to do in the classroom and using UTP should be no exception." No other teacher participant mentioned teacher attitudes as a barrier to the implementation of UTP.

Standards alignment. The alignment of standards is a discrepant case that was only mentioned by participant three. The program UTP currently aligns with the Common Core State Standards (CCSS). The research setting was not using CCSS at the time of this study, but rather using The South Carolina College and Career Ready (SCCCR) standards that were generated by the state department of South Carolina. Participant three explained:

> One barrier that prevents the use of UTP in the classroom is the correlation to math standards. Even though the site claims to be correlated to the standards we use, we sometimes find that the questions aren't formatted in a way we think is best for the students to understand.

This reflective statement corresponded to the barriers that prevented the sustained use of UTP in the classroom. Teachers who are trying to incorporate an ILS do not want to think about whether the standards are aligned or not. The teachers automatically assume that an ILS, like UTP is aligned to the standards. Standards are essential to creating meaningful learning experiences within the classroom and are the building blocks of a quality education. Ertmer et al. (2012) explained that teachers who are fully implementing a technological program are embracing the program because of the correlation between the standards and curriculum. When there is no correlation between the standards and technology then the teachers are reluctant to utilize UTP even if there is just a perceived lack of correlation.

UTP experience. I included the additional information gathered during the interviews regarding the teachers' experience with using UTP and the administrators' experience with supporting the use of UTP. During the interviews, topics of discussion included years of experience in the classroom teaching special education students, as well as their years of experience using UTP and the various capacities that the program was used. The following data was revealed from the interviews.

One participant's experience with UTP was an element of unconfirmed data that was included in this study. The teacher participants all used UTP in a variety of ways. One participant used UTPs as an assessment tool that structured his daily lessons and helped him to create essential questions. The two math teachers used it for additional practice for the EOC test in algebra. Six participants used UTP for practice for the EOC in US History. The participants were not in a position to evaluate the program for effectiveness, but rather evaluated UTP in terms of its benefits towards student achievement. For example, participant three explained:

> I used it as a resource for students to practice EOC-style test questions. These students were in both honors and college prep courses. I was able to make all decisions concerning the implementation of the program into my course. Use of the program was strongly encouraged but not required. The freedom to use the program as I saw fit made it easier to use, which also connects to the theme of flexibility. I found that the students enjoyed using technology and especially enjoyed playing the games. It worked well for students who typically didn't like

> to do math class work. I used it as a resource for students to have access to practice questions. UTP was simply one of many resources I had student use for additional practice. I also used UTP as a formative assessment tool.

All teacher participants expressed similar remarks for their use of UTP. The teacher participants stated that UTP was used to promote student growth in areas where there was a weakness. Participant 1 stated, "I use UTP for practice and review. The students received immediate feedback from the program which helped them learn how to solve the problems more efficiently." Participant 6 explained how UTP allows students to review certain concepts because the program has videos that students can review before taking a practice quiz or practice test.

Evidence of Quality

Techniques such as bracketing, member checking, strategic questioning to verify information, and field notes were used to increase the validity of the data. Chan, Fung, and Chien 2013 stated, "bracketing is a means of demonstrating the validity of the data collection and analysis process. Therefore, efforts should be made by researchers to put aside their repertoires of knowledge, beliefs, values and experiences in order to accurately describe participants' life experiences" (2). This technique played an important role in my research because I am member of the faculty at the research setting and I had positive experiences with UTP from previous courses that I taught. During the interviews, I remained focused on what each participant was saying and I did not interject

my own opinions or thoughts. The participants were also given their draft findings with the coded themes to analyze for member checking.

After transcribing all of the data, I coded it and analyzed it for common themes. After that process was completed, I constructed a draft of the findings. Then I sent a draft to all participants and asked them to review the document for the accuracy of their own data included in the findings and for the credibility of the overall findings for the setting. Creswell (2012) explained that member checking is used to increase the validity of the findings and insure the accuracy of the collected data. While reviewing their draft findings, participants reviewed their statements and compared their thoughts with Ely's (1990) conditions of change. The goal was for each participant to review the draft findings for accuracy and to ensure that the recorded information accurately represented their point of view. During this stage there were no changes made to the draft findings. I recorded my reflections of the interviews as part of the field notes that were taken during the interviews.

Summary of Major Findings

Data was analyzed based on the research questions and a summary of the major findings are discussed in this section.

Research Question 1 for Teachers and Administrators

Overall, the teachers and administrators have worked with a large number of students using UTP. The participants were open about the perceived barriers that prevented teachers from utilizing the program more effectively.

Each participant was asked which of Ely's conditions would have to be present in order to create change in the local setting. Participant two stated, "dissatisfaction with the status quo because personal dissatisfaction would help promote a positive change in the classroom by providing teaching strategies that promote learning for all." Participant two further explained that using UTP was to help the students increase their scores on the EOC. Therefore, this participant worked with another colleague to promote change in the classroom by collaborating on creating common assessments to improve student achievement. This change in practice came after participant two realized that more changes are necessary in the classroom to promote academic growth. Although, dissatisfaction with the status quo was not stated directly, the participants realized there was an element of desired change that is necessary to create positive changes in the classroom.

The lack of time is a barrier that was described by both teachers and administrators. Both agreed that more time is needed to effectively implement UTP at the local setting. Time was believed to be an area of concern in terms of teachers having not having enough time to learn the program or to implement it successfully. The administrators believed that time was important because not only did the teachers need time to learn the program, but time for an expert or trainer to model implementing the program in the classroom.

Knowledge was mentioned by several participants who stated that all teachers need to know how to use the program in order to effectively implement it in the

classroom. Participant seven stated, “I know how to use the program and I have offered to help others, but none of them seem interested in the program. I think knowledge is a barrier for some, but I think for others it’s something new and they don’t want to incorporate it into their teaching practices.” This statement confirms that knowledge is barrier, but for some teachers it could be a barrier that they are not interested in overcoming.

The lack of technological resources was an area of concern for both teachers and administrators because both groups believe that if more technology was available then UTP could be promoted more throughout the local setting. The idea is that with more computers teachers could rotate better in terms of scheduling their classes for computers. There are two mobile laptop carts, two computer labs and a library and those spaces do not adequately supply enough technology for a local setting with 1700 students. The teachers are able to schedule time, but the teachers are not able to use these tools frequently, which means that the students are not receiving the reinforcement of the skills on a regular basis. A recommendation would be to schedule time in the library or labs around the mandated testing window. By scheduling time in the available spaces, the teachers will build a practice window that will support the necessary skills needed on state mandated tests. Another recommendation would be to create a grant writing team that would specifically write grants to generate funds for additional computers and software programs.

Leadership and participation was an area where the administrators did not focus on, but the teachers believed that leadership was modeled better among the colleagues. The participants believed that participation reflected the number of teachers who were using UTP. In addition to participation, the participants believed that leadership was an area that they modeled by encouraging others to use UTP.

Commitment to UTP from the administrative point of view is that they are committed to UTP and committed to providing support for teachers. However, at this point that is all the support that they can provide. The teacher participants in this study have all committed to using UTP and are encouraging their students to use it outside of the classroom. From the interviews, the consensus is that UTP is an important resource for student achievement, but with some teachers not utilizing the resource then the teacher participants are limited in what they can do for other teachers. In other words, the current teacher participants do not know how to support the teachers who are not using the program.

Funding was the one area where both administrators and teachers stated concerns. Administrators stated that funding is an area of support that was necessary to implement UTP. Administrators believed that funding was a support system that needed to be addressed in terms of providing additional resources to purchase more subscriptions of UTP. The administrators believed that with additional funds more subscriptions and technology could be purchased. The goal was to fund the resources to make implementation of UTP more universal for other teachers and students. Both teachers and

administrators mentioned applying for grants to solve the funding issue, but none provided any insights as to how many grants were awarded nor the amount of funds that have been generated from these grants.

The last area of concern was curriculum. Although the administrators worked heavily with the teacher participants, none of the administrators were concerned about the curriculum. The curriculum was primarily a concern for a few teacher participants. These participants wanted the students to be exposed to the curriculum that would help the students to be competitive with students in other areas. The curriculum was new in some disciplines, and required the use of technology to ensure that the students were learning the appropriate skills. Curriculum was a learning tool that directed a teacher's lessons and with the incorporation of UTP the curriculum becomes more effective, because UTP reinforces the skills being taught in the classroom.

Research Question 2 for Teachers and Administrators

The administrators worked for several years in administration providing support for teachers who were using UTP. These administrators were knowledgeable of the curriculum and with UTP. In addition to their vast knowledge they felt the best way to provide support was to continue to search for resources such as funding which would be used to purchase additional technological tools.

The teacher participants thought that professional development would encourage the use of UTP at the local setting. The program was purchased as a hands on resource for teachers who took the time to explore the program alone. The participants stated the

need for professional development with an in-house expert who can answer questions about the inner workings of the program. The participants felt that if more teachers were exposed to the program in a professional development type of setting then more teachers would implement the program within the classroom.

Another necessary support was collaboration. Some participants stated that they collaborate on the use of UTP with other colleagues, while others stated that they use the program without the support of colleagues in their disciplines. This barrier could be overcome if more teachers were using UTP.

Summary

In this section, I explained this study and how I explored the experiences of teachers and administrators when implementing UTP in the school setting. I described the methods used for conducting the study, collecting the data, and data analysis. The results were revealed by answering the two sets of research questions. In section 5, I illustrate the findings in order to connect them to current literature and to the conceptual framework used. Social and practical implications of these findings, recommendations for action and future research are also included. This section included my personal reflection elaborating on my own experience during this research process.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to better understand the perceived barriers that administrators and teachers face while trying to effectively implement UTP in the local setting. Several researchers have evaluated the positive effects of implementing an ILS within a classroom (Kirkwood & Price, 2014). Despite the benefits of ILS use, many educators were still not implementing UTP at the local setting. I reviewed the information in the previous studies, and I highlighted the barriers to implementing an ILS in classrooms. However, all of the information from the studies were inconclusive regarding how to promote a consistent change that lessened the barriers to help educators implement UTP in the classroom consistently (Beetham et al., 2013; Ertmer et al., 2012; Hargreaves et al., 2012; Liu, 2011; Ncube, & Tshabalala, 2014; Sang et al., 2011). After reviewing this research, I determined that more information was needed to fully understand this situation before a solution can be determined.

The conceptual framework used to ground data analysis was Ely's (1999) conditions of change theory. I developed this case study to study the teachers and administrators' perception of which conditions were not being met at the research setting and their suggestions for change. With Ely's (1999) eight conditions, I was able to explore which conditions were present or not, and discuss the conditions that needed to be present to create a consistent change at the research setting.

A qualitative case study design helped me explore the experiences of eight teachers and two administrators when implementing UTP at a rural, public school in the

southeast. The participants included six social studies teachers, two math teachers, and two administrators, all of whom worked with regular education students and special education students during the implementation of UTP. All participants participated in semistructured, individual interviews. During interviews, they provided more information about their experiences with UTP and their backgrounds in education, views on difficulties with implementing UTP, and helpful ideas for incorporating UTP in the classroom. I transcribed all draft findings from the interviews and verified responses with interviewees. I then analyzed and coded data to identify the common themes.

Research Questions

Two research questions were developed to understand the barriers that prevented teachers from effectively implementing UTP at the local setting. Additional research questions were developed for administrators to discuss their role of supporting the use of UTP in the local setting. The research questions helped me conduct the interviews and the data collected contributed to the gap in the literature as well as extended my understanding of the problem:

RQ1. What barriers did South Carolina high school educators perceive prevented them from implementing USATest Prep?

RQ2. What support(s) do South Carolina high school educators find necessary to promote full implementation of the USATestPrep program in the local setting?

The questions for the administrators were:

RQ3. What barriers do South Carolina high school principals perceive prevented educators from implementing USATestPrep?

RQ4. What support(s) do you provide to educators in their usage of USATestPrep?

Overall, I learned that the teachers and administrators did have a solution for why some teachers were not implementing UTP consistently. The teacher participants had insights regarding the use of UTP and suggested several conditions that would support the use of UTP. All participants offered solutions for how to address the lack of use of ILSs for the entire local setting. Participants explained that teachers needed more time for learning the program and to use the program. Additionally, all of the participants said that more support and funding for additional subscriptions of UTP was necessary to foster implementation along with collaboration among the colleagues to create common assessments. The administrator participants agreed that financial support and more technological resources were also necessary to increase usage of UTP in the setting.

Interpretation of Findings

My interpretation of the results was based on the theoretical framework from Ely's (1999) eight conditions of change theory and current literature. My data revealed that several conditions from Ely's (1999) theory need to be present in order to promote a consistent change at the local setting. I will now offer my interpretation of data in the interpretation of research question one.

Interpretation of Research Question 1 for Teachers and Administrators

Interpreting this research question, I analyzed the themes that were identified through coding. These themes included several of Ely's (1999) eight conditions of change and several conditions that Ely did not identify. Therefore, the teacher participants shared their perceptions of the barriers that prevented them from using UTP in a sustained manner. Identified barriers included lack of technology, lack of knowledge, and financial constraints. Overall, the results are comparable to others' research on barriers to the sustained use of an ILS in the classroom (see An et al., 2011; Ertmer, et al., 2012; Eteokleous, 2008; Ncube, & Tshabalala, 2014). I connected the findings with the conceptual framework and to the current literature.

Lack of technology. Ertmer and Ottenbreit-Leftwich (2013) acknowledged that teachers are making an effort to include technology in the classroom, and the teachers affirmed that meaningful learning occurred when students were able to use technological tools. The lack of technology in the classroom is an area that some school districts were able to address. Armstrong (2014) concluded that the lack of technology is the area of concern for districts because many students have technological tools at home, but there are not sufficient tools in the schools. This article supported the findings from my research that the lack of technology is an area that needs to be addressed in order to allow students to have access to technological programs.

My recommendation at this time is that the research setting should pilot a program for one to one technology. The problem remains that UTP is a tool that is modeled from the teacher. Some classes at the research setting will not benefit from UTP.

However, the programs that are available were still underutilized. Ncube and Tshabalala (2014) acknowledged that in order to successfully integrate an ILS within a school, there must be sufficient technology for student use. Additionally, the participants also expressed that the lack of technology also included the lack of software, which, in this case, relates to the lack of subscriptions that have been purchased from UTP. One participant echoed that lack of software is an area of concern because teachers who only teach AP classes cannot use UTP at the local setting because the advanced placement subscriptions have not been purchased.

Knowledge. Another barrier was lack of knowledge regarding how to use UTP. The participants said that the program worked best when there was support from a technology coach or from colleagues who shared their knowledge of the program with others. The participants who were collaborating with others had a source of support but still needed additional support. Ertmer et al., (2012) affirmed that teachers need knowledge in order to implement technological resources. Lack of knowledge was a barrier that the participants acknowledged as an area of concern. That condition needed to be addressed in order to have more teachers use UTP at the local setting. Schrum and Levin (2013) concluded that a substantial amount of money is spent each year in U.S. K-12 education for professional development and teacher trainings. However, those training sessions do not equate to the guaranteed implementation of the technology in the classroom. Buabeng-Andoh (2012) stated that, "if teachers perceive the technology programs as neither fulfilling their needs nor their students' needs, it is likely that they

will not integrate the technology into their teaching and learning" (p. 138). Teacher perceptions explained that lack of usage of UTP within the research setting. The teacher participants in my study believed that many teachers do not view UTP as a viable resource that warrants their attention or time.

Lack of Financial Support. The financial constraints were another barrier that prevented the continued use of UTP. The participants expressed their concerns about the lack of technology that is available in the local research setting. Schrum and Levin (2013) explained that many schools do not have adequate technological resources for student use. The participants all complained about scheduling lab time or library time to implement UTP on a regular basis which limits the frequency of using the program within the classroom setting. Continuous funding is an area where support is needed. At the local research setting the teachers and administrators attempted to find additional sources for funds, but with the funds acquired the participants were not able to purchase additional subscriptions of UTP for the students. There are several factors that are necessary to support the continued use of an ILS, and three of those factors are funding, administrative support, and professional development (Schrum & Levin, 2013). The lack of funding at the local setting was a barrier that the teachers stated was a factor that they hoped could be solved with the implementation of one to one technology.

Interpretation of Research Question 2 for Teachers and Administrators

The findings for the second research question focused on the necessary support for the continued use of UTP at the local setting. The participants stated new curriculum,

professional development, and on-site experts who have knowledge of the program. The teachers felt that the curriculum needed to align with UTP. Tondeur et al., (2012) explained that the curriculum should align with an ILS in teaching practical skills that students need to support them in school and in the workplace. Additionally, the teachers felt that ongoing professional development and support from the technology coach would also benefit all teachers in their usage of UTP. Tondeur et al., (2012) also stated that teachers needed various systems of support to increase their usage of an ILS in the classroom. The support included professional development and coaching from an expert who is available to answer a variety of questions about UTP.

The administrator participants discussed which of Ely's (1990) conditions are necessary to promote change within their classroom. The administrator participants explained their level of support in terms of supporting teachers in their use of UTP. The administrators believed that one way to implement change would be to create a schedule that would support teachers in their use of UTP. Bonnand and Hansen (2016) explained that administrators provide support by creating a schedule that allows teachers to utilize an ILS in conjunction with state mandated testing. The administrators felt that this was an area where some improvements could be made in their overall support of UTP.

Dissatisfaction with the Status Quo. Only 2 teacher participants stated that leadership was important to them because they wanted to see a change in their current teaching practices. These participants believed that if other teachers would utilize UTP then significant gains could be made in student achievement. Aldunate et al., (2013)

suggested that teachers would use an ILS more frequently if they were aware of the academic benefits that the program would provide students.

The participants expressed an interest in changing their classroom environment in terms of creating more rigor within the classroom curriculum. Hamel, Turcotte, and Laferrière (2013) explained that adding a technological innovation tool is one way that educators take ownership of changing their regular instructional practices. Teachers who are utilizing UTP have seen improvement in academic achievement, but the barrier still remains that several teachers at the local research setting are not utilizing the program. The authors also explained that teachers did not want to invest time in training with a new program when there were so many other time constraints that were associated with education (Hamel, Turcotte & Laferrière, 2013).

Knowledge. Knowledge was a concept that required the teachers to embrace change by utilizing a technological system in the classroom. This condition of change required a change in daily practices because in order to gain knowledge of a program the teacher had to embrace the training. Hamel et al., (2013) explained that in order for a change to take place in the classroom, the teacher must use the knowledge gained through the training. The problem was that once the training was completed teachers often reverted back to their traditional practices, which meant the teacher never implemented the program in the classroom and the students were not exposed to the ILS, which could potentially increase their academic achievement. Ely (1990) explained that knowledge is a condition that is necessary for the successful implementation of an ILS in the

classroom. Knowledge is a condition that took on multiple meanings because knowledge in this case is knowledge of the program, the knowledge teachers gained from learning the program and the knowledge that is linked to other conditions which worked simultaneously to promote change within the local setting (Hamel et al., 2013).

Armstrong (2014) explained that knowledge is apparent among the students. The author reported that 3 out of 5 students have a computer, smartphone or tablet to use as a technological resource that many use to complete homework and other assignments. The problem, is that teachers were not providing access to these materials in the classroom on a daily basis. The teachers are knowledgeable of UTP, but do not have the resources to implement the program daily.

UTP was an ILS that had been available in the local research setting for several years, but some teachers did not recognize the benefits of the program and therefore these teachers were not using it in any capacity. This explains that the teachers had knowledge of the availability of the program and yet some were still choosing not to use UTP which also connects to the theme of dissatisfaction with the status quo and the lack of leadership. One participant stated that because of his invested interest in the program that he now used it for his assessments so that students could have immediate feedback of their progress as well as the areas of weakness. Kirkwood and Price (2014) explained knowledge and meaningful learning takes place when teachers who have knowledge of a technological program are allowed to build capacity around technological resources that enhances the student's academic growth. Knowledge is an area that needed to be

addressed at the local setting because the teachers who have built a learning environment that included technology need to enhance the student's experience based on the teacher's knowledge.

Leadership. Several participants stated that leadership was the key factor that was necessary in order to create changes in their classroom. Whitehead, Jensen, and Boschee (2013) stated, "quality leadership must be evident at all stages of development" (p. 28). The administrator participants all believed that they demonstrated leadership by supporting the use of UTP in the classroom. Leadership was another area that was linked to other conditions of Ely's (1990) conditions of change theory because leadership was linked to commitment, resources, and rewards. The computer resources that were available at the local research setting were not sufficient to promote the continued use of UTP on a daily basis among the students and teachers. Livingstone (2012) explained that schools that lack leadership in terms of promoting an ILS often found that teachers abandoned the practice of implementing an ILS because of their individual feelings regarding the use of an ILS.

The teacher participants of this study all used UTP in some capacity and all have stated that they have encouraged colleagues to use the program. All participants explained that the problem was that there were not enough technological resources to adequately promote the use of UTP, which meant the students were not able to use the program on a daily basis. The administrators all agreed that moving toward a one to one technological system was the key to promote the sustained use of UTP. Hamel et al.,

(2013) explained that leadership is a key component that includes appointing an academic coach or other teacher leaders who can support teachers in the implementation of an ILS. The local setting was limited in this area, because the teachers have all learned the program, but only those who were collaborating on the use of UTP have true support that is necessary for the continued success of UTP.

Commitment and Participation. In order to implement UTP at the local setting more teachers needed to participate and commit to utilizing the program. The teachers who were committed to using UTP have created lessons that incorporated the resources provided in UTP. Ely's (1990) theory states, "there must be firm and visible evidence that the organization actively supports the implementation of the innovation" (p.3). This statement was indicative of the type of commitment that needs to be made at the local setting in order to implement UTP successfully. Ertmer, Ottenbreit-Leftwich, and Tondeur (2014) explained that teachers who were committed to an ILS showed this commitment throughout their interactions with students, which showed their colleagues that utilizing an ILS is not a temporary thing. The teachers who participated in this study were committed to utilizing UTP, but wanted their colleagues who could benefit from UTP to also adopt the program. This is still an area of concern for the research setting that needs to be addressed if this school intends to implement any type of technological program.

Ely (1990) explained that, "participation is expected and encouraged: Each stakeholder needs to be included in the planning and decision-making process for

implementation at each level" (p. 3). Participation from all stakeholders in the local setting is a key element that is necessary to promote global usage of the program among students and teachers. In order for this type of innovation to take place all teachers need to feel included in creating a system for how everyone will use the program.

Available Resources and Time. At the research setting, the administrators need to find a way to increase the number of available resources by providing sufficient technology and purchasing additional subscriptions of UTP. Administrators needed to provide this element of support, which could increase the overall usage of UTP at the local setting. Funding was also a resource that needed to be included when discussing technology and the subscriptions of UTP because additional funds were necessary to purchase the additional technological resources. At this time, the administrators and teachers searched for additional funds to supplement the costs of the resources, but more is needed. Hamel et al., (2013) explained that resources were necessary to successfully implement an ILS such as UTP. With the increase in resources, some teachers will increase their usage of UTP, which was a favorable outcome that was promoted continued usage of the program.

With the increased amount of technology, teachers would have the time to create lessons that will include using UTP in the classroom. Time was an available resource that teachers had to generate by creating productive lessons that include a variety of teaching strategies. Ely (1990) states, "implementers must have time to learn, adapt and reflect on what they are doing" (p. 3). Teachers who wanted to implement a change in the

classroom need time to learn the program and adapt to the changes that implementing a new program created within the classroom setting. The teachers at the local research setting implemented the changes that occurred when implementing a new program. One participant explained that having time to explore UTP was just as important as learning the basic components of the program.

Rewards and Incentives. There were no rewards or incentives in place to entice the teachers at the research setting to implement UTP. The intrinsic reward was knowing that students have gained academic success or mastery of a skill or concept that was once difficult. Ely (1990) states, "there must be incentives and rewards to motivate users to implement the innovation" (p. 3). The lack of rewards or incentives is one area of support that can be implemented from the administrators at the local setting. Teachers needed incentives which would promote the use of UTP in the classroom.

Goodman and Turner (2013) explained that performance-based pay is an incentive that would provide teachers with the motivation needed to implement an ILS. This type of incentive would increase the teachers' efforts to provide instruction that includes UTP. Another incentive would be a prize or reward given to teachers for utilizing UTP such as an IPAD, tablet or other type of technological device. This type of incentive would have to be implemented by the administrators. Schmid and Hegelheimer (2014) explained that incentives play a huge role in the way some teachers perform. The idea was that if a teacher received some type of incentive then the quality of their teaching would improve.

Although there were no tangible rewards or incentives for teachers who implemented UTP, there were some teachers who provided incentives for students who used the program for additional practice. One participant explained that she encouraged the usage of UTP among her students by providing extra credit opportunities for the students who used the program. However, this was not a common practice among the teachers.

Recommendation for Action

Although many themes emerged from the interviews, three significant areas of concern were revealed through this study. Those areas included lack time, leadership, and available resources. After analysis of the data, it was determined that these three elements of UTP implementation greatly impacted one another. All leaders in education and the stakeholders in other districts would use this information to improve the educational technology programs within their schools.

Overall, this study revealed that educators needed more resources to adequately improve the current trends in technological education. In order to gain more resources, funding was a vital component in accomplishing this goal. In order to increase the amount of funds allotted for educational technology, the administrators and teachers need to continue to work to find sources of funding that would improve the amount of technology that is available at the local setting. The first recommendation would be to create a grant writing team that would work to find additional resources to support the use of UTP at the research setting. Fouad (2016) explained that several facilities look for

external resources to support internal functions such as an ILS within the research setting. The participants stated that funding was a problem at the local setting that needed to be addressed. By eliminating the barrier of funding, the administrators would be able to provide the additional resources that support the use of UTP.

In addition to funding, the teachers needed a flexible schedule that would allow them to have time to plan or create lessons around the implementation of UTP. The second recommendation is for administrators to create a schedule that will support teachers in their usage of UTP. Bonnand and Hansen (2016) explained that scheduling is crucial to the implementation of an ILS. Teachers need a flexible schedule that will support the instructional use of UTP that coincides with state mandated testing and other instructional obstacles that may be present in the schedule.

The third recommendation is that new teachers at the local setting needed to be trained on the benefits of UTP. Aldunate et al., (2013) stated, "many schools are equipping teachers with technology, but failing to provide them with the appropriate training or adequate consideration of curricular issues" (p. 519). Recently, new hires have not been given any training on how to use UTP and therefore, many were not aware of how well the program supports the curriculum. The new teachers may not be new to education, but because they are new to the research setting it was imperative that they were aware of the technological software that would aid their current teaching practices and strategies. The training that these teachers need should come from either the technology coach or from colleagues who teach similar classes. Everyone who was a

stakeholder with a course that had been purchased on UTP should become educational leaders at the local setting to ensure that all teachers were aware of the program.

The fourth recommendation was that participation among district administrators was necessary to support all students at the local setting. This program was one that would benefit many students and with district funding, the burden of providing funds for the purchase of subscriptions would be alleviated. Funding was a pivotal component to successful implementation of any technological resource because the money would not only be used to purchase additional subscriptions, but also to update, replace or purchase new hardware so that more students would utilize UTP on a more regular basis (Aldunate et al., 2013; Schmid & Hegelheimer, 2014; Schrum & Levin, 2013; Whitehead et al.,2013).

Teachers need funds, time, and abundant resources, which are critical elements to meet the ongoing needs of teachers and students in order to implement UTP. The before mentioned resources are a common recommendation in the literature. Livingstone (2012) explained that teachers need the appropriate resources in order to provide adequate instruction for the students. Teachers needed these resources because there were so many components that were involved with the daily demands of a teaching. Bonnand and Hansen (2016) explained that grant writing teams is an area that many institutions are now utilizing to provide additional support to generate funds that will support an ILS in the research setting. Therefore, teachers needed support to provide adequate teaching in the classroom and these resources were the key elements to the implementation of UTP.

Several participants mentioned that they needed time to use the program frequently and effectively in their classrooms without having the stress of locating computers. Administrators needed to provide this type of support if UTP was going to continue to be successful at the research setting.

In addition to the administrators providing financial support, there also needed to be someone who would provide technical support for teachers who were in need of computers, or if there were questions about the program and how it functioned. These resources would allow teachers to feel that there was in-house support for the program. Johnston (2015) explained that technology coaches are an invaluable resource in terms of providing support and instruction of an ILS.

The current research stated that without administrative support an ILS such as UTP was difficult to maintain. Several participants stated that administrators needed to encourage the use of UTP once the barriers have been eliminated or reduced. The idea of empowering administrators is not a new concept. The administrators had knowledge of the program and its benefits, and therefore, they should be the leaders who supported the use of UTP (Whitehead, Jensen, & Boschee, 2013).

Recommendation for Further Study

Several recommendations for further studies emerged as a reflection of this study. Those recommendations would extend this study and could contribute greatly to the knowledge base in the area of special education and educational technology. This study focused specifically on the experiences of teachers and administrators. The

recommendation for future researchers was to consider exploring the experiences of special education teachers and instructional assistants who work closely with special education students while using UTP. It is important that special education teachers are included because these teachers support regular educational curriculum standards and therefore are able to help students achieve their academic goals. The assumption is that special education teachers also experienced barriers that directly impacted how they used UTP in the classroom. Special education teachers did not teach a core subject and therefore, their viewpoint of using UTP with students would yield some alternative data.

A final suggestion for future research would be to remove the barriers from the research setting, train teachers properly on how to use UTP, provide support and then conduct research to determine the impact that UTP has on student achievement. These recommendations are necessary to ensure that the ILS is being utilized properly in the research setting. Aldunate et al., (2013) explained the barriers have to be resolved in order to successfully implement an ILS. By providing sufficient training to teachers, the administrators need to be proficient in terms of ensuring that all teachers receive training to successfully implement UTP. Buabeng-Andoh (2012) explained that training is a necessary component to the sustained use of an ILS. Training is an area of support that needs to be implemented so that all teachers have access to the training materials in order ensure that the teachers can implement UTP with some level of competence. Additional support is necessary in terms of providing technical support by an on-site expert who can trouble shoot and answer questions for the teachers. Bonnand et al., (2016) explained that

the on-site expert is supposed to provide support for an ILS. The technology coach needs to be aware that support is not limited to just trouble shooting when the program does not work, but also includes being available to provide support in a variety of ways. The final component is to conduct research at the research setting to determine how well UTP promotes academic achievement. Tondeur et al., (2012) explained that a variety of strategies promote academic achievement. In education, the current trend is to provide students with different modalities that will increase achievement and UTP is one modality that provides instruction to promote student achievement.

Implications for Social Change

Education is a vital part of life. A quality education contributes to the overall quality of an individual's life because education is one step toward future goals and endeavors. Through education an individual has options about life and those options factor in to what that person will contribute to society. As the world continues to evolve so will the skills that are required to function on a daily basis in society and with an education that is rich in technology and other research-based practices, students will be well equipped to participate in a world where the individual can be a world-class lifelong learner.

Schmid and Hegelheimer (2014) explained the benefits of having an education that incorporates technology as one that sets students apart from others. Students who have knowledge of technology are able to handle the challenges that they will face in the world which will test their knowledge of reading, problem-solving and discussing current

issues that they will encounter in life and in the world of work. Teachers play a key role in teaching students with the technology that the students will eventually use in real world situations. Mama and Hennessey (2013) explained that teachers who are not using technology in the classroom are limited in their use of technological resources because they are limited in their understanding of the benefits of technology. Technology plays a significant role in equipping students with these skills that will allow them to be successful in any field and in life (Shmid & Hegelheimer, 2014).

Prestridge (2012) explained that teachers are incorporating technology in a way that will allow students to be competitive in a global market. Mama and Hennessey (2013) further explained that if teachers would relinquish the barriers that prevent them from using technology, then the teacher would recognize the benefits of adding more strategies and practices to use while teaching students to become lifelong learners. Teachers strive to incorporate as many strategies as possible in the classroom to promote academic achievement because the goal is for all students to become lifelong learners who are competitive in today's society. Aldunate and Nussbaum, (2013) further explained that teachers who are incorporating technology in the classroom have a greater influence on other teachers and these teachers have more meaningful teaching experiences during their tenure in the classroom. Teaching is an evolving profession and the incorporation of technology makes the experience richer because of the variety of teaching modes that teachers are able to employ.

Leaders in education and in educational technology could use the results of this study to resolve some of the barriers of implementing an ILS such as UTP in the classroom. Stakeholders could evaluate how much time teachers spend implementing UTP as a part of their classroom practices. I found that teachers need time to learn the program, which increased their own knowledge, created greater participation and commitment towards UTP. Livingstone (2012) suggested that teachers who had sufficient time to learn an ILS were more likely to use it on a consistent basis. Teachers who implement technology on a consistent basis should see an improvement in their students' test scores which promotes academic achievement.

By overcoming the barriers that are present at the research setting, the teachers could ultimately increase the use of UTP and create better opportunities for all students to increase their academic achievement. Whitehead, Jensen, and Boschee (2013) further explained that students need opportunities to solve problems, which is a skill that will help them in academics and in life. UTP is the tool that will provide students with a variety of strategies to learn problem-solving techniques that promoted academic growth.

Limitations

One limitation of this case study is that I only worked with one school for the purpose of gathering data. Another limitation is the transferability of the collected data may be affected based on the small sample of participants chosen for this case study. The small sample size presented limitations in this case study in terms of the ability for transferability to other school districts with larger populations. The rural area in which

the local research setting is located influenced the sample size chosen. By employing a case study design to a create a contextual storyboard of the phenomena studied, the limitations of the study were enhanced. A case study design allowed me to obtain rich details from the interview data to be collected at the research setting. In addition to the data collected from the interviews, I also reflected on the observational data from the field notes that were taken during the data collection process in order to improve the sample size limitations of transferability.

Methodological Implications

I started this study based on the idea that technology could enhance student achievement. After researching the literature, I discovered that there was a plethora of information that supported this notion. Afterwards, I found participants who were willing to share their experiences regarding the usage of UTP. Once the interviews were complete, I realized that the participants believed that several of Ely's (1990) conditions needed to be in place in order to create a successful technological environment. The conditions were funds, time and adequate resources. Additionally, the research indicated that teacher attitudes also influenced the outcome of how technology was incorporated in the classroom. Kirkwood and Price (2014) explained that the teachers' perceptions play a vital role in how technology is incorporated in the classroom.

The findings indicated that Ely's (1990) conditions of time, funding and adequate resources are major components that are necessary when implementing a technological instrument in an academic institution. These conditions along with teacher perceptions

and attitudes worked in conjunction to create a successful technological environment. Aldunate and Nussbaum (2013) further explained that teachers who facilitated a technologically rich environment had a greater impact on the academic progress of students in the classroom. The impact that technology has on student achievement does not replace standard teaching, but rather creates an environment where students are exposed to a variety of teaching strategies.

The future of education is shifting toward a technologically rich environment where an ILS such as UTP is a standard component in general teaching practices. The administrator participants will continue to seek financial resources to promote academic achievement with the use of UTP. The conclusion drawn from the research indicates that this setting will move toward utilizing technological resources as part of the standard teaching practices in the core classroom curriculum. In further investigations of similar problems, it is important for researchers to choose methods that lend themselves to addressing the situationally specific nature of schools as organizations to identify factors that might have effects on student learning and achievement.

Reflection

Prestridge (2011) suggested that teachers need to incorporate technology within an educational setting to further the academic achievement of students. I am a teacher and the goal of teaching is to help students to make strides in their academic achievement. This experience was an enlightening experience for me because I was able to conference with other teachers who share similar goals and who also share the same passion for

using UTP. I believe that more teachers could benefit from using UTP and it is my goal to work hard to ensure that more teachers are using the program. Aldunate et al., (2013) explained that teachers who adopt an ILS early on are more likely to continue using the program over a sustained period of time. I believe that is true. Professionally, I cannot use the program because of the courses that I teach, but my goal was to help the administrators find additional funds to purchase the advanced placement course materials which would benefit more students. I felt that by aiding in the search for additional funds that I could assist other teachers who were using the program.

I felt that UTP was a critical educational tool that could be used at the local setting. I have always valued the program, but I could not force others to use it. Initially, when I began using the program it was to help students pass the High School Assessment Program (HSAP) in order to earn a high school diploma. Now that the HSAP is no longer a requirement, I can no longer use the program with the current subscriptions. As I worked through this study, I found that other teachers were in the same position as I am, but then there were still those who choose not to use UTP. I believe that if the barriers could be eliminated or reduced then more teachers would find a way to incorporate UTP in the classroom. Liu (2011) explained that an ILS is critical to the current teaching trends in education. Frankly, teachers who are not incorporating technology in some way are creating a disservice to the students that should be addressed. The students today learn differently and it is imperative that educators remain current with new trends and technology to create a learning environment that fosters growth.

Teachers can now take an active role in becoming educational advocates. Promoting the use of educational technology is a small change that can lead to a global transformation of classroom practices. Advocacy is how we move from good to great. This study has been at time an overwhelming experience, but my goal was to keep my eye on the ultimate goal which is to create a positive social impact in identifying the value of UTP. I believe that I can now be considered a knowledgeable stakeholder in the area of UTP and an advocate for its continued used. I am proud to share my knowledge with others and I hope sincerely that UTP will continue to positively impact teachers who want to help students increase their overall academic achievement. Frankly, I hope this study gives hope to other doctoral students. After reviewing several dissertations for guidance throughout this educational process, I hope that my study can help others in their quest to obtain a doctorate degree.

Conclusion

I explored the experiences of teachers and administrators during the implementation of UTP. This study revealed that teachers were willing to implement UTP; however, there were some barriers that prevented UTP from being used frequently. Teachers needed the necessary tools such as available resources and funds to successfully implement UTP. These two components are important for all participants because without available resource and the funds to purchase additional resources then teachers are not likely to commit to using the program in any capacity. The suggestion was that administrators needed to provide these resources. Teachers who implemented UTP were

already contributing to the academic success of all students, but those teachers who were not using it needed the resources to make it possible. Students need every advantage possible to achieve academic success and these students needed an education that was rich is technological instruction. Teachers provided a quality education, but in order for teachers to create model classrooms that were technologically sound, the resources had to be available. Without the proper resources educators would provide an education, but it would always be subpar in comparison to those schools and districts that provided global opportunities to produce students who are productive lifelong learners.

Education is the key to a successful life where opportunities are more abundant. In order to achieve that life, a variety of teaching strategies and methods need to be explored. As educators it is our duty to provide each and every student with a quality education that will allow them to compete on a global scale. Teachers who do not incorporate technological resources are not providing the kind of quality education that the 21st century learner needs. Therefore, if the students are going to become high achiever then teacher must first become technologically savvy which will help the students to remain competitive on a global scale.

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Appendix A: Interview Protocol

The purpose of this interview is to further my understanding of your perception of the value of USATestPrep (UTP) implementation. It will contribute to my study evaluating the barriers that teachers experience during this process as well as the perceptions of the administrators. For the purpose of this interview the term UTP is the technology program that will be used to help students increase reading achievement.

I want to remind you again that this interview is confidential and your identity will be kept confidential to everyone excluding myself. Your honesty will be greatly appreciated, and is taken without judgment. Your experiences are valuable and will contribute to this study and the field of communication disorders. Lastly, your participation is voluntary and you have the right to end this at any time. Do you agree to continue?

Research questions for teachers:

1. What barriers did South Carolina high school educators perceive prevented them from implementing USATestPrep?
2. What support(s) did South Carolina high school educators find necessary to promote full implementation of the USATestPrep program in the local setting?

The research questions for administrators are:

1. What barriers did South Carolina high school principals perceive prevented educators from implementing USATestPrep?
2. What support(s) did you provide to educators in their usage of USATestPrep?

Follow up questions for teachers:

1. What is your experience with UTP?
2. Describe how you used it. Tell me everything about this including who was involved, how decisions were made, what made this process easier and/or more difficult. How did you create your lesson plans to include UTP?
3. What motivation do you need to start using UTP again?
4. What factors have helped you to use UTP effectively in the past?
5. What suggestions do you have to other teachers implementing or considering UTP?
6. According to Ely's theory of change, there are eight conditions that promote change. Which of these conditions is necessary for you to promote change within your classroom?

   The eight conditions are:

   - Dissatisfaction with the status quo was linked to leadership.
   - Knowledge was linked to rewards, leadership, resources and commitment.
   - Resources were linked to commitment, leadership, and rewards.
   - Time was linked to participation, commitment, rewards and leadership.
   - Rewards were linked to dissatisfaction with the status quo.
   - Participation was linked to commitment, time, knowledge, and rewards.
   - Commitment was linked with time, resources, and rewards.

- Leadership was linked to time, participation, commitment, resources, and rewards.

7. What type of support will you need to continue promoting UTP in your classroom?
8. What additional information would you like to provide regarding your experiences with UTP that have not already been mentioned?
9. What additional questions or suggestions do you have the continued use of the program within the classroom?

The follow up questions for administrators:

1. What is your experience with UTP?
2. According to Ely's theory of change, there are eight conditions that promote change. Which of these conditions is necessary for you to promote change within your classroom?

   The eight conditions are:

   - Dissatisfaction with the status quo was linked to leadership.
   - Knowledge was linked to rewards, leadership, resources and commitment.
   - Resources were linked to commitment, leadership, and rewards.
   - Time was linked to participation, commitment, rewards and leadership.
   - Rewards were linked to dissatisfaction with the status quo.
   - Participation was linked to commitment, time, knowledge, and rewards.
   - Commitment was linked with time, resources, and rewards.

- Leadership was linked to time, participation, commitment, resources, and rewards.

3. What suggestions do you have for teachers who are implementing or considering the implementation of UTP?
4. What type of support(s) did you provide to help teachers with the implementation of UTP?