TEACHER PERCEPTIONS OF THE INSTRUCTIONAL PRACTICES

IN AN ONLINE NEW TEACHER INDUCTION PROGRAM: A CASE STUDY

by

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DEDICATION

I am dedicating this work to the following people out of simple, deep love and admiration:

To LeRoy and Wilma, for never giving me one moment of doubt about their love, faith, and support for me.

To Michael, for being my role model as a son, a brother, and a father; and for never backing up more than he needed to.

To Lori, for consistently showing me that leading with your heart is a good thing.

To Keara, for the inspirational way she makes hopes and dreams part of her everyday reality.

To Tyler, for proving over and over that the heart is our best compass.

And to Molly, for being largely responsible for: (a) getting me to this point, (b) the dopey smile on my face, and (c) the joy in my heart.

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ABSTRACT

This qualitative case study examined the perceptions of new teachers regarding an online version of a new teacher induction program. The need for the study is based on (a) the increased need to train new teachers, (b) the limitations of traditional new teacher induction programs, and (c) the affordances of an online version of an induction program. Although teacher induction programs have been studied for two decades, online versions of these specific programs are appropriate for current study because they are relatively new and those who implement such programs would benefit from knowing more about their best practices. In 2013, the Riverside County Office of Education began implementing an online version of its induction program as an alternative choice to its face-to-face program in order to meet the needs and demands of new teachers in a flexible and individualized manner. The population of 331 participants in the online version of the new teacher induction program was the focus of this study.

The research question asked how educators in an online K-12 teacher induction course on pedagogical practices perceived the effectiveness of instructional practices used in the course and to what extent those practices affected their own teaching. The data collected and analyzed in the study came from a survey of all program participants, interviews with a subset of participants, and archival documents provided by the program administrators. The results of the study revealed (a) 33-year-old to 42-year-old age group was significantly more satisfied with the induction program than any other age group, (b) females were significantly more likely than males to be "very satisfied" with the

induction program, (c) participants who rated themselves as "very satisfied" with the induction program were significantly more likely to remain in teaching, (d) participants in the fully online program were significantly more likely than the distance model participants to remain in teaching, and (e) participants in the fully online program were significantly more likely than the distance model participants to make changes in their teaching practice as a result of the induction program.

The findings indicate a need for further study of age and gender and how they relate to program satisfaction and to teacher retention. Additionally, the results suggest a need for more research on how the affordances of online learning can affect the outcomes of an online teacher induction program.

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LIST OF ABBREVIATIONS

ANOVA   Analysis of Variance

BSU   Boise State University

CCTC   California Commission on Teacher Credentialing

CDE   California Department of Education

CTI   Center for Teacher Innovation at RCOE

IRB   Institutional Review Board

NTC   New Teacher Center

OTPD   Online Teacher Professional Development

RCOE   Riverside County Office of Education

TPD   Teacher Professional Development

UCR   University of California, Riverside

CHAPTER ONE: INTRODUCTION

Induction: Cambria's Story

Cambria[1] had long dreamed of becoming a teacher. Her parents and other family and friends were in the education field. She could see a career path and was eager to start teaching her own students. She graduated with a bachelor's degree from a California state university in 2012. She then enrolled at another university in order to work toward a teaching credential. After completing her coursework and five months of supervised student teaching, she graduated in the summer of 2014 with her multiple subjects teaching credential. She was ready for a job as an elementary teacher and hoping to start right away in her dream of teaching in a kindergarten or first grade classroom.

Her timing was a little off. Districts had already done their hiring for the year. So Cambria signed up with a couple of local school districts to be a substitute teacher. She spent the 2014-15 school year gaining even more experience as a substitute teacher. When she finally landed her first full-time position in August of 2015, teaching first grade for a local southern California unified school district, she felt well prepared for the work ahead.

Then reality sank in. Cambria was 26 years old, married, had a one-year-old daughter, and had already started working on her master's degree at a local university. She quickly found that being a teacher was far more work than student teaching or even

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[1] All participant names in this document are pseudonyms unless otherwise noted.

substitute teaching. Although she had succeeded at each level in her path toward her goal, she could tell that there was much she did not know about how to do her job. She was starting to feel overwhelmed. She was getting concerned about the level of administrative support she was receiving. She was struggling with managing the behavior of her students and was even beginning to wonder if this was the right job for her.

It was at this point that the principal told her that she, like all new teachers, would have to go through a year-long "new teacher induction program." The program is required by the state of California and is designed to support teachers in their first year or two in the profession. There are two goals of the program. First, the program is designed to fill in the gaps between what candidates learn in teacher preparation courses of study and in their student teaching and substitute teaching experiences, and what they need to learn to be successful in the job. Second, the program aims at providing a support network for new teachers as one way of trying to retain them in the profession. For Cambria, this just sounded like extra work. When she was offered a choice between a face-to-face induction program and an online version of the same program, she selected the online version, hoping that it would be a better fit for her life. Cambria, like most new teachers, was too busy to be thinking about all the reasons this induction program was so important to her future as an educator.

Purpose and Background

New teacher induction is the culminating process in the path toward earning a teaching credential. In California, as in most states, the typical path toward receiving a K-12 teaching credential starts with completing a Bachelor of Arts or a Bachelor of Science degree at a college or university. The next step is the completion of a teacher preparation

program. Teacher preparation programs are also typically done at colleges or universities.

They include courses on pedagogy and teaching in specific content areas. They also

include supervised student teaching experiences. Student teaching involves the credential

candidate working in a classroom with a master teacher. The master teacher provides job-

embedded guidance, opportunities to teach lessons, and feedback for the credential

candidate. Once the credential candidate completes a teacher preparation program, the

candidate is then awarded a preliminary teaching credential by the California

Commission on Teacher Credentialing (CCTC) and becomes eligible to be hired as a

teacher in a public school.

The final step for a new teacher with a preliminary credential to become a fully

credentialed teacher is the completion of a new teacher induction program while in the

first two years of their teaching career. In 1998, the state of California passed Senate Bill

2042, establishing a two-year, job-embedded teacher induction professional development

program as the primary path for new teachers to "finalize" their credentials. Table 1.1

provides some demographic data from the California Department of Education (2015)

regarding teachers enrolled in induction programs in California during the 2013-14

school year.

Table 1.1   California Induction Participant Demographics

Demographic Item	2013-14 Data
Total Participating Teachers	18,585
Credential (Subject Area) Distribution	Multiple Subject: 49% Single Subject: 39% Special Education: 12% Career Technical Education: <1%
Gender	Female: 74.4%

	Male: 25.6%
Race	African American: 3.3%
	Asian: 7.5%
	Filipino or Pacific
	Islander: 2.6%
	Hispanic: 20.8%
	Native American: 1.7%
	White: 60.3%
	Decline to State: 2.8%

This study examined the perceptions of new teachers regarding an online version of a new teacher induction program. The need for the study is based on a combination of factors: (a) the increased need to train new teachers, (b) the limitations of traditional new teacher induction programs, and (c) the affordances of an online version of an induction program. The education profession is facing several issues with retaining new teachers. Classroom teachers are, on average, becoming less experienced in terms of years on the job (Darling-Hammond, Furger, Shields, & Sutcher, 2016). According to the Carnegie Foundation, the mode number of years of teaching experience in U.S. public schools in 1988 was fifteen years, but by 2008, the mode was one year of teaching experience (Headden, 2014). This decrease in years of experience is a result of smaller class sizes, increases in retirement rates, and higher turnover in teaching positions. Thus, there exists a greater need to train new teachers (California Department of Education, 2015). In California, the increased need for new teachers is exacerbated by a twelve-year low in the supply of qualified new teachers (Darling-Hammond et al., 2016).

Another factor affecting teacher retention is the quality of new teacher support programs. Although high quality teacher induction programs can help increase teacher retention and improve student outcomes, many induction programs are consider lacking

in quality (Ingersoll, & Strong, 2011). According to Headden (2014), poor professional development and support for new teachers is one of the major reasons teachers leave the profession in their first five years. Specifically, new teacher induction programs have suffered in regard to the following: (a) program content, (b) program duration, (c) clarity of goals, and (d) the ability to foster and assess growth (Ingersoll, & Strong, 2011). In particular, large-scale induction programs can suffer from multiple issues: (a) short program duration, (b) lack of rigor for the inductees, and (c) lack of training for the program mentors (Fletcher & Strong, 2009; Glazerman et al., 2010).

Concurrently, online learning has been identified as one of the twenty-first century's significant trends (Picciano & Seaman, 2007). Some of the affordances of online learning such as (a) increased interaction, (b) increased flexibility, and (c) increased relevance, contribute to teachers feeling supported (Owston, Wideman, Murphy, & Lupshenyuk, 2008). Additionally, the affordance of online learning to help participants feel supported in the manner stated above converges with the dominant need of new teachers in an induction program, which is namely to feel supported (Ingersoll & Strong, 2011).

In an atmosphere of greater need to support new teachers for purposes of retention, the Riverside County Office of Education (RCOE) is discovering that online learning is finding a natural place in new teacher induction programs. Administrators of RCOE's online new teacher induction program cite a number of reasons that led to the decision to create their online program. These include (a) the growing numbers of new teachers, (b) the online affordance of individualized support, (c) the online affordance of time-shifting for facilitators and participants, (d) the need to cover the more than 7,000

square miles of Riverside County and to be able to reach teachers even beyond those borders, and (e) meeting the expectations and requests of new teachers in this decade (A. Van Horn & T. Almeida, personal communication, April 8, 2015).

All of the conditions stated above have led RCOE to start offering an online version of its new teacher induction program to try to improve teacher induction and to meet the current needs of teachers in Riverside County. However, there are few other institutions or programs that are attempting to prepare K-12 teachers through online and blended environments, resulting in few opportunities to study these programs. According to the California Commission on Teacher Credentialing (2015), 259 new teacher induction programs exist in California. Of those, less than twenty county offices and universities offer online versions of their induction programs. The result is a research gap in the area of participant perceptions of instructional practices specifically for online instruction in preparing new teachers to teach in face-to-face environments. One affirmation of that gap came at the New Teacher Center's international New Teacher Symposium in February 2016. For the first time, that conference included a session by providers of online new teacher induction programs, signaling the rise of that model. Consequently, according to Barbara Howard, Director of the Center for Teacher Innovation at RCOE, although the number of online new teacher induction programs is currently relatively small, it is a number that is growing every year (B. Howard, personal communication, February 22, 2016).

Among the challenges indicated by the research gap is the need to examine how newly credentialed teachers are inducted into the profession. In the state of California specifically, newly credentialed teachers have to complete a two-year "New Teacher

Induction" program in order to obtain their final professional credential. In 2013, RCOE began implementing an online version of this induction program as an alternative to its face-to-face program and in order to meet the needs and demands of new teachers in a flexible and individualized manner. This nascent online version of the new teacher induction program was the focus of this study.

Research Questions

The broad research problem explored by this study is the improvement of online new teacher induction programs to best meet the needs of new classroom teachers by developing a deep understanding of RCOE's online new teacher induction program through the voices of those who participate in it. Although teacher induction programs have been studied for two decades, online versions of these specific programs are appropriate for current study because they are so new, and analysis of their implementations would benefit educators and practitioners by leading to a better understanding of associated best practices.

Central Question

How do educators in an online K-12 teacher induction course on pedagogical practices perceive the effectiveness of instructional practices used in the course and to what extent did those practices affect their own teaching?

Subquestions

- Participant satisfaction: To what degree are participants satisfied or dissatisfied with the online induction program and with the instructional practices presented in the program?

- Participant success: What factors influence participants' perceptions about their ability to implement learning from this program into their own classroom teaching? Is there a relationship between the literature on adult learning and the participants' responses regarding their learning in this program? Are participants more likely to remain in the profession?

- Transformation of practice: How have participants transformed their own pedagogical practices (if they have) in relation to what is or was presented in the course or program?

- Systems Reflection: What are the considerations for future online teacher induction programs regarding course design, implementation, and evaluation based on the findings of this study?

Approach

A detailed description of the case itself can be found in Chapter 3. This section examines the specific research approach to be used. The researcher has chosen to use a qualitative case study approach for this research. The researcher in this study used a qualitative case study approach for three primary reasons. First, RCOE's new teacher induction program is a bounded case. Second, the research questions call for an in-depth exploration of the participants' perceptions. Third, the case is a complex educational program.

Specifically, this study is categorized as an instrumental case study because the focus area is online teacher professional development and the researcher is using RCOE's new teacher induction program, bounded by time and place, as an illustrative example (Creswell, 2013). The case study approach is a good fit when there is a need for an in-

depth exploration of the perceptions of individuals engaged in a particular case or phenomenon, which in this instance, is an intensive year-long online professional development program whereby new teachers participate as a requirement to complete their teaching credentials (Creswell, 2013). RCOE's online new teacher induction program incorporates online learning with cycles of inquiry, practice, and reflection, making it complex and multi-dimensional (B. Howard, personal communication, March 23, 2016). In the field of education, case study is widely accepted as a research methodology for evaluating complex educational programs existing in specific contexts (Simons, 2009).

Additionally, researchers have widely used the case study approach when studying online professional development programs for teachers (Adams, 2010; Cho & Rathbun, 2013; Holmes, 2013). Although further details of the current case appear in Chapter 3, it is important to note here that the case is typical in terms of online new teacher induction programs. Yin (2012) describes finding a typical case as one of the major rationales for using the case study methodology. Given that, it is important to examine what is meant by the term *case study*.

According to Merriam (2009), a case study is "an in-depth description and analysis of a bounded system" (p. 40). A case study may also be an empirical inquiry that can go well beyond a study focused on self-reported perceptions. In educational settings, a case study also often includes direct classroom observations over a period of time, interviews, and field notes (Randi & Zeichner, 2004). Creswell (2013) further describes case study as bounded by time and place, designed to study one particular case or phenomenon, and characterized by the collection and analysis of extensive data. The rich

data collected in a case study produce insights and understandings gained through analysis and interpretation (Simons, 2009).

Participants of the program were surveyed and interviewed. The data was analyzed to build a rich description of participant perceptions of the online program. The processes of data collection and analysis are detailed in Chapter 4. However, it is important to note that the resulting themes of teacher perceptions may help RCOE, as well other new teacher induction providers, improve versions of its program to even better supporting new teachers and helping to retain those teachers in the profession.

The first column of Table 1.2 represents many of the key practices in case study research (Creswell, 2013; Stake, 1995; Yin, 2012). The second and third columns relate how each of the identified best practices are addressed in this study and where each can be found in the study.

Table 1.2   Case Study Best Practices

Case Study Best Practice	Addressed in this Study	Section of this Study
Intention of providing an in-depth understanding of a case (Creswell, 2013)	The researcher is conducting an in-depth examination of an online new teacher induction program.	Introduction
Identification of the type of case study (Creswell, 2013; Stake, 1995; Yin, 2012)	The study is categorized as an "instrumental" case study. The RCOE new teacher induction program is used as an illustrative example of online teacher professional development.	Introduction
Identification and description of a specific case (Creswell, 2013; Stake, 1995; Yin, 2012)	The new online version of the RCOE new teacher induction program is described in depth.	Introduction
Inclusion of an illustrative vignette (Stake, 1995)	Vignettes will provide narratives of the experience of specific participants.	Introduction, Conclusions

Identification of related theory (Creswell, 2013; Yin, 2012)	Researcher will provide a review of the literature related to teacher induction, adult learning theory, professional development, and online teaching and learning.	Literature Review
Data collection using multiple sources (Creswell, 2013; Stake, 1995; Yin, 2012)	The data collected in the study will include surveys, interviews, and records of online interactions such as discussion boards and synchronous sessions.	Methods
Data analysis through identification and description of themes (Creswell, 2013; Stake, 1995; Yin, 2012)	Theme analysis will be used in order to make sense of the data collected from the surveys, interviews, and field notes. Specifically, the interview data will be transcribed, coded, and then categorized into themes.	Methods
Development of conclusions (Creswell, 2013; Stake, 1995; Yin, 2012)	Using theme analysis, the researcher will respond to the central question and the subquestions. The researcher will also provide suggestions for future online new teacher induction programs and provide suggestions for areas or issues in need of further study.	Conclusions, Results

Riverside County is not immune to the problem of teachers having increasingly less experience. In fact, because the California Department of Education (2015) lists the vast majority of schools in Riverside County as urban settings, the problem of a constant flow of new, inexperienced teachers is at a critical point. This study will help the CTI program administrators apply lessons learned from this review of the related literature and from the examination of the case to the refinement of the CTI online new teacher induction program. The survey and interview data analyzed during this study has built a description of the experiences and perceptions of the participants, which may be used in a reflective practice protocol by the program administrators, designers, facilitators, and reflective coaches.

The results of the study will include a detailed description of the current case. One potential benefit of the results will be the refinement of the RCOE online new teacher induction program in order to improve the service provided to teachers across Riverside County. Another benefit may be a contribution to the literature regarding online professional development for teachers. A potential third benefit will be generalizable design principles specific to online induction for new teachers in the world beyond the boundaries of Riverside County.

Summary

In summary, this case study examined a program that functions as the final step in the teacher credential process, namely, new teacher induction. Based on the increased need to train and retain new teachers in the profession, RCOE developed an online version of its new teacher induction program. This study examined the participant perceptions of that online new teacher induction program in order to better understand the experiences of the participants and to learn how to best improve the ways in which the program supports new teachers. To begin, the researcher reviewed the current literature on pertaining to the following topics: (a) new teacher induction, (b) teacher professional development, (c) adult learning theory, and (d) online teacher professional development.

CHAPTER TWO: REVIEW OF LITERATURE

Introduction

This chapter explores the research basis for new teacher induction, teacher professional development, adult learning theory, and the characteristics of online professional development that contribute to positive changes in teaching practice. These areas of research are related in terms of playing a role in the development of a high-quality online professional development programs for new teacher induction participants (Kane, & Francis, 2013). The literature reviewed in this chapter will link these four topics in terms of their role in supporting new teachers. New teacher induction supports the needs of new teachers in terms of continuous professional development, advice, and guidance. Teacher professional development programs are most supportive of new teachers when they are of high-quality and long-term in implementation (Macdonald & Poniatowska, 2011). Concepts from adult learning theory can help new teacher induction program developers design substantive experiences to have both sufficient support and opportunities for independence (Chan, 2010). Finally, online teacher professional development supports the needs of new teachers through the use of organized digital content and delivery, creating community and providing transformative teaching and learning experiences unique to the online environment (Reeves & Pedulla, 2011).

New Teacher Induction

Participation in new teacher induction programs has been growing steadily over the last three decades. Approximately 40% of new teachers participated in some form of

an induction program in 1990, rising to over 83% by the early 2000s (Smith & Ingersoll, 2004). Currently, 44 of the 50 states in the U.S. mandate new teacher induction (California Department of Education, 2015). In 1998, the California state senate passed S.B. 2042 into law, requiring a teacher induction program that included mentoring for all teachers in their first two years on the job (California Department of Education, 2015).

In general, the term 'new teacher induction' refers to a phase in the process of learning to teach (Wang, Odell, & Clift, 2010). The term can also refer to the process of socialization in which a new teacher learns the expectations and culture of their new school and district (Wang, Odell, & Clift, 2010). Recent trends in new teacher induction programs include attempts to address both of those definitions (Ingersoll & Strong, 2011). In one theoretical model of teacher development, Ingersoll and Strong (2011) place induction as the second phase of a process leading toward improved student outcomes. Figure 2.1 is the researcher's graphic illustration of Ingersoll and Strong's theoretical model in which new teacher induction programs follow the university preparation and lead to improved student outcomes.
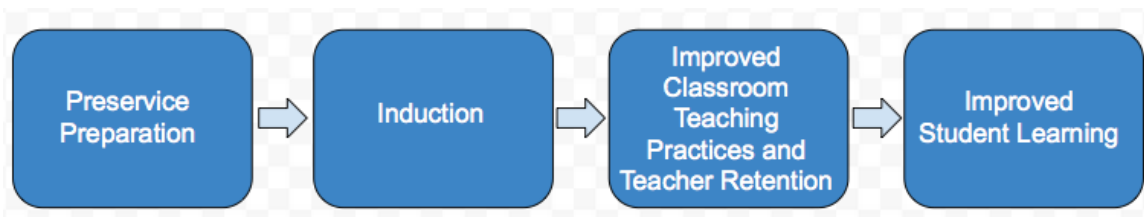
Figure 2.1. **Diagram of Ingersoll & Strong's Model of Teacher Development**

Quality new teacher induction programs that are designed to meet teachers' needs and to guide them through the development process can improve teacher retention and student outcomes (Martin, Buelow, & Hoffman, 2016). The growth of new teacher induction programs started from the acceptance that teaching is a complex endeavor for

which preservice programs cannot fully prepare new teachers (Ingersoll & Strong, 2011; Kane & Francis, 2013). In addition to increased retention, induction programs can reduce teacher stress and anxiety and can increase teacher confidence (Kane & Francis, 2013).

U.S. public school teachers are becoming younger and more inexperienced (Headden, 2014). Even though school districts have tested higher pay and other types of incentives to get teachers to stay, nearly one-third of teachers leave teaching in their first three years on the job (Ingersoll, 2001). Lack of professional support, including poor professional development, is cited as a major reason for teachers leaving the profession in their first five years (Headden, 2014). The problem is exacerbated in urban areas. The New Teacher Project (TNTP) reported that in urban areas almost half of teachers labeled "effective" left the profession in their first five years of teaching, causing more turn-over and more need for professional development for new teachers (The New Teacher Project, 2013; Jacob, Carroll, & Cho, 2013). In addition, other demographic factors are related to the problem. For example, students from low-income families and students of color are less likely than their peers to be taught by fully credentialed teachers (Center for Public Education, 2016). However, that does not need to be the case. Instances of high poverty, high minority schools retaining effective new teachers show that teacher support can be more important than student demographics in retaining teachers (Johnson, Kraft, & Papay, 2012).

The Organisation for Economic Co-operation and Development (OECD) asserts that the rate of teachers leaving the profession in the first three years is 150% higher than the rate of teachers who finish three years (OECD, 2005). In order to support and retain new teachers effectively, it is important to understand their needs. New teachers have

some specific needs that must be met in order for them to experience success in the teaching profession. The OECD (2012) identified low self-efficacy as the main reason for teachers leaving the profession early in their careers and suggested three steps districts can take to help increase new teacher self-efficacy: (a) give new teachers a lighter teaching load or smaller classes so that they can spend more time planning and observing, (b) provide new teachers with professional development specifically on classroom management, and (c) provide new teachers with more direct feedback from their mentoring or induction programs.

Further evidence suggests that the factors contributing to new teachers leaving the field include poor working conditions, job dissatisfaction, lower salaries, and lack of support (Wilkins & Clift, 2008). In the area of support, new teachers need continuing professional development in order to develop their teaching skills and gain confidence (Muijs & Lindsay, 2008). Mitchell, Reilly, and Logue (2009) acknowledge that school systems often seem to fail in fulfilling "the goal of retaining good teachers or improving practice" (p. 345). However, the same researchers suggest addressing the need for a social dimension in new teacher professional development by using a collective approach. This approach would make the professional development more meaningful and applicable, increase the feeling of shared expertise and wisdom, and focus on fundamentals that could increase teachers' self-efficacy (Mitchell et al., 2009).

The need for teachers (or other professionals) to have mentors is not a recent idea. Homer first introduced the concept in his epic poem, the *Odyssey*, in the 8th century BC (Homer, trans. 1753). It was in that work that Telemachus, the son of Odysseus, received guidance and counseling from a more experienced family friend named Mentor. More

recently, mentoring has been defined as a practice "where one person provides individual support and challenge to another professional" (Bush, 2009, p. 379). In a study of early education mentors in Jordan, researchers found mentoring to be an effective component of a career development program (Ihmeideh, Al-Basheer, & Qablan, 2008). More specifically, teacher induction and mentoring programs have been shown to increase the rates of new teacher retention, job satisfaction, and self-efficacy (Ingersoll & Smith, 2004).

Because the online teacher induction program examined in this study is focused on professional development for new teachers, it is important to note that coaching and mentoring is not only a state-required element of new teacher professional development, but in terms of effectiveness, it is an integral element (Joyce & Showers, 1980). Coaching is a professional development method that increases the capacity of teachers to improve learning (Neufeld, & Roper, 2003). According to Richard (2003), job-embedded coaching is the best way to increase teaching skills. Bush (2009) noted that coaching is a process in which one professional provides individualized support and challenge to another. Coaching, when combined with feedback, can be the most effective professional development design (Joyce & Showers, 1980). Specifically, when training is followed-up with coaching, there is a greater transfer of learning to practice (Showers, 1984). According to He (2009), a quality coaching or mentoring model includes constructive criticism, beneficial feedback, emotional support, professional socialization, and pedagogical guidance.

Mentoring can also be seen as a contested concept (Kemmis, Heikkinen, Fransson, Aspfors, & Edwards-Groves, 2014). The practice of mentoring can suffer from

multiple issues including confusion about the meaning of the term *mentoring*, differing

constructs, material arrangements, places, activities included in the mentoring, and

differing constructs of the social relations between the people involved in the mentoring

(Kemmis et al., 2014). While new teachers are mostly in need of mentoring and

professional development, they have multiple other needs including support from other

teachers, administrators, and support staff, knowledge of the school procedures on

behavior management, parent communication, and the basic curriculum to be covered,

and constructive feedback from members of the school community, including feedback

from students (Brannon et al., 2009).

     Understanding the characteristics of new teacher induction program as they relate

to professional development, coaching and mentoring, and support are central to this

study. For example, the RCOE new teacher induction program, described in Chapter 3,

includes trained "reflective coaches" assigned to each of the participants as a component

of its whole induction program. Those reflective coaches serve as mentors for each of the

participating teachers, whether they are in the online or face-to-face versions of the

induction program. This section delineated some of the specific needs of new teachers.

High-quality professional development is one of the most important needs. The next

section will examine the literature on teacher professional development.

Teacher Professional Development

     Teacher professional development (TPD) is known to increase teachers' content

knowledge and to develop their teaching practice (Desimone, Porter, Garet, Yoon, &

Birman, 2002; Kane, & Francis, 2013). The following review of related literature

examines trends in the research on TPD, the role of self-efficacy, the rise of online

professional development, and examples of trends in impact studies. All of these topics are connected within the field of TPD research. They also constituted important pieces of this study.

TPD can be realized in terms of formal workshops, in-services, and courses, and processes of informal coaching by more experienced or knowledgeable staff members (Desimone, 2009). Learning Forward (2012), the educational professional learning association that developed Standards for Professional Learning, defines professional development as learning activities for the purpose of transferring knowledge, leading to high-quality teaching practices, supportive leadership, and improved student results. The goal of professional development is the development of the new knowledge, skills, and practices necessary to meet the learning needs of students (Learning Forward, 2012).

An extensive amount of literature exists on the topic of teacher professional development. Research has pointed to teachers' self-efficacy and its effect on teachers' professional growth and student achievement. Self-efficacy refers to a person's own belief and expectation in his or her capability to perform a task (Kao & Tsai, 2009). The idea of teachers' self-efficacy, which affects their teaching performance and student learning, has been an active research topic for the last three decades (Labone, 2004). Knowing the importance of self-efficacy makes it important for districts to connect that concept to their professional development programs.

More recently, Spencer (2014) reported that TPD is more effective when there is planned follow-up over time to the initial training. That finding is consistent with the idea that adults need follow-up over time with their professional learning (Daloz, 2012). In one example, a TPD program was designed to provide training and measure effects after

240 hours of training over two years. The participating middle school teachers enhanced their abilities to support their students in learning science content over the course of the two years (Wang, Hsu, Reeves, & Coster, 2014). King (2014) suggested that continuous collaboration over time among the participants of TPD would enhance teacher learning.

<u>Affordances</u>

The literature is clear regarding the characteristics of effective professional development. According to Garet, Porter, Desimone, Birman, & Yoon (2001), the characteristics of high-quality TPD include the following: (a) focus on content, (b) focus on how students learn from content, (c) active learning, (d) connection to standards, (e) opportunities for leadership roles, (f) extended duration, and (g) communities of teachers from the same school or district. This list has been built upon previous research showing that in order for teachers to feel prepared to implement new learning, they need a collaborative learning experience that is supportive, reflective, and collegial (Darling-Hammond, 1997). TPD also needs to be both consistent and of high quality (Desimone et al., 2002).

Additionally, teacher professional development is best when it is long-term, collaborative, school-based, focused on the learning of all students, linked to the curricula that teachers have to teach, and has opportunities for on-the-job learning (Macdonald & Poniatowska, 2011; Owston et al., 2008). In one four-year study, elementary teachers participating in a long-term TPD program showed greater gains in their science content knowledge than did the teachers in the control group (Diaconu, Radigan, Suskavcevic, & Nichol, 2012). Rice and Dawley (2007) developed a stage model of professional development. According to that model, a teacher moves through the stages of cognitive

development from novice, to advanced beginner, to competent, to proficient, and finally to expert level. According to Rice and Dawley (2007), teacher professional development should strive to move participants along that continuum. Professional development also needs to be consistent and of high quality (Desimone, Porter, Garet, Yoon, & Birman, 2002). When the professional development focuses on specific instructional practices and includes active learning opportunities, then teachers' use of those practices in their classrooms will increase (Desimone et al., 2002). Another finding from Rice and Dawley (2007) revealed teacher professional development to be highly effective when it is relevant, timely, and focused on student outcomes.

Historically, researchers who have investigated the value of TPD programs have focused on teacher self-efficacy (Kane, & Francis, 2013. Research has linked the self-efficacy of teachers to high student achievement, as well as having linked low self-efficacy of teachers to negative results for students (Watson, 2006). Perhaps even more importantly, the positive effects of high self-efficacy can last years after a given TPD program has concluded (Watson, 2006). That finding is critical because there are relatively few studies that have looked at the long-term effects of TPD. Although many studies have reported findings on self-efficacy and its positive relationship to teacher practice and student achievement, most of those have been evaluative in nature.

The use of technology has also become a factor in TPD as it relates to self-efficacy. One of the results of the No Child Left Behind act of 2001 was the creation of the Enhancing Education Through Technology Grant, which helped improve access to technology and the Internet in classrooms across the U.S. through the early 2000s (U.S. Department of Education, 2002). Teachers frequently cite improving their technology

skills as a TPD-need (Boyarko, 2009). Thus, improved access to technology leads to more need for technology to be included in TPD, which in turn leads to a need for further study of the role of technology in TPD.

According to Christensen (2003), TPD in conjunction with the use of technology in the classroom produces an increase in self-efficacy for teachers and their students, an increase that has been sustained over time. Another study found that the factor having the largest affect on student learning was teacher self-efficacy and beliefs regarding the relevance of technology to student learning (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012). The authors noted that when it comes to technology integration with TPD, self-efficacy plays the same role as it does with TPD lacking the same integration. Researchers found that after implementation of TPD programs, teachers with high self-efficacy were able to increase the alignment between their espoused beliefs regarding technology integration and their classroom practices (Ertmer et al., 2012).

In the last two decades, researchers have begun moving beyond looking at self-efficacy as the primary measure of TPD. Findings indicate that TPD focused on specific instructional practices and active learning opportunities increases teachers' use of those practices in their classrooms (Desimone et al., 2002). More recently, research finds TPD to be most effective when it is relevant, timely, and focused on student outcomes (Rice & Dawley, 2007). Lieberman and Mace (2008) reported that many teachers prefer learning in teams or in local face-to-face or online communities based on grade level, department, school, or district. Macdonald and Poniatowska (2011) identified two more contributing factors to a positive professional development learning experience: (a) a constructivist approach where learners engage in critical thinking in order to construct knowledge

rather than passively receiving knowledge, and (b) opportunities for adults to learn from peers.

Constraints

There are at least two major limitations observed in the literature on TPD. First, although much is known about the characteristics of effective TPD, most of the programs studied have not included many of those characteristics (Desimone et al., 2002). Most of those TPD programs did include building communities, but the average time span was less than a week, and most of the learning activities did not focus on the content or connections to standards (Garet et al., 2001). Second, most of the studies have been focused on the evaluation of TPD programs themselves instead of being focused on the effects TPD has on teaching and learning (Desimone et al., 2002).

Many researchers suggest the need for quantitative and replicable studies to be done on specific aspects of TPD in order to measure their effects on teaching practice and student learning (Cavanaugh, Barbour, & Clark, 2009; Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009; Desimone et al., 2002). Although trying to measure the affect a TPD program has on teaching and learning is complex, it is necessary as it can help districts direct fiscal and human resources toward more and better professional development for teachers (Dede et al., 2009). As an illustration of this trend toward impact investigations, researchers found that regardless the teacher's grade level or the subject matter that they teach, those who participated in TPD, focusing on a particular teaching strategy, were more likely to incorporate that strategy into their classroom teaching than teachers who did not participate in the TPD (Desimone et al., 2002). The same study found that TPD were associated with four positive aspects related to teaching

practice. First, participating teachers were from an existing "community" of grade level, department or school. Second, TPD was associated with active learning activities. Third, there was a marked increase in connections to previous programs or activities, and fourth, the TPD functioned as a type of a reform instead of a stand-alone type of workshop. Those researchers also found that the effects of the improved teaching practices lasted over time.

Trends

In the last fifteen years, there has been a trend in the TPD research community to examine online TPD programs. For example, research on online TPD for experienced teachers and for the induction of new teachers has been growing (Yang & Liu, 2004). Some factors contributing to this trend include the increased accountability required by the No Child Left Behind Act of 2001, increased numbers of teachers, and the increased need to find fiscally sustainable ways to provide TPD (Dede et al., 2009). Many of the general TPD findings reported above can also apply to online or blended learning environments. Additionally, online TPD can provide tools that help foster a constructivist approach, as well as keep a community of learners engaged and communicating about their practice (Vrasidas, & Zembylas, 2004).

Another reason for the trend toward researching online TPD is that teachers typically want to increase their knowledge and ability in using technology (Boyarko, 2009). Online TPD can lend itself to meeting that desire. Teachers benefit from TPD designed to move them through the stages of cognitive development from novice, advanced beginner, competent, proficient, through expert level (Rice & Dawley, 2007). Additionally, many adult learners prefer TPD that is delivered through multiple

presentation modes (Cercone, 2008). The ability to access multiple presentation modes through technological tools is another affordance of online and blended TPD.

Although effective face-to-face TPD shares many of the characteristics of effective online TPD, several differences between the two make online TPD worthwhile studying as a separate phenomenon. For example, it has been argued that those engaged in face-to-face TPD benefit from the strategy of conducting a lecture, whereas online TPD users experience more benefit from a rich, ongoing discussion (Dede et al., 2009). Online TPD also makes it easier for outside expertise to be brought into the professional development program, and it makes it easier for participants to stay in touch with each other and with the facilitators on an as-needed basis (Dede, Breit, Ketelhut, McCloskey, & Whitehouse, 2005). Although the body of research regarding online TPD has been growing, it is important to remember that most studies on this topic focus on self-reported self-efficacy of the participants, and very few directly measure the performance of teachers after engaging in an online learning treatment (Wagner, Pfeiffer, & Harrington, 2011).

Perhaps the most important recent trend in the field of TPD investigations pertains to particular methodological approaches. In the 1970s and 1980s, teachers participated in TPD designed to increase their technical capacity in strategies related to improved student achievement (Joyce & Showers, 1988). In the 1990s and early 2000s, the focus of TPD shifted to school reform and accountability, active participation, and the idea of building professional learning communities (Daloz, 2012; Elmore, 2002). Many researchers have become concerned that the majority of TPD is still being driven by school reform efforts that focus on organizational development and school improvement

(Fullan, 2000). Facing the weight of reform and accountability measures, districts have felt the need to demonstrate immediate results. That focus can cause districts to emphasize short-term gains instead of paying attention to design principles of TPD that can potentially positively affect the continued improvement of both teaching and learning (Randi & Zeichner, 2004).

Daloz (2012) found that follow-up to any training is a significant factor in the effectiveness of professional development. Teacher training and follow-up activities should include effective teaching methods and strategies in the context of utilizing new technologies to address the needs of students from diverse populations (Lawless & Pellegrino, 2007). However, the practice of follow-up to a professional learning event is somewhat rare (Harris & Sass, 2007). Lawless and Pellegrino (2007) outlined six key characteristics of effective staff development practices:

- Programs should be conducted in familiar school settings and linked to school-wide efforts.

- Teachers should assist with the planning of in-service activities in conjunction with administrators.

- Emphasis should be placed on self-instruction, with differentiated training opportunities.

- Teachers should play active roles, choosing goals and activities for themselves.

- Ongoing assistance and support should be available on request.

- Emphasis should be placed on demonstration, supervised trials, and feedback

- Training should be concrete and ongoing over time.

Considerations

One of the goals of the RCOE new teacher induction program, or any teacher professional development, is the retention of experienced teachers. The literature suggests that effective professional development can help meet this goal in many different fields. For example, Ellett (2009) found that the self-efficacy and retention of social workers could be improved with continuous professional development. Similarly, Canadian occupational therapists have greater retention when professional development is a part of their regular work time (Townsend, Sheffield, Stadnyk, & Beagan, 2006).

The stakes are high for school districts when it comes to making decisions on their approaches to professional development for their teachers. Effective TPD is a resource intensive activity (Garet et al., 2001). This situation can force districts to make a choice between a TPD approach that is either wide and shallow or narrow and deep. Wide and shallow is expedient for districts because they can provide TPD to many teachers on broad topics. However, research indicates that TPD that is focused on fewer teachers and on a specific topic over time will produce better results (Desimone et al., 2002).

Even in light of that evidence, many districts feel pressured by accountability measures and thinning budgets to choose the easier path. This situation was foreshadowed as far back at the early 1900s. Dewey (1904) warned that school organizations and "the eagerness of those in authority to secure immediate practical results at any cost" would challenge the intellectual independence of teachers (p. 16). One hundred years later, researchers still need to be sensitive to the pressures districts are feeling (Dede et al., 2009). They went on to suggest that use of the design-based research

approach as part of a research agenda may be advantageous because of its ability to generate design principles and best practices. Those authors also suggested that future research studies, specifically in the area of online TPD, pay close attention to research questions that look at impact and transformation of practice and to research strategies that consider both practical and theoretical needs. Moreover, they suggest that research designs should be clear, aligned to program purposes, and large enough to have some level of generalizability (Dede et al., 2009). All teacher professional development, whether it is face-to-face or online, will by definition deal with adult learners. The next section of this chapter will examine the literature regarding adult learning theory.

<div align="center">**Adult Learning**</div>

Historically, adults are accustomed to learning in traditional, passive classrooms (Cercone, 2008). However, adult learners need more than the passive transfer of knowledge. They need to be actively involved in the learning process in order to "make sense of the learning, and to apply what is learned" (Chan, 2010, p. 33). The principles of both andragogy and heutagogy are applicable toward that goal.

<u>Andragogy</u>

Understanding andragogy, or adult learning theory, helps guide the practices of professional development, whether development occurs in face-to-face or online settings. Alexander Kapp, a German high school teacher, first used the term "andragogy" in 1833 (Henschke, 2011). In the 1970s and 1980s, Malcolm Knowles introduced the concept to modern research and was soon followed by many other researchers (Cercone, 2008). Knowles described the theory of andragogy as "the art and science of helping adults

learn, in contrast to pedagogy as the art and science of teaching children" (Knowles, 1980, p. 43).

More recently, Daloz (2012) stated that adults need their learning to be applicable, meaningful, and substantial with sufficient support, proper feedback, and continuing follow-up. Adult learners are different from younger students in many ways. They typically have greater experience, they are self-directed, and they are independent (Cercone, 2008). Adult learners, in general, tend to have a greater need to understand the purpose of the learning activities in which they are engaged, and they are more likely to resist new approaches than K-12 students (Kenner & Weinerman, 2011). Merriam, Caffarella, and Baumgartner (2007) indicated that adult learners are oriented toward goals, activities, and learning.

The literature points to five assumptions about andragogy that can guide the practice of designing adult learning experiences:

- Adults have the ability to direct their own learning toward their own goals.

- Adults bring an accumulation of their past experiences and knowledge, and can relate those to their new learning.

- Adults prefer clear goals in their learning, and they prefer those goals to be relevant to their current personal or professional needs.

- Adults are practical in their learning in terms of preferring learning situations that apply to their immediate tasks.

- Adults are more intrinsically motivated, rather than externally motivated, in that they value job satisfaction, self-esteem, and quality of life (Cercone, 2008;

Knowles, 1984; Merriam & Caffarella, 1999; Merriam, Caffarella, &

Baumgartner, 2007).

In practice, the acknowledgement and implementation of those five assumptions

should shift the power, responsibility, and motivation away from the instructor to the

learner (Fornaciari & Dean, 2014). Fornaciari and Dean (2014) also stress the

facilitative, as opposed to denotative, role of instructors in adult learning. According to

Pew (2007), the purposes of the principles of andragogy are to facilitate (a) the

acquisition of content knowledge, (b) the critical thinking about the new knowledge, and

(c) the application of new knowledge to practical life and work situations.

For teacher professional development, the instructor uses the principles of

andragogy to adapt the learning to meet the interests, needs, problems and goals of the

adult learners (Chan, 2010). Instructors who understand the principles of andragogy are

better able to understand the behaviors of learners and are better able to help lessen the

anxieties of learners (Bedi, 2004).

Some characteristics of adult learners lend themselves to online learning. Adult

learners tend to prefer instruction delivered through multiple presentation modes

(Cercone, 2008). In addition, adult learners typically have a desire to increase their

knowledge and their ability in using technology (Boyarko, 2009). The tools available in

online learning environments, such as the new teacher induction course in this study,

have the potential to effectively support adult learners in achieving these desired

outcomes.

Heutagogy

Andragogical approaches, while learner-focused, can still leave the teacher of adult learners at the center of the learning process. Recent research has examined the emerging theory of heutagogy in which the learner is truly at the center of the learning (Bhoyrub, Hurley, Neilson, Ramsay, & Smith, 2010). The term *heutagogy* is derived from the Greek root *heut*, meaning self. Hase and Kenyon (2007) began constructing the framework of heutagogy, which is rooted in the concepts of andragogy, in 2000 while studying the vocational sector in Australia. The authors interpreted a learner's capability to engage their own self-efficacy and competence in order to respond to complex situations as valuable, often resulting in new learning (Hase & Kenyon, 2007).

Similarly, recent research has encouraged teachers to move away from being "the sage on the stage" to being more of "the guide on the side" (Darling-Hammond & Bransford, 2005, p. 12). Utilizing the principles of heutagogy, an instructor places the responsibility for learning directly onto the learner (Hase and Kenyon, 2007). That shift occurs not in abdication, but rather as part of a process of transferring and changing roles, leading to self-determined learning (Bhoyrub et al., 2010).

According to Blaschke (2012), heutagogy has very recently been examined as being applicable particularly to online or distance learning. The latest advances in technology and digital media have necessitated new approaches beyond pedagogy and andragogy (Blaschke, 2012). Several characteristics of online learning and heutagogy are in alignment: (a) learner autonomy and self-directedness, (b) pedagogical and andragogical roots in adult learning, and (c) typical audience of mature adult learners (Anderson, 2010; Blaschke, 2012). The affordances of an online environment can

facilitate the instructor's ability to give learners control over the path and the process of their learning (Eberle, 2009). The affordances of technology, particularly web-based technologies that align with self-determined learning, include connectivity with peers, collection and adaptation of information, and sharing of information (McLoughlin & Lee, 2007).

<u>Considerations</u>

The adult learning principles of andragogy and heutagogy have applications for the RCOE online new teacher induction program. In alignment with the principles of adult learning, the goal of the RCOE program is to put the learner at the center of the process in order to improve teaching practice. Precedence exists for using these principles in education. In one example, researchers found that the attributes of andragogy and heutagogy helped nurses to learn in complex, changing environments and to become more comfortable in dealing with the uncertainties of their profession (Bhoyrub et al., 2010). In another recent example from teacher education, researchers at the University of Western Sydney in Australia found that a heutagogical approach was related to the following beneficial outcomes: (a) improved teacher outcomes, (b) increased teacher capability and preparedness related to the complexities of the learning environment, (c) increased learner confidence, (d) increased learner engagement in communities of practice, and (e) improved ability of the learner to independently investigate ideas (Ashton & Elliott, 2007).

For this study, several of the concepts of adult learning theory were incorporated into the survey instrument (see Appendix A). This was done in order to allow for an examination of any link between teacher perceptions and the tenets of adult learning

theory. Specifically, the survey instrument asked participants to rate their level of agreement with statements about how the online induction program may or may not have incorporated some of the characteristics of adult learning theory.

Online Teacher Professional Development

<u>Introduction</u>

Professional development opportunities for teachers have been on the rise (Baran & Correia, 2014; Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009; Kane & Francis, 2013). At the same time, Picciano and Seaman (2007) identified online learning as one of the twenty-first century's most significant trends. Naturally, an intersection of these two trends has arisen, resulting in the education community looking to provide quality online professional development. However, the body of research about online teacher professional development (online TPD) for K-12 teachers has only emerged in the last ten years. One clear understanding is that there is a considerable differential between the percentage of educational institutions that claim online learning is important (nearly 100%) and the percentage of educational institutions that centralize online learning in their strategic plans (approximately 60%) (Allen & Seaman, 2013).

The demand for online learning for teachers has outpaced empirical evidence regarding the policies, managerial oversight, curriculum, and professional development in the online environment (Cavanaugh, Barbour, & Clark, 2009; Pape, Prosser, Griffin, Dana, Algina, & Bae, 2015). This situation produces a gap between the needed and the known. It is that paucity of empirical research regarding the measureable affects of online professional development for new teachers that helps define the need for further study (Dash, De Kramer, O'Dwyer, Masters, & Russell, 2012; Pape et al., 2015). The gap

reinforces the need to identify the characteristics of effective online professional

development programs for K-12 teachers. The following sections of this study will

examine the trends, affordances, and constraints of online professional development for

teachers.

Trends

While the research community recognizes a lack of studies examining the

effectiveness of online TPD for teachers, there are several identifiable recent trends in

this area (De Kramer et al., 2012; Ferdig & Kennedy, 2014). For example, there is recent

movement toward adapting accepted face-to-face professional development protocols

into online professional development situations (McDonald, Zydney, Dichter, &

McDonald, 2012).

Rice and Dawley (2007) found that most online professional development

programs for teachers cover foundational knowledge, technology tools, facilitation

strategies, and lesson design. The foundational knowledge category includes theory,

standards, methods, and other pedagogical issues. The technology category is dominated

by learning to use an online learning management system such as Blackboard or Moodle

and by learning effective uses of synchronous and asynchronous communication

strategies. The facilitation strategies category includes meeting the needs of learners with

multiple learning styles, engagement and motivation strategies, and building online

community. The lesson design category includes multimedia principles and instructional

design principles. Accessibility issues may also be addressed within the lesson design

category. These findings are significant for this case study because the RCOE online new

teacher induction program covers these topics, and participants were asked to reflect on them during the interviews.

Yang and Liu (2004) reported that research on online TPD for experienced teachers and for the induction of new teachers has been growing. Although some research has shown that online TPD can be effective, not enough is yet known about how to design and implement online professional development in order to optimize its impact (Reeves & Pedulla, 2013). Some of the characteristics of adult learners are a good match for online learning. For example, adult learners prefer instruction delivered through multiple presentation modes (Cercone, 2008). Adult learners also typically want to increase their knowledge and ability in using technology while learning the stated content of professional development (Boyarko, 2009). The tools available in online learning environments have the potential to effectively support learners in these preferences. In fact, many K-12 school districts and university schools of education have started offering online programs as one way to meet this need (Owston et al., 2008). Online teacher preparation needs to be less centered on specific technologies and more centered on the types of transformative teaching and learning experiences that the technology can support (Baran & Correia, 2014).

The careful creation of online TPD can result in greater levels of active participant engagement (Cho & Rathbun, 2013). Online TPD participants also spend two to three times more hours engaged in the professional development than their face-to-face counterparts do (Cho & Rathbun, 2013). There are additional practical reasons for this trend toward online TPD for teachers. The No Child Left Behind Act of 2001 had an effect on teacher professional development. As accountability has increased and class

sizes have decreased, the number of teachers has risen and thus the need for professional development has grown. Although the increase in professional development for teachers has had many positive effects, it has also drained resources and time (Dede et al., 2009). Online TPD is one way districts have attempted to overcome obstacles, such as lack of time or resources, to delivering high-quality professional development (Reeves & Pedulla, 2011).

Other practical reasons for the movement toward online TPD include teachers' busy work schedules, lack of locally available resources and expertise, and the fact that online resources are often neither current nor job-embedded (Dede et al., 2009; Dede, Breit, Ketelhut, McCloskey & Whitehouse, 2005). Chen, Chen, and Tsai (2009) also pointed to the ability of online TPD to fit teachers' schedules and its ability to be creative and resourceful as reasons for this trend.

The trend in research on online TPD has evolved to focus on the participant. Researchers are looking at the types and the quality of interactions teachers are having in online TPD programs. Emerging is the idea of participants' need to collaborate with others and feel a sense of building community through their online interactions (Vrasidas & Zembylas, 2004).

Another online TPD research trend is the focus on specific aspects and implementation features of quality professional development programs (Dede et al., 2009; Reeves & Pedulla, 2011). New technologies are making the interactions in an online environment more accessible for analysis. One result of that change is a researcher's ability to use quantitative and qualitative empirical methods in their analyses of online TPD (Borko, 2004). Those methods can be applied to aspects of online TPD

beyond discussion boards and can include such items as synchronous sessions, wikis, blogs, web or video conferencing, and other collaborative tools (McConnell, Parker, Eberhardt, Koehler, & Lundeberg, 2013). This trend has allowed researchers to move beyond research that had been mainly anecdotal in nature and toward using methods that are more systematic and empirical (Reeves & Pedulla, 2011).

<u>Affordances</u>

The body of research on this topic over the last ten years has revealed many affordances of online TPD. Teachers place a high value on online professional development because of the convenience, accessibility, and ability to self-pace and differentiate their own learning (McNamara, 2010). Online learning environments also facilitate collaborative learning and reflective practice, which are both conditions that can lead to transformative learning (Nambiar & Thang, 2015; Palloff & Pratt, 2007). Another study indicated that teacher attitudes toward their face-to-face teaching improved after going through an online professional development program, and teachers in that same study reported movement toward more student-centered instruction (Parra, 2010).

The importance of online TPD is underscored by teacher choice. Evidence shows that the method of professional development most preferred by teachers is solely online (Reeves & Pedulla, 2013; Rice, Dawley, Gasell, & Florez, 2008). Recent research indicates that teachers have specific goals for online professional development. Boyarko (2009) found four characteristics of online professional development desired by teachers. First, they want to increase student achievement. Second, they want to increase their own knowledge and ability to use technology. Third, they want professional development that

is specific to their learning needs. Finally, they prefer content that is delivered through a variety of presentation techniques.

The nature of the online environment leads to other benefits of online TPD. For example, some teachers who have a tendency to be silent in face-to-face professional development find it easier to express themselves in asynchronous sessions online (Dede et al., 2005). Also, some teachers like the convenience of choosing the time and place of their learning, and some appreciate the after-hours availability of online support (Dede et al., 2009). Cavanaugh and Dawson (2010) also included a flexible delivery system, access to local and worldwide expertise, and job-embedded learning to the list of online TPD benefits.

In addition to the benefits of convenience listed above, online TPD provides the affordances of scalability, cost-effectiveness, and sustainability. Research points to the potential of online TPD being able to scale much larger than traditional face-to-face professional development (Dede et al., 2009). Online TPD can also be more cost-effective and therefore more sustainable over time than face-to-face professional development (Dede et al., 2005). Reeves and Pedulla (2011) pointed out that online TPD may lend itself to scalability and sustainability because it can remove geographic barriers and travel time barriers. Providing ongoing support to teachers through online TPD allows school districts to increase their teacher retention rates, which can save the district both time and fiscal resources (Reeves & Pedulla, 2011).

The most important online TPD affordances come from its effectiveness. Multiple studies have cited ways in which online TPD is either more effective than or at least as effective as face-to-face professional development (McConnell et al., 2013; Owston et

al., 2008). For example, Cavanaugh and Dawson (2010) reported that online TPD is an effective means for delivering content, pedagogy, and scaffolding for curriculum adaptation to teachers. Online TPD also has the potential to extend and deepen professional learning through such methods as synchronous and asynchronous discussions (Chen, Chen, & Tsai, 2009).

Building a sense of community in professional development has well-established benefits for teachers (Desimone, 2009). When teachers engage in a knowledge-building community they are more likely to develop subject matter and pedagogical content knowledge, whether in a face-to-face or online environment (Yang & Liu, 2004). Building community is a theme that has emerged in several online TPD studies. Teachers in online TPD programs have been successful in building community among colleagues, and they can successfully transfer that sense of community beyond the bounds of online environments (Vrasidas & Zembylas, 2004). Similarly, another study indicated that online TPD led to the creation of networks among teachers and professional learning communities that extended beyond the scope of the professional development (Owston et al., 2008).

One specific study showed that although teachers appreciate the face-to-face model for professional development, the data analysis indicated that the videoconference meetings had the same benefits as the face-to-face sessions (McConnell et al., 2013). Reeves and Pedulla (2011) reported that affordance of online TPD also include additional reflection time, implementation support, and sustained interactions with peers. In general, online TPD has been shown to be more effective when the content of the training is easily transferable to the classroom (Reeves & Pedulla, 2013).

<u>Constraints</u>

As with affordances, the field of research on online TPD has also revealed many constraints of the practice. The primary constraint is the current general lack of empirical evidence regarding the effectiveness of online TPD (Cavanaugh et al., 2009). Most studies on this topic have focused on reported self-efficacy of the participants, and very few have directly measured the performance of instructors after an online learning treatment (Wagner, Pfeiffer, & Harrington, 2011). This is an important gap in the field because it can affect both program design and funding.

According to Reeves and Pedulla (2013), the lack of rigorous research on online TPD hampers the ability of program developers to know which design features to include in an online professional development program. One potential consequence is that funders may withhold resources and capital, without clear data on what types of online programs and program features are effective (Reeves & Pedulla, 2013). The existing research on online TPD is frequently anecdotal, relying on participant surveys conducted so soon after the completion of the program that the long-range affects are difficult to measure (Dede et al., 2005; Dede et al., 2009). Additionally, research studies that aspire to measure the actual impact and the generalizability of any particular online professional development program soon realize they are dealing with a very complex issue (Dede et al., 2005). Those authors also indicated that trying to measure the affect of online TPD on student achievement is an even more complex task.

The lack of quality participant interaction in online TPD is another constraint mentioned frequently in the literature. Although many teachers reported positive attitudes toward online discussions, they also reported perception that the discussions were not

very effective and the majority of messages in the discussion boards were not related to the specific discussion topics (Chen et al., 2009). Although online TPD participants are learning at a satisfactory level, their participation tends to lack interactive or reflective features (Yang & Liu, 2004). According to these authors, most online TPD participants do not engage in deep interactions, and the structures needed to improve that situation are large, complex, and resource-intensive. However, dynamic changes in technology over the last decade, such as desktop videoconferencing and the options of text, audio, or video for discussions, may be able to address the issue of improving interactions (McConnell et al., 2013; Reeves & Pedulla, 2011).

Even though the lack of empirical evidence and lack of quality interactions are the two main drawbacks of online TPD, researchers have reported several other constraints, including low quality of feedback, low course or program completion rates, added distractions, and low technology proficiency (Reeves & Pedulla, 2011; Reeves & Pedulla, 2013). In traditional face-to-face professional development programs, facilitators and participants can benefit from nonverbal cues that can enhance feedback. In online TPD, facilitators and participants need to be more in tune with contextual cues, and facilitators need to provide feedback that is specific and time-sensitive (Vrasidas & Zembylas, 2004). As for course completion rates, Reeves and Pedulla (2013) suggest that even though online TPD is growing in popularity, the number of teachers who do not complete online courses is a concern as it can undermine the district's program goals and budgets.

Online TPD also offers some distractions that are not generally present in face-to-face professional development. When teachers engage in online TPD at home, for instance, those distractions can include family members, pets, phone calls, and other

disruptions to attention (McConnell et al., 2013). Teachers are not all at the same proficiency level when it comes to using technology. A lack of proficiency with the specific technology being used in an online TPD program can be a constraint for many participants (Owston et al., 2008; Reeves & Pedulla, 2013). Poor availability of technical support can have a negative affect on those participants who lack proficiency with the technologies being used (Reeves & Pedulla, 2013).

Considerations

For as much as is already known about online TPD, there is no doubt that more research, particularly empirical studies of specific aspects of online TPD design, is needed in order to create design principles that will lead to improved outcomes. Those who implement successful online TPD should focus on providing time for teachers to (a) plan, work, and communicate; (b) build on their prior knowledge and experience, and (c) be able to access the Internet and quality online resources (Yang & Liu, 2004).

Summary of Literature Review

> It is argued that using technology by itself does not support professional development. However, using technology in ways that are consistent with constructivist learning, and recognizing that online professional communities of practice can contribute to professional growth is something worthwhile to explore. (Vrasidas & Zembylas, 2004, p. 326).

The topics of new teacher induction, adult learning theory, teacher professional development, and online professional development come together to address the research problem of how to improve an online new teacher induction course to best meet the needs of new classroom teachers. Knowledge about the needs of new teachers, about how adults learn, and about how adults learn online should inform our approach to teaching new teachers in an online environment. Gaining clarity around which online professional

development strategies are perceived as the most effective for K-12 teachers will make it easier to improve the online new teacher induction program in order to result in transformation in the teaching practices of the participants.

What we know about how adults learn and how adults learn online should inform our approach to providing professional development to teachers in an online environment. Baran and Correia (2014) found that "online professional support and development programs need to consider the participants as adult learners and professionals who are empowered to make decisions regarding online teaching" (p. 101).

A common thread running through each of the topics of new teacher induction, teacher professional development, adult learning theory, and online teacher professional development is the notion of support. New teachers need the support of continuous professional development. They also need the support of a mentor for advice and guidance. Teacher professional development programs raise their effectiveness when they address teachers' need for support in order to raise self-efficacy and their need to feel that they are part of a learning community. Concepts of adult learning theory play an important role for new teachers when induction program developers pay attention to the needs new teachers have for substantive experiences with sufficient support, and for a balance in the learning activities between support and independence. An online TPD environment also helps meet the support needs of teachers by housing content in a retrievable form, by creating community through required engagement and activity, and by providing transformative teaching and learning experiences that could not be accomplished without the technology of an online format.

    Considering the goals and needs of new teacher induction programs, the research on teacher professional development, and the affordances of online learning, this review of literature helps to frame the purpose and the direction for this study. Similar to other counties in the state of California and across the country, Riverside County is dealing with the issue of employing a population of teachers with increasingly less experience. This case study hopes to provide an in-depth understanding of the perceptions of the current participants in terms of how the RCOE online new teacher induction program is affecting their teaching practice. In this way, the results of this study may contribute to the effective design of online new teacher induction programs, helping to retain experienced teachers and ultimately leading to better student outcomes.

CHAPTER THREE: THE CASE CONTEXT

Overview

The Center for Teacher Innovation (CTI) at RCOE is the unit responsible for creating and implementing the new teacher induction programs. CTI has been authorized by the State of California as an official provider of new teacher induction for almost two decades. The California Commission on Teacher Credentialing (2015) described induction as a professional development program focused on teaching skills, mentoring, and support. State-approved induction providers, typically universities, county offices of education, or sometimes large school districts receive funding from the state in order to provide induction programs. In order to become a state-approved provider, an institution must design a program, apply to the state, and have their program reviewed and approved.

The CTI new teacher induction program was designed to provide support to new teachers during their first years of teaching, as well as to help them complete their teaching credentials. According to the Riverside County Office of Education (2015), the content of the new teacher induction program includes a focus on these topics: Common Core State Standards, 21st Century skills, California Standards for the Teaching Profession, content area knowledge, and applicable pedagogy. The program goals include (a) retaining effective teachers in the profession, (b) providing a flexible, supportive, and individualized experience, and (c) improving classroom instructional practices to improve student outcomes.

This CTI new teacher induction program has served over 22,000 teachers since its inception. The program goes through a self-evaluation every year and undergoes a substantial audit by the California Commission on Teacher Credentialing every seven years. However, the online version of the program is new and still in the iterative development process. The program developers modify and update the program every semester. CTI runs two versions of its online new teacher induction program. The online version is fully online for every aspect of the program. The distance version is online with all aspects except those in which participants have regular face-to-face meetings with their assigned reflective coaches. This study included both of those versions of the online new teacher induction program. This study does not include the teachers participating in the traditional fully face-to-face model of the induction program.

According to Barbara Howard, Director of CTI, the online version launched for the first time in the 2014-15 school year with approximately 76 new teacher participants (B. Howard, personal communication, March 23, 2016). The current 2015-16 group of fully online participants includes 214 new teachers, which accounts for approximately 30% of RCOE's total induction population. Some of the online participants selected the online version of the induction program as a personal preference. Other participants were placed in the online version because the paying agency, either the school or the district, selected that model. During the interviews, several participants cited flexibility of schedule as a reason for selecting the online version.

Table 3.1 represents the distribution of participants by the induction model. The distance group includes 117 new teachers. The combined online and distance group of 331 new teachers is broken up into nine cohorts of approximately 35 participants each in

order to create more manageable groups for online learning. The program facilitators
reported that the cohorts were formed on the basis of self-selection according to the days
and times available for the weekly synchronous online cohort sessions. For example, one
of the nine cohorts meets online on Mondays at 4:30 p.m., and another cohort meets on
Tuesdays at 3:30 p.m., and seven other day and time choices complete the choice of
cohorts. During those weekly online sessions, the facilitators do things like introduce
portions of the content for the current program cycle, share resources needed to complete
assignments, and pose reflective questions for the participants.

Table 3.1   Distribution of 2015-16 Induction Participants by Model

Induction Model	# of Participants	Included in Case Study
Fully Online	214	Yes
Distance	117	Yes
Traditional (face-to-face)	598	No
Total	929	

Two RCOE certified administrators who have expertise in K-12 teaching,
professional development, and the pedagogy of online teaching developed the online
program content and design. Both of the program administrators hold teaching
credentials, administrative credentials, and certificates in online and blended teaching.
Also, both have multiple years of experience with the CTI traditional face-to-face new
teacher induction program.

Further, the program includes both an online instructor for each cohort of
approximately 30 participants, and reflective coaches who are each typically assigned to
two or three participants. These reflective coaches act as mentors for the participants by
holding one-on-one virtual support meetings with individual participants from the fully

online cohorts at least once per week. The online meetings provide the mentors with opportunities to give individualized advice and guidance to the new teachers. The teachers in the distance cohorts have face-to-face individualized meetings with their reflective coaches. Those meetings with reflective coaches represent the only programmatic difference between the experience of the online cohorts and the distance cohorts.

The reflective coach interactions are designed to support the pedagogical, professional, and emotional needs of the new teachers. The reflective coaches were trained on multiple topics including (a) building trust and relationships, (b) virtual meeting tools, (c) reciprocal accountability, (d) just-in-time coaching, (e) awareness of equity, (f) active listening and reflective conversations, (g) peer observations, (h) targeted feedback, and (i) self-reflection. During the induction program, the coaches are responsible for meeting with the two or three teachers they are assigned to at least once per week. During those meetings, virtual or face-to-face, the coach will elicit successes and challenges during the week from the participant. The coaches listen for issues, probe with questions, and offer advice. Sometimes the coaching sessions focus on the content of the current induction program cycle along with any related assignments. At other times, the coaching session could focus on a particular challenge the new teacher is having with curriculum, students, parents, or school site politics.

As stated in Chapter 1, an online version of the new teacher induction program was developed to fulfill specific organizational needs. The perceived needs for an online program were (a) the growing numbers of new teachers, (b) the online affordance of individualized support, (c) the online affordance of time-shifting (working at times that

fit the schedules of individuals) for facilitators and participants, (d) the need to cover the more than 7,000 square miles of Riverside County and to be able to reach teachers even beyond those borders, and (e) meeting the expectations and requests of new teachers in this decade.

CTI's online new teacher induction program is designed around the concept of cycles of inquiry. Cycles of inquiry constitute a reflective practice used for teacher professional development and curriculum planning (Broderick & Hong, 2011). The specific steps of the cycle vary among practitioners, but CTI uses these general steps: (a) identify a problem, (b) collect data on the problem, (c) develop a plan to address the problem, (d) implement the plan, (e) evaluate the results, and (f) reflect on the cycle. The topics and general content for the multi-week cycles are outlined in Table 3.2. The cycle descriptions, along with major assignments, are included in Appendix B.

Table 3.2   Outline of New Teacher Induction Program Cycles of Inquiry

Cycle	General Description
Cycle 1: Building Community to Support Learning	This cycle helps teachers in developing a positive class culture. That culture begins with knowing your students, reaching out to their families and creating a safe, structured learning environment.
Cycle 2: Effective Management: Student Perception and Engagement	Cycle 2 investigates effective management starting with building relationships and demonstrating genuine care and concern for every child. This is sustained through the development of relationships and the challenge of authentic engagement.
Cycle 3: Planning and Analyzing Student Learning	In this cycle, teachers learn that planning and analyzing student learning begins with determining which diagnostic, formative, and summative assessments best align to learning goals. Teachers will focus on refining their expertise in using a variety of assessments to plan and adjust student learning.

Cycle 4: Approaches to Instructional Design	Cycle 4 teaches that approaches to instructional design begins with determining what new learning needs to occur and which instructional design best aligns to the learning outcomes.
Cycle 5: Self-Selected Inquiry	Cycle 5 allows for the selection of one of the following topics: • engaging and supporting all students in learning • creating and maintaining effective environments for student learning • understanding and organizing subject matter for student learning • planning instruction and designing learning experiences for all students • assessing students for learning • developing as a professional educator
Cycle 6: Differentiating for Success	Cycle 6 prepares teachers to plan learning for ALL students using the nine guiding principles of differentiated instruction, identify and service students with special needs, and increase competence in facilitating differentiated instruction.
Cycle 7: Strategies for a Successful End of the Year	Cycle 7 focuses on application of strategies and resources for learning through the last days of school, integration of resources for social and emotional closure, and analyzing professional growth by comparing and contrasting pre and post self- assessments.

The program facilitators release a new cycle to the participants every four to five weeks. The content of the cycles is housed in a proprietary learning management system, CTI eConnect, which allows participants online access to all of the resources and materials for the program. The facilitators use a wide variety of strategies and tools to share the content and interact with the participants, including (a) synchronous web conferences, (b) screencast video tutorials, (c) YouTube videos, (d) discussion boards, (e) blogs, (f) Google Docs, (g) web content creation tools, (h) websites, (i) email, and (j) Google Hangouts for one-on-one sessions between participants and their mentors.

The induction program designers also considered the needs of their participants as adult learners when they put together the learning experiences. Table 3.3 illustrates the alignment between the pedagogical components of the induction program and some of the concepts of andragogy.

Table 3.3   **Alignment of Pedagogical Components and Andragogical Concepts**

Andragogical Concept (Cercone, 2008; Knowles, 1984)	Pedagogical Component	Associated Program Cycle
Active involvement in learning	• Creation of products • Implementation of lessons • Collaborative activities	2, 3, 4, 5, 6, 7
Applicability of learning to work	• Iterative lesson design • Student assessments • Student diagnostics	3, 4, 5, 6
Sufficient feedback	• Frequent one-on-one meetings with reflective coaches • Feedback given in stages of iterative lesson design	1, 2, 3, 4, 5, 6, 7
Supportive environment	• Frequent synchronous online sessions with facilitators • Frequent one-on-one meetings with reflective coaches • Collaboration with peers	1, 2, 3, 4, 5, 6, 7
Opportunities for independence/Responsibility for own learning	• Project creation • Time-shifting allowed for by asynchronous nature of the majority of the online learning • Independent exploring of content and curated resources • Self-pacing within construct of cycles	1, 2, 3, 4, 5, 6, 7
Program goals aligned with personal/professional goals	• Retention of teachers in the profession • Individualized support through use of the reflective coaches • Flexibility of time and place through	1, 2, 3, 4, 5, 6, 7

	the affordance of online learning	
	• Continuous improvement cycle	
Current or prior professional experienced valued	• Iterations begin with existing teacher lesson plans	2, 3, 4, 5, 6
	• Professional learning plans individualized based on needs	

When data collection began in April of 2016, participants had completed six of the seven program cycles. The survey items and the interview questions covered the participants' experiences from Cycle 1 through Cycle 6. Because the participants are current classroom teachers and no longer university students, they are able to implement learning from the program immediately with their own students. By design, the participants are required to implement their learning through lessons and activities in their own classroom at various stages during the program. The participants are also required to reflect on those implementations in various forms of online discussions.

The content, interaction, and assignments contained in the CTI eConnect learning management system detailed above represent one of the three ways participants engage in learning in the online new teacher induction program. Additionally, cohort groups of participants engage in weekly synchronous online sessions with their cohort facilitator. These online sessions are conducted through the Blackboard Collaborate, which is a virtual meeting platform. Using Blackboard Collaborate, the facilitators can bring together a cohort of approximately 30 participants for a live online session. Those sessions feature live video and audio, chat, screen, and document sharing. Additionally, sessions allow for real time conversations about upcoming cycle content and sharing of examples of assignments. Finally, participants also have weekly one-on-one virtual conferences with their assigned reflective coaches. These virtual conferences are held

using the Google Hangouts platform and allow for personalized guidance and reflection as the participants move through each learning cycle.

The specific case of the yearlong RCOE online new teacher Induction program investigated was the Fall 2015 online group of approximately 240 new K-12 teachers from the Riverside County and San Bernardino County area. Although details on the methodology can be found in Chapter 4, this section includes a brief overview of those methods. A survey of the full population was used to gather some general demographic information and find out which, if any, of the strategies used in the online new teacher induction program affected individuals' teaching practices and to what scale. The researcher also used the survey instrument to collect data regarding several other topics including program factors seen by participants as contributing to their success or lack of success and program factors that contributed to participant learning or transformation of practice.

Additionally, face-to-face interviews with a subset of the participants informed the second qualitative data collection strategy, providing an in-depth understanding of participants' perceptions and experiences. Interviews are common to case studies and are critically important sources of evidence for that methodology (Yin, 2012). According to Creswell (2013), interviews can provide a researcher with the depth of detail and description needed in the case study approach. Finally, archival data, such as previous evaluations and satisfaction surveys, were used to provide additional depth of understanding of the case.

CHAPTER FOUR: RESEARCH METHODOLOGY

Introduction

The case study approach can be defined as an in-depth descriptive analysis of a system bounded by time and place, designed to study one particular case or phenomenon, and characterized by the collection and analysis of extensive data (Creswell, 2013; Merriam, 2009). Stake (1995) described instrumental case studies as those that focus on a particular issue and use one bounded case to illustrate that issue. This qualitative case study approach was designed to result in an in-depth exploration of the experiences and perceptions of one bounded group of teachers taking an online course on the pedagogy and practice of face-to-face teaching. The researcher collected and analyzed survey data, interview transcripts, and archival data sources in order to build the case descriptions detailed in Chapters 5 and 6.

This study focuses on online new teacher induction professional development, and the researcher is using the CTI online new teacher induction program as the bounded case. This qualitative case study approach resulted in an in-depth exploration and a full description of one particular bounded case of new teachers near the end of the CTI online new teacher induction program for the 2015-16 school year.

Figure 4.1 is a visual representation of the process of the analyzed case. It shows that this research studied the effects of the components of professional development on the desired outcomes as moderated by the online program. Column A is a list of some of the accepted attributes of high quality professional development. Column B represents

the intervention of the specific online program. Column C is a list of the desired

outcomes of the teacher professional development. Column D represents the ultimate

goals of the program. In this case, CTI's online new teacher induction program

moderated the effects of traditional professional development practice on the desired

outcomes of teacher induction, including improved practice and increased teacher

retention. The survey and interview instruments were designed to explore the perceptions

of satisfaction, success, improved practice, and retention.

Componenets of PD	A	Online Program	B	Desired Outcomes	C	Goals	D
	Community		Time Shifting		Self-efficacy		Teacher Retention
	Coaching		Synchronous Sessions		Improved Practice		Student Achievement
	High Quality		Screencast Instructor Videos		Increased Content Knowledge		
	Follow-up						
	Active Learning		Discussion Boards		Satisfaction		
	Student Outcome focused		Blogs		Percieved Success		
	Specific		Collaborative Tools				

Figure 4.1.   Diagram of Online New Teacher Induction Program Study

Background

The qualitative case study approach is appropriate when there is a need for an in-

depth exploration of the perceptions of one bounded group of teachers sharing an

experience (Creswell, 2013). For many researchers, the guiding purpose of a case study is

to explore the "particularity" of a single case or phenomenon in order to understand its

complexities (Simons, 2009). However, the view of case studies has evolved over the last

several decades.

In the 1960s and 1970s, the prevailing methods for evaluating educational

programs were experimental design, quasi-experimental design, and surveys (Simons,

2009). Simons (2009) reported that those approaches were failing to understand or

describe the complexities of educational programs as they were implemented in the classrooms and that those methods lacked the ability to provide evidence that could lead to actions that would improve programs. Stake (1975) began advocating for case study as a method for "telling the story" of a bounded case. The belief was that the rich, detailed descriptions obtained through observations and interviews could lead to the type of empirical analysis that helps move stakeholders into action (Stake, 1975). Other researchers were also influenced by the need to find alternatives to experimental designs as the method for evaluating educational programs. MacDonald (1971) furthered the idea of using case study as an approach to understanding the dynamics and the complexities of new, creative educational programs by documenting their implementation through such methods as interviews, observations, images, and the exploration of the physical and political environments of the program.

Although the early case studies of the 1960s and 1970s could be characterized as mostly evaluative in nature, the subsequent decades saw the methodology evolve into an approach of systematic inquiry (Simons, 2009). Currently, case study is seen as a methodology that can (a) incorporate quantitative as well as qualitative data, (b) value the perspectives of participants and stakeholders, and (c) derive empirical analysis from data collected through natural observations (Simons, 2009).

Case studies in which TPD programs have been investigated can provide richly detailed data obtained from discussions among teachers, interviews with teachers and students, portfolio development, analysis of student work, and analysis of curriculum alignment with state frameworks (Borko, Elliott, & Uchiyama, 2002). In that study, teachers not only participated in professional development but also observed

"demonstration lessons" on specific topics such as persuasive and narrative writing, on-demand writing, and answering open-ended response questions.

A case study can go far beyond a study focused on the self-reported perceptions of teachers' own self-efficacy. A case study can also include direct classroom observations over a period of time in order to determine if and how teachers actually changed their classroom practices (Randi & Zeichner, 2004). Further, case studies are able to describe spontaneous forms of professional learning that can happen through interactions with colleagues outside of the classroom, department, or school in the teachers' own schools or subject area departments (Little, 2003). By using a case study approach, Little (2003) was able to describe informal TPD that can occur with or without organizational supports.

Design

Creswell (2013) outlined the basic components of a case study to include (a) identifying the case, (b) identifying the purpose for the study, the research questions, and the data to be collected; (c) selecting an approach for the data collection and analysis, (d) conducting a review of the literature, (e) writing a narrative description of the case, (f) writing an analysis of the findings, and (g) ending with a closing vignette in which the researcher develops assertions based on both the data analysis and an analysis of the relevant literature. Researchers start by defining a case that enables the exploration of a problem and which is bounded by specific criteria such time and place (Creswell, 2013; Simons, 2009). Researchers doing qualitative studies always need to be aware of the issue of generalizability. Purposefully selected cases are more likely to be generalizable

(Flyvbjerg, 2007). According to Stake (2000), identifying the case in a case study should also give weight to those cases that provide the greatest opportunity for learning.

This study examined new (first or second year) in-service teachers enrolled in a state-required new teacher induction program. The Riverside County Office of Education began offering an online version of this professional development program during the 2014-15 school year. Specifically, the study was designed to gain a deep understanding of the program experience, the perceptions of the participating teachers on the value of individual characteristics of the online program, and teacher perceptions of any transformation of their classroom practice due to the online program. These results produced a deep, rich picture of the online experience of these teachers as they learned the pedagogy of face-to-face teaching through an online program.

Revealing such a thick description is one of the defining characteristics of case study research, and it is how the researcher can convey to readers an understanding of the problem, the case, and the overall experience (Creswell, 2013; Stake, 1995; Yin, 2012). Geertz (1973) began using the term *thick description* in ethnographic research to indicate descriptions that include many details, conceptual structures, meanings, commentary, and interpretations. According to Mills, Durepos, and Wiebe (2010), a thick description in a case study should include not only the details of the case or phenomenon, but also the context and even the history of the case.

Data Collection

Case studies are characterized by rich, thick descriptions of the case within the context of the case environment (Merriam, 2009). In order to end up with the detailed

descriptions and analysis required in a case study, the researcher needs to collect extensive amounts of data and then deeply invest the time needed to analyze that data.

Typically, researchers use a five-step process in collecting qualitative data. The five steps include (a) identification of participants, (b) establishing access and permissions, (c) determining types of data to collect, (d) developing forms or means of recording data, and (e) administrating the process (Creswell, 2012). This case study adhered to those five steps and used multiple methods for collecting qualitative data. The researcher used an online survey of participants, participant interviews, and archival data from the program developers. In general, six to ten interviews can provide sufficient qualitative data for case study research (Baker & Edwards, 2012). This study collected data from ten participants during the interview phase of data collection.

The first data collection method in this study, an online survey, was used to collect some impact and effectiveness data as well as general demographic data about the population of approximately 331 teachers. The survey instrument was sent to all of the current online and distance participants in the online new teacher induction program. The survey also collected data on the affect of the online course including data on each participant's implementation of specific teaching strategies. Additionally, the survey served as the mechanism for participants to indicate a willingness to participate in the follow-up interviews.

The survey instrument (see Appendix A) was designed to gather data needed to examine the central research question and the subquestions. The survey instrument was produced in Qualtrics and included multiple choice items, multi-selection items, matrices, and short answer items. The survey instrument was distributed to participants via an

email invitation. Included with the online survey was the Informed Consent Form (See Appendix C) required by Boise State University (BSU). After receiving approval from BSU's Institutional Review Board (IRB), the initial email invitation to participate was sent out on March 24, 2016. A follow-up reminder was sent to the full population on March 30, 2016. The final follow-up email was sent out on April 5, 2016. The survey was finally closed on April 7, 2016 with 119 completed surveys from the population of 331 online induction participants. Those figures represent a survey completion rate of 36%.

The second data collection method for this study consisted of semi-structured face-to-face interviews with eight participants, comprising a subset of the participating teachers from the 2015-16 cohort of the RCOE online new teacher induction program. The purpose of the interviews was to collect in-depth data about the perceptions the participants held regarding the online new teacher induction program. The participants provided, in their own words, the stories of their experiences with the induction program. The participants who indicated a willingness to be interviewed on the survey instrument were placed in a pool for potential interviews. The researcher set an interview selection protocol based on the number of participants indicating willingness to participate in an interview. If the number in the interview pool remained at ten or fewer, then all would be contacted for interviews. If the number in the interview pool exceeded ten, then at least ten of those would be selected through purposive sampling and contacted for potential interviews. According to Creswell (2013), purposive sampling involves the researcher selecting individuals based on the ability of that sample to "purposefully inform an understanding of the research problem and central phenomenon in the study" (p.156).

Further, a stratified purposive sampling helps to illustrate subgroups and facilitate comparisons (Creswell, 2013).

In this case, 119 surveys were completed with 38 of those participants (32%) indicating willingness to participate in an interview. Because there were so many participants in the interview pool, the researcher used purposive sampling and selected interviewees to gain a mix of (a) gender, (b) age, (c) years of teaching experience, (d) current grade levels and subjects taught, and (e) previous experience with online learning. The target number of interviews was set at 10. Potential interviewees were contacted first through email and then by phone in order to set up face-to-face interview appointments. The purposive sampling for the interview pool was based on a preliminary analysis of the survey results. This process allowed the researcher to ensure the interview population included representation of the significant subgroups of the survey population. In the end, only eight of the 38 potential interview participants agreed to be interviewed during the mid-April to early-May time period. It is possible that stretching the interview window beyond the state testing window could have resulted in more interviews. Virtual interviews were conducted when face-to-face was not reasonable due to time or geographical limitations. Specifically, three interviews were conducted face-to-face and five interviews were conducted virtually. Google Hangouts were attempted for each of the five virtual interviews. Three of those participants struggled to get connected through the Google platform, so their interviews were conducted via telephone.

A set of interview questions (see Appendix D) was designed to (a) be open-ended in order to produce more descriptive responses, (b) be free of bias, and (c) include prepared follow-up questions in order to probe for deeper responses. The development of

the interview instrument took place in several stages. First, the researcher drafted interview questions prior to the data collection phase based on the goals of the study. Then, in the second stage, the interview instrument was piloted with a small group and suggestions were incorporated into a revised instrument. The third stage involved an analysis of the survey data to check for themes that might not be addressed in the interview. During this analysis, the researcher added a question to the interview protocol designed to gather data regarding teacher retention. The decision to add a retention item to the interview was based on three factors. First, the part of the purpose of the study was to examine teacher retention related to the online new teacher induction program. Second, one of the stated goals of the CTI program is to increase teacher retention, and third, the survey results (see Chapter 5) showed statistically significant findings related to the teacher retention survey item.

The semi-structured interviews, composed of 13 questions, averaged approximately thirty minutes in length. The purpose of the interviews was to elicit participant perceptions and build a comprehensive description of the experience of the online new teacher induction program and how it may have affected the teaching practices of the participants. All interviews were recorded via laptop computer. The resulting audio files were then sent to a transcription service and returned as transcribed Microsoft Word documents. These interviews were all conducted in April 2016.

A third method of data collection involved gathering archival data from the online new teacher induction program developers and their director. Archival data included (a) the 2015 "Candidate Teacher-Reflective Coach Match Satisfaction Survey" prepared for CTI by the University of California, Riverside; (b) 2015-16 online and distance

participants end-of-cycle evaluation surveys, which were conducted online by the CTI program coordinators at the end of each learning cycle; (c) similar participant surveys of cohorts participating in the traditional face-to-face model of CTI's new teacher induction program; and (d) participant lesson plans from early in the program and late in the program. Archival data ensured resulting thick description of the context of this case study (Geertz, 1973). Members of the RCOE staff involved in the online new teacher induction program were the primary sources of information regarding the specific attributes of the program. Table 4.1 shows the research questions in this study and how the data being collected is related to those questions.

Table 4.1   Research Questions and Data Collection

Research Question	Data Type	Survey Item	Interview Question
CQ: How do educators in an online K-12 teacher induction course on pedagogical practices perceive the effectiveness of instructional practices used in the course, and to what extent did those practices affect their own teaching?	Surveys Interviews	8, 10, 11, 12, 13	2, 3, 5, 6, 7, 9, 10, 11
S1: Participant satisfaction: To what degree are participants satisfied or dissatisfied with the online induction program and with the instructional practices presented in the program?	Surveys Interviews	9, 11, 12, 15, 16	2, 5, 6, 7, 8, 9, 10, 11
S2: Participant success: What factors influence participants' perceptions about their ability to implement learning from this program into their own classroom teaching? Is there a relationship between the literature on adult learning and the participants' responses regarding their learning in this program? Are participants more likely to remain in the profession?	Surveys Interviews Archival data	8, 9, 10, 11, 12, 13, 14	1, 2, 3, 5, 8, 9, 10, 11
S3: Transformation of practice: How have participants transformed their own	Interviews	10, 11, 13	3, 4

pedagogical practices (if they have) in relation to what is/was presented in the course/program?			
S4: Systems Reflection: What are the considerations for future online teacher induction programs regarding course design, implementation, and evaluation based on the findings of this study?	Surveys Interviews Archival data	8, 9, 10, 11, 12, 13, 14	2, 3, 4, 5, 6, 7, 8, 9, 10, 11

Prior to full implementation of data collection, and after obtaining IRB approval, both the survey and the interview instruments were piloted with a small group outside of the case population. The pilot process allowed the researcher to refine the data collection instruments by making any necessary adjustments to the survey items and the interview questions prior to collecting data from the larger population (Creswell, 2013). Also, the pilot process may lead to the addition of survey and interview items that may increase the relevancy of the data being collected (Yin, 2012).

The pilot implementation of the survey instrument, which took place in early March 2016, included the following participants: (a) the two main facilitators/developers of the online new teacher induction program, (b) two other colleagues in the field of education technology, and (c) two experts in the field of social science research. This pilot group provided feedback on the applicability of question items, the mechanics and ease of use of the online survey instrument, and the logic of the item flow. The interview pilot was conducted with a smaller group consisting of two of the researcher's colleagues. The pilot group suggested several changes, including (a) some grammar and style edits, (b) changing names of specific program components, and (c) changing the response scales on some items. This process led to final updates to the survey and interview

instruments prior to full implementation with the participant population. (See Appendix E for details of the pilot participants' comments.)

Data Analysis

Yin (2012) identifies two approaches to analyzing data in a case study, namely, holistic and embedded. A researcher employing a holistic approach keeps the perspective of the entire case, whereas a research using an embedded approach typically analyzes one specific aspect of the case. In either approach, the analysis is done to gain insight and understanding of the case (Simons, 2009). In case study research, as with some other qualitative approaches, the researcher is typically the person responsible for collecting and analyzing the data. Merriam (2009) suggested that because of this, researchers should be aware of and apply best practices in observation and interviews in order to minimize bias and increase the integrity of the results. Simons (2009) reminded researchers that context is key in data analysis and that interviews and observations should not be conducted outside of the context of the case. When analyses are based on decontextualized experiences, the ability to extrapolate or generalize is lessened (Flyvbjerg, 2007; Simons, 2009).

According to Creswell (2013), the data analysis methods used in qualitative case studies include (a) a description of the case and its setting, (b) categorical aggregation, (c) direct interpretation, (d) description of patterns, (e) and naturalistic generalizations. In this case study, all data was collected and analyzed by the researcher. The central research question and the subquestions, stated again below, were analyzed together utilizing the same methodologies across the questions.

Central Question

How do educators in an online K-12 teacher induction course on pedagogical practices perceive the effectiveness of instructional practices used in the course, and to what extent did those practices affect their own teaching?

Subquestions

- Participant satisfaction: To what degree are participants satisfied or dissatisfied with the online induction program and with the instructional practices presented in the program?

- Participant success: What factors influence participants' perceptions about their ability to implement learning from this program into their own classroom teaching? Is there a relationship between the literature on adult learning and the participants' responses regarding their learning in this program? Are participants more likely to remain in the profession?

- Transformation of practice: How have participants transformed their own pedagogical practices (if they have) in relation to what is or was presented in the course or program?

- Systems Reflection: What are the considerations for future online teacher induction programs regarding course design, implementation, and evaluation based on the findings of this study?

The first analysis was applied to the survey data. Descriptive statistical analysis was used on some of the quantitative data collected through the survey of the participants. According to Johnson and Christensen (2008), descriptive statistics "communicate essential characteristics of the data" (p. 465). Once raw data is collected,

the use of descriptive statistical analysis helps describe, summarize, and explain the data in accessible ways for the reader (Huck, 2012). Typically, descriptive statistical analyses report (a) measures of central tendency, (b) measures of variability, and (c) frequency distributions and percentile ranks (Johnson & Christensen, 2008).

Basic descriptive analyses conducted with the use of the IBM SPSS® statistics software yielded summaries of trends, tendencies, and variances in the data collected through the survey instrument. Depending on the dependent and independent variables being examined, the researcher used SPSS® to run chi-square, t-test, or ANOVA tests. In general, these analyses helped reveal differences between variables such as the perceptions of male and female participants, or differences based on age or on experience with online learning, or differences based on multiple variables. The results of these analyses are detailed in Chapter 5.

For the interview and archival data, the researcher employed a grounded theory approach. Using grounded theory, a researcher seeks categories of actions, interactions, or perceptions around a topic or phenomenon (Creswell, 2012). Those categories correspond to themes of information identified from the data collected and analyzed. Although themes help build the description of the case, the point of using grounded theory is to go beyond description and into explanation by analyzing the emergent themes (Creswell, 2013). Thus, the theory of explanation is "grounded" in the data shared by the participants in the actual case being studied (Corbin & Strauss, 2008). Theme analysis was used in this study in order to make sense of the data collected from the interviews and archival data. The analysis of themes involved grouping information from the data in

order to form common categories that can then be interpreted as the main ideas or themes across all of the collected data (Creswell, 2013).

The interview data first needed to be transcribed. Then the researcher engaged in a constant comparative analysis process. According to Creswell (2012), a constant comparative analysis can consist of analyzing a transcript of an interview for codes and categories, then moving to the next interview transcript and repeating the process. The codes and categories for each transcript can be compared and further categories are developed through those comparisons.

In this case, the interview transcripts were coded and then categorized into themes. The coding of the data was done as an inductive process allowing the researcher to develop codes unique to this case. This process involved the researcher going through interview transcripts multiple times in order to code pieces of data that seem important. Through an iterative process, the number of codes is reduced until a manageable number of codes, typically less than ten, will emerge as the themes of the data (Creswell, 2012). The researcher used the NVivo software in order to organize and code transcriptions of interviews. Using NVivo, the researcher analyzed the data gathered and identified themes that emerged from that analysis.

Table 4.2 provides a summary of the methods of data analysis used in this study, organized by research question. The survey data was exported from Qualtrics into SPSS®, manipulated, analyzed, and reported. The interview data was recorded, transcribed, coded, analyzed, and reported. The archival data was reviewed and reported.

Table 4.2   Data Analysis by Research Question

Research Question	Instrument(s)	Data Analysis
Central question: How do educators in an online K-12 teacher induction course on pedagogical practices perceive the effectiveness of instructional practices used in the course, and to what extent did those practices affect their own teaching?	• Qualtrics survey • Participant interviews • Archival data	• Descriptive statistics • Grounded theory theme analysis
Participant satisfaction: To what degree are participants satisfied or dissatisfied with the online induction program and with the instructional practices presented in the program?	• Qualtrics survey • Participant interviews • Archival data	• Descriptive statistics • ANOVA • Grounded theory theme analysis
Transformation of practice: How have participants transformed their own pedagogical practices (if they have) in relation to what is/was presented in the course/program?	• Qualtrics survey • Participant interviews • Archival data	• Descriptive statistics • Grounded theory theme analysis
Systems Reflection: What are the considerations for future online teacher induction programs regarding course design, implementation, and evaluation based on the findings of this study?	• Qualtrics survey • Participant interviews	• Grounded theory theme analysis

Another way to view the methodology is through a chronology. While details on the overall timeline of the case study components have been included as Appendix F, Table 4.3 shows the phases specific to the data collection and analysis methods.

Table 4.3   Phases of Data Collection and Analysis

Phase	Methodology	Timeline
Phase 1	Pilots of survey instrument and interview protocol	3/9/16 - 3/14/16
Phase 2	Revision of survey instrument and interview protocol	3/14/16 – 3/18/16
Phase 3	Survey distribution and data collection	3/24/16 – 4/7/16
Phase 4	Survey data analysis	4/8/16 – 4/17/16
Phase 5	Interview data collected	4/15/16 – 4/25/16
Phase 6	Interview data analysis	4/16/16 – 4/29/16
Phase 7	Program archival data analysis	4/20/16 – 4/27/16

The quality of a qualitative research study can be judged by several factors including, (a) validity, (b) reliability, (c) credibility, and (d) generalizability (Yin, 2012). Additional quality indicators for qualitative research include (a) rigorous data collection procedures, (b) use of a generally accepted methodology or approach, (c) detailed methods section, (d) multiple sources of data, and (e) description of threats (Creswell, 2013; Leech & Onwuegbuzie, 2010). Table 4.4 is a representation of how some of the standard quality indicators have been addressed in this study.

Table 4.4   Quality Criteria Used in This Study

Criteria	How Criteria is Addressed	Phase of Research Design
Credibility	- Description of role of the researcher - Large amounts of data collected through surveys and interviews - Member checking - Triangulation of sources - Insuring participant confidentiality - External audit	Constraints (Chap. 4), Results (Chap. 5), Data collection (Chap. 4)
Data Collection	- Detailed descriptions of data collection process - Detailed descriptions of data analysis process - Multiple sources: survey, interviews, archival - Pilots of survey instrument and interview protocol	Results (Chap. 5), Data collection (Chap. 4), Methods (Chap. 4)
Approach and Methodology	- Case study best practices (see Table 1) - Detailed descriptions - Descriptive statistical analysis - Grounded theory theme analysis - Description of threats - Pattern matching - Explanation building - Single-case study based on design of instrumental case studies	Introduction (Chap. 1), Methods (Chap. 4), Data collection & analysis (Chaps. 4-5)

Member checking was one of the methods used to ensure accuracy of the data and the reliability of the coding and theme analysis structures. According to Creswell (2012), the member checking process involves the researcher circling back to a few of the study participants to ask them to review the accuracy of the descriptions, themes, codes, findings, and interpretations. For this study, the researcher first shared the interview transcripts, developed from the audio recordings of each interview, with each corresponding interviewee. Each of the eight interviewees affirmed the accuracy of the transcripts. Next, a selection of parts of the draft version of the results chapter was shared with the interviewees. Half of the interviewees affirmed the accuracy of the researcher's interpretations; the other half of the interviewees did not respond. The affirmations allowed the researcher to be confident in the accuracy of the data and the reliability of the coding.

Informed Consent agreements (see Appendix C) were received from all participants prior to participating in the survey or interviews. The agreements included (2) explanation of the research, (b) description of risks, (c) description of benefits, (d) description of confidentiality, (e) contact information, and (f) description of voluntary participation. Additionally, participants were informed that they could withdraw at any time. Participant confidentiality was protected by securing personally identifiable information and limiting access to that data to only the researcher.

CHAPTER FIVE: RESULTS

Overview

The purpose of this study was to examine the perceptions of new teachers

regarding an online version of a new teacher induction program. The need for the study is

based on a combination of factors: (a) the increased need to train new teachers, (b) the

limitations of traditional new teacher induction programs, and (c) the affordances of an

online version of an induction program. The study examined the online new teacher

induction program developed and implemented by the Center for Teacher Innovation

(CTI) unit at the Riverside County Office of Education (RCOE) in Riverside, California.

Specifically, the study examined the following research questions:

<u>Central Question</u>

How do educators in an online K-12 teacher induction course on pedagogical

practices perceive the effectiveness of instructional practices used in the course and to

what extent did those practices affect their own teaching?

<u>Subquestions</u>

- Participant satisfaction: To what degree are participants satisfied or dissatisfied

  with the online induction program and with the instructional practices presented

  in the program?

- Participant success: What factors influence participants' perceptions about their

  ability to implement learning from this program into their own classroom

  teaching? Is there a relationship between the literature on adult learning and the

participants' responses regarding their learning in this program? Are participants

more likely to remain in the profession?

- Transformation of practice: How have participants transformed their own

   pedagogical practices (if they have) in relation to what is or was presented in the

   course or program?

- Systems Reflection: What are the considerations for future online teacher

   induction programs regarding course design, implementation, and evaluation

   based on the findings of this study?

In order to address the research questions, the researcher collected and analyzed

data from three sources: (a) online survey of participants, (b) interviews with a subset of

participants, and (c) archival data from the CTI program. The results of the various

analyses are reported in this chapter.

Online Survey

An email invitation to participate in the online survey was sent to all 331

participants of CTI's 2015-2016 online new teacher induction program. Of the population

of 331 program participants, 119 (36%) participants completed the online survey. Of the

participants who completed the survey, 38 (32%) of those participants indicated a

willingness to participate in a follow-up interview.

<u>Data Manipulation</u>

Once the survey closed on April 7, 2016, the raw survey data was exported into

SPSS®. The researcher then performed some data cleaning and manipulation including

such tasks as (a) deleting records of participants who started the survey but did not

answer the questions, and (b) giving each variable an easily identifiable label. That

process made the data analyses easier to perform and helped make the results easier to

read. Some of the manipulation was basic data cleaning. Cleaning was necessary in some

instances where participants responded with text in fields that asked for numbers. For

example, from the "Years of Teaching Experience" survey item included, when a

participant wrote, "Less than one year," that was converted to the numeral one. In another

example, a participant wrote, "Seven years;" that was converted to the numeral seven.

Converting those types of text responses into numeric responses gave the variable a fully

numeric output that could then be more accurately computed for descriptive statistical

analysis.

Next, the age variable was re-coded to create four age categories: (1) 22 to 27, (2)

28 to 32, (3) 33 to 42, and (4) 43 and higher. These age categories were created in order

to provide enough respondents, grouped in each age category, to be able to compare

groups. The ranges for the resulting four age categories were defined so that each range

would contain approximately one-fourth of the participants.

After reviewing the aggregated survey data, the researcher created a variable that

indicated whether a participant was in one of the five cohorts that were fully online or in

one of the four cohorts that were considered distance learning. The difference between

online and distance models was explained in Chapter 3. The teachers in the online

cohorts had weekly virtual meetings with their reflective coaches, whereas the teachers in

the distance cohorts had weekly face-to-face individualized meetings with their reflective

coaches. The meetings with reflective coaches represented the only programmatic

difference between the experience of the online cohorts and the distance cohorts. The

creation of the fully online versus distance variable allowed the researcher to run a cross

tabulations analysis in order look at the model (online or distance) compared to variables such as retention, happiness, or satisfaction.

Descriptive Statistics

Some of the basic demographic data collected from the survey included gender, age, teaching experience, and experience with online learning. Figure 5.1 represents the gender distribution among those who completed the online survey. Of the 119 participants who completed the survey, 89 (75%) were female, 27 (23%) were male, and 3 (3%) preferred not to state their gender. Those gender percentages were a very close match to the aggregate gender percentage of all induction programs in California. For induction programs across California, females are 74.4% of the participants and males are 25.6% of the participants (California Department of Education, 2015).
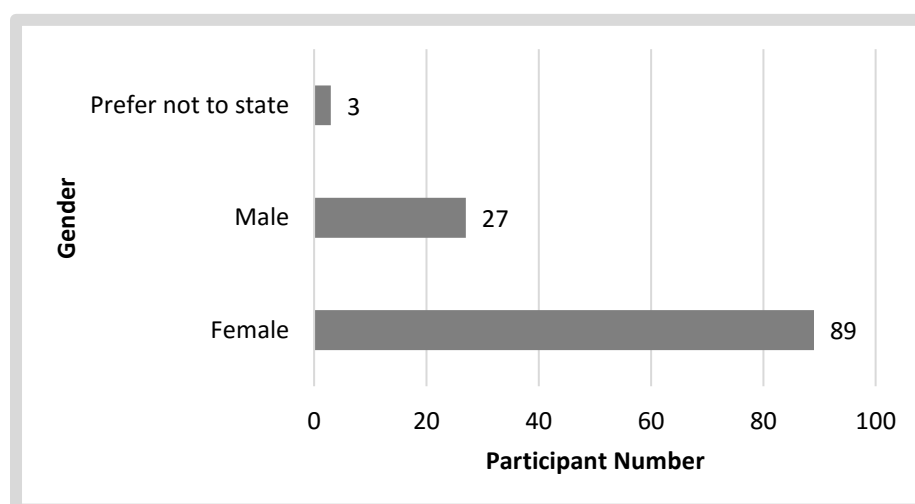
Figure 5.1.   Participant Gender Distribution

Figure 5.2 represents the age distribution of the participant population. The participant age distribution was bimodal at 26 and 31, with a mean age of 35 years old. Participants were grouped into four age categories in order to have approximately one quarter of the participants fall into each of these age categories: (a) 22-27, 26%, $n = 31$;

(b) 28-32, 28%, $n = 33$; (c) 33-42, 25%, $n = 29$; and (d) 43-65, 21%, $n = 25$.
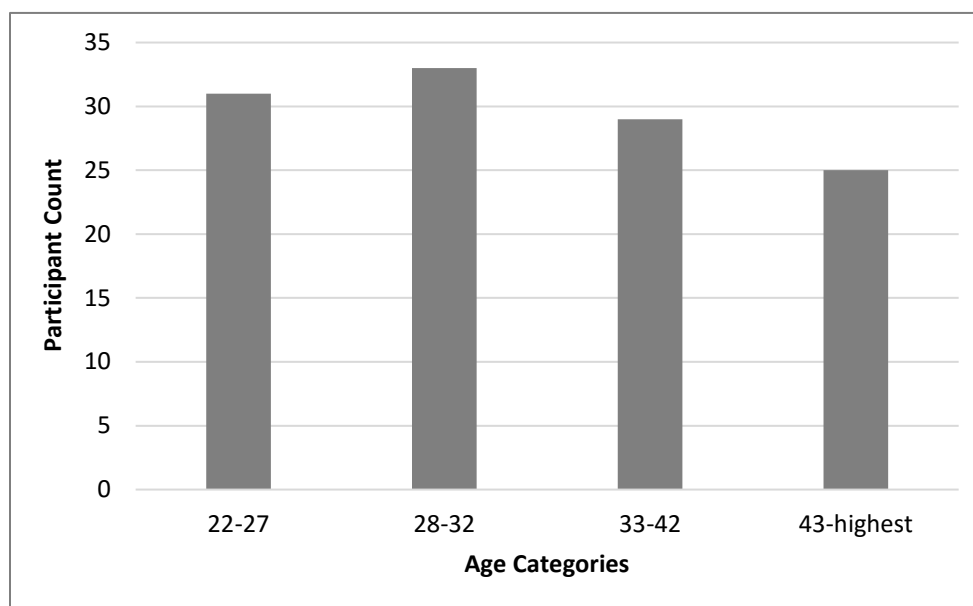
Figure 5.2.   Participant Age Distribution

Approximately 61% of participating teachers had less than three full years of teaching experience at the time of the survey. That outcome was somewhat surprising in that the induction program is generally for new (first or second year) teachers. The mean (3.65) was higher than expected given that some respondents indicated many years of teaching experience. According to the survey results, five of the 119 respondents indicated teaching experience of 10-18 years. The CTI Induction Program managers indicated possible reasons that teachers come to their program with many years of experience. First, some teachers may teach for a number of years in private schools, which neither require state teaching credentials nor require participation in an induction program. When teachers in that situation take jobs in public schools, they then have to go through the full credentialing process even though they might already have years of teaching experience. Second, some teachers come to California after a number of years

teaching in a different state. Those teachers must also go through California's full credentialing process.

The participants were distributed evenly across grade levels and subject areas. The distributions were slightly heavier in 9th and 10th grades than the other grades, and slightly heavier in math and English language arts than the other subjects. The final demographic item was experience with online learning. Figure 5.3 shows the participants' previous levels of experience with online learning. Forty-six percent of the participants rated themselves as having a significant amount of previous online learning experience, whereas only 7% indicated no previous online learning experience. This finding indicates that although the induction program was new to the participants, the vast majority of them (90%) had at least some previous perceptions of online learning based on experience.
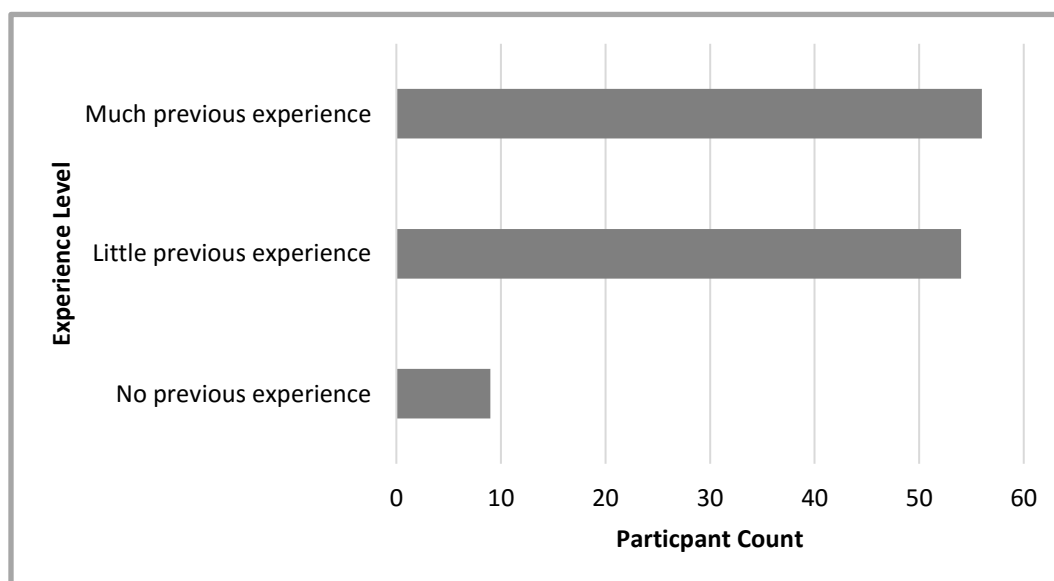
Figure 5.3.   Previous Online Learning Experience by Count

Table 5.1 shows that the study participants gave high ratings for their experiences with the program based on multiple measures of the adult learning concepts of andragogy

and heutagogy. Rated on a scale of 1-10, the survey results had means ranging from a low

of 7.54 to a high of 8.97. In part because the scores were all high, no statistically

significant difference was found among these means.

Table 5.1   Mean Scores for Concepts of Adult Learning Theory

Adult learning Theory Concept	Mean Score
I was actively involved in the learning.	7.92
The learning was applicable to my work.	7.86
The activities were meaningful for me.	7.54
I received sufficient feedback.	8.08
I felt supported by the program staff.	8.07
I had opportunities to work independently.	8.97
The goals of the program aligned with my goals.	7.88
My experience as an educator was valued.	8.13
I was given responsibility for my own learning.	8.75

Satisfaction Results

        The survey (see Appendix A) items helped answer the research questions, and

thus participants were asked questions related to (a) program satisfaction, (b)

transformation of practice, and (c) teacher retention. Relationships between these items

and demographic measures (gender, age, induction model, and previous online

experience) were explored.

        The concept of satisfaction with the CTI Online Induction Program was explored

by two different measures. The overall program satisfaction was measured by a single

item (See Q19 in Appendix A) that asked participants to rate their overall level of

satisfaction with the program by using five response categories: (a) very dissatisfied, (b)

moderately dissatisfied, (c) neither satisfied nor dissatisfied, (d) moderately satisfied, and

(e) very satisfied. The aggregate satisfaction measure (See Q11 in Appendix A) was

created by aggregating a set of thirteen 11-point items. The individual items asked about

the participant's level of satisfaction with thirteen different program components. A

reliability analysis showed that the researcher could examine the aggregate component

satisfaction scale. The aggregate program satisfaction measure was created by

aggregating a set of thirteen 11-point items (0-10) into a scale that could then be

related to other variables, such as gender and age. This process allowed the researcher to

utilize t-tests instead of chi-square tests when comparing a category to a scale measure.

Specifically, *t*-tests were used when comparing either the aggregated satisfaction measure

or the aggregated transformation of practice measure, which aggregated a set of seven 11-

point items, to other variables. In other instances, the study compared categorical

variables to categorical variables, such as retention versus gender. In those cases, the

researcher used chi-square analyses. Figure 5.4, identifies the important independent

variables analyzed with the dependent variable of satisfaction.
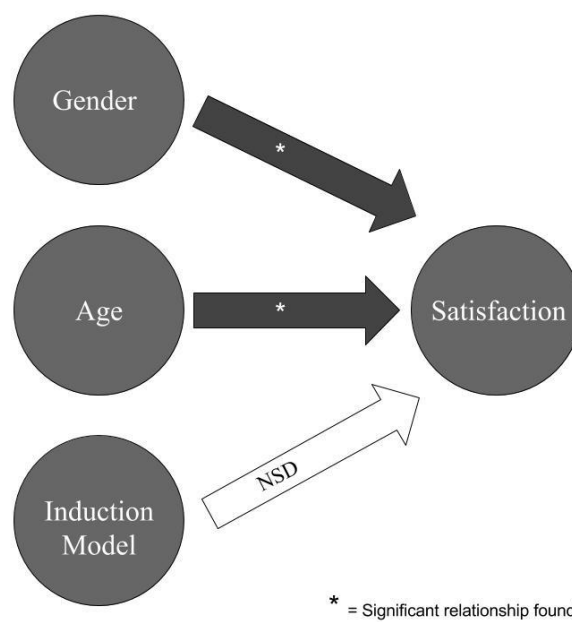
Figure 5.4. **Impact of Induction Model and Demographics on Satisfaction**

The overall program satisfaction measure revealed that general levels of satisfaction for the program were very high. Seventy-nine percent of the participants indicated that they were either moderately satisfied (34%) or very satisfied (45%). Meanwhile, only 10% of the participants indicated that they were either moderately dissatisfied (5%) or very dissatisfied (5%). Noting the high overall level of satisfaction with the program contributed perspective when looking at differences between the satisfaction levels of the component parts of the program, and helped the researcher avoid focusing on small differences between items that are all rated as being highly satisfactory.

The aggregate satisfaction scale also demonstrated a high level of satisfaction. The overall mean was 7.39. The individual component items display a high level of consistency with the mean. Table 5.2 shows the individual mean scores of the 13 program components for which participants gave satisfaction ratings. The means ranged from a low of 6.25 on the 10-point scale for "blogs," to a high of 8.45 for "email with reflective coaches." While interactions with the reflective coaches, via email and via virtual meetings, yielded the highest two mean scores of the program components, no statistical difference was found among the list of components.

Table 5.2   Satisfaction with Program Components

Program Component	Mean Score	% of Participants rating as 7 or Higher
Synchronous online meetings	6.90	73%
Organization of resources in LMS	7.43	72%
Screencast video tutorials	7.22	69%
Content videos	7.83	76%
Collaborative Google slides	7.07	65%
Blog	6.25	51%

Creation of products	7.40	72%
Websites as resources	7.75	76%
Collaboration with peers	6.59	60%
Reflections	7.58	72%
Email with facilitators	7.76	76%
Email with reflective coaches	8.45	79%
Virtual meetings with reflective coaches	7.90	78%

Satisfaction was also analyzed against gender, age, induction model, and online experience. Aggregated course components satisfaction for female participants had a mean score of 7.61, and aggregated course components satisfaction for male participants had a mean score of 6.94. No statistically significant difference was found between genders in their ratings of program satisfaction after employing an independent samples t-test for equality of means (2-tailed, $p = .157$). However, the overall program satisfaction survey item (Q19) did reveal a gender difference. For example, 53% of females reported being very satisfied with the program, whereas 21% of males reported being very satisfied. A cross-tabulation analysis used to examine Overall Satisfaction (Q19) by Gender (Q4), found a statistically significant relationship between the overall satisfaction scores and gender (likelihood ratio (4) = 15.123, p<0.05). Use of the Fisher likelihood ratio in a chi-square test is generally more appropriate than the Pearson measure when 20% or more of cells have small (less than 5) expected counts (Campbell, 2007). In this case, 50% of the cells had expected counts that were less than five.

As reported in the demographic section, the mean age of the participants was 35 years old, with approximately one quarter of the participants falling into each of four age

categories. A one-way analysis of variance (ANOVA) was used as an inferential tool in examining the variable of age in comparison to their ratings of overall program satisfaction. The analysis showed the affect of age on overall satisfaction. The resulting between-groups differences were statistically significant ($F_{3,102}$=4.14, p<0.05). Specifically, Bonferroni t-tests were used to compare the satisfaction among the four age categories. That analysis showed a significant difference (p = .007) between the 22 to 27-year-old group and the 33 to 42-year-old group, with the 33 to 42-year-old group more satisfied with the induction program than the youngest group. Table 5.3 reports the mean differences, standard errors, and significance levels by each age category.

Table 5.3   Comparisons of Satisfaction Ratings by Age Category

Age Category	Age Category	Mean Difference	Std. Error	Significance
1. 22-27	2. 28-32	-.81295	.53525	.791
	3. 33-42	-1.81481*	.54472	.007*
	4. 43-highest	-1.40815	.56791	.089
2. 28-32	1. 22-27	. 81295	.53525	.791
	3. 33-42	-1.00187	.53525	.385
	4. 43-highest	-.59520	.55883	1.000
3. 33-42	1. 22-27	1.81481*	.54472	.007*
	2. 28-32	1.00187	.53525	.385
	4. 43-highest	.40666	.56791	1.000
4. 43-highest	1. 22-27	1.40815	.56791	.089
	2. 28-32	.59520	.55883	1.000
	3. 33-42	-.40666	.56791	1.000

Satisfaction was also examined by induction model. The two models were fully online and distance. The mean satisfaction rating for the fully online participants was 7.55 (N = 75), and the mean satisfaction rating for the distance participants was 7.02 (N = 32). An independent samples t-test for equality of means did not find a significant

difference between the two models ($p = .228$). The survey population was not evenly split between the two models, with more than twice as many participants participating in the fully online model compared to the distance model. Because the distance population was small, the mean satisfaction rating may or may not be representative of the total population.

Overall program satisfaction was also compared by the online learning experience of the participants. The survey participants indicated that they had (a) no previous online learning experience, (b) little previous online learning experience, or (c) much previous online learning experience. A cross tabulation analysis showed no statistically significant differences between satisfaction and online learning experience ratings ($p = .122$).

The final analysis of overall program satisfaction (Q19) was done in comparison to the likelihood of retention (those remaining in the teaching profession). This analysis did reveal a retention difference. Retention was measured on a 3-point scale. The item (Q17) asked, "As a result of my online induction program so far, I am:" (a) less likely to remain in the teaching profession next year, (b) neither more nor less likely to remain in the teaching profession next year, or (c) more likely to remain in the teaching profession next year. Table 5.4 shows a cross-tabulation analysis used to examine Overall Satisfaction (Q19) by Retention (Q17) and indicates a statistically significant relationship between the overall satisfaction scores and retention (likelihood ratio (4) = 15.123, p<0.05). Use of the likelihood ratio was indicated due to small expected counts (less than 5) in some of the cells.

Table 5.4   Cross Tabulation Analysis of Satisfaction by Retention

Retention	Very Dissatisfied	Moderately Dissatisfied	Neither Dissatisfied Nor Satisfied	Moderately Satisfied	Very Satisfied
Less likely to remain in teaching next year	20.0%	0.0%	0.0%	0.0%	0.0%
Neither more nor less likely to remain in teaching next year	80.0%	83.3%	91.7%	52.8%	25.0%
More likely to remain in teaching next year	0.0%	16.7%	8.3%	47.2%	75.0%

The majority of participants who rated their overall program satisfaction as very dissatisfied, moderately dissatisfied, neither satisfied nor dissatisfied, or moderately satisfied, also rated themselves as neither more nor less likely to remain in the teaching profession as a result of the induction program. However, 75% of the participants who rated their overall program satisfaction as very satisfied also rated themselves as being more likely to remain in the teaching profession as a result of the induction program.

Retention Results

As with satisfaction, retention was also analyzed against gender, age, induction model, and online experience. Figure 5.5, produced from analysis of survey data, models` the important independent variables analyzed with the dependent variable of retention.
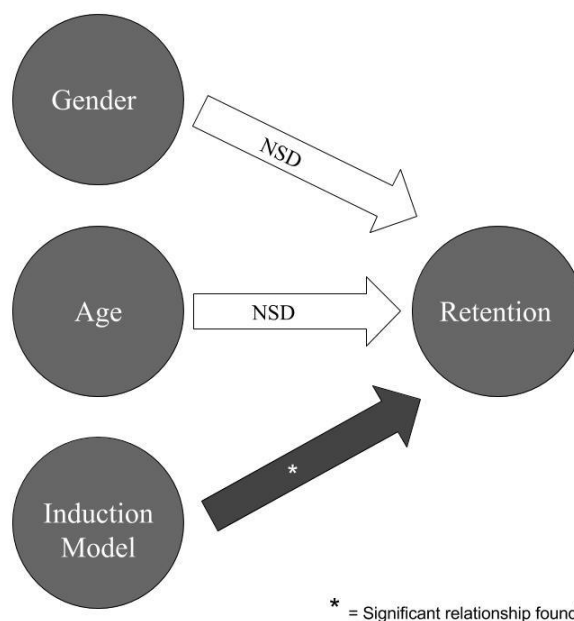
Figure 5.5.   Impact of Induction Model and Demographics on Retention

First, retention ratings were compared to the gender of the participants. The survey participants indicated that they were all either more likely to remain in teaching or neither more nor less likely to remain in teaching. A cross tabulation analysis showed no statistically significant differences between retention ratings and gender ($p = .617$).

Similarly, retention ratings were compared to the age of the participants. A slight majority of participants in the age categories of 22-27, 28-32, and 33-42 rated themselves as neither more nor less likely to remain in teaching as a result of the induction program. Those ratings ranged from 52% to 62%. In contrast, the majority (74%) of participants in the age category of 43-and-higher rated themselves as more likely to remain in teaching as a result of the induction program. A cross tabulation analysis showed no statistically significant differences between retention ratings and the four age categories ($p = .084$) when using the Pearson chi-square test. However, since the retention rating scale is arbitrarily ordinal, the researcher also looked at a linear-by-linear association, which is equivalent to a chi-square test for trend. Use of the linear-by-linear association metric

revealed a statistical difference between retention ratings and the age categories at the 0.05 level of significance ($p = .022$).

One of the strongest associations between variables was that obtained between retention and the induction model. Table 5.5 shows that 60% of the participants in the fully online model rated themselves as more likely to remain in teaching, whereas 32% of the participants in the distance model rated themselves as more likely to remain in teaching. A cross tabulation analysis with a Pearson chi-square test indicated that the association was significant ($X^2(1)=6.76$, p<0.05).

Table 5.5   Cross Tabulation Analysis of Retention by Induction Model

Retention	Fully Online Model	Distance Model
Neither more nor less likely to remain in teaching	40.0%	67.7%
More likely to remain in teaching	60.0%	32.3%

Retention ratings were also compared to the online learning experience levels of the participants. The survey participants indicated that they were all either more likely to remain in teaching or neither more nor less likely to remain in teaching. None indicated that they were less likely to remain in teaching. A cross tabulation analysis showed no statistically significant differences between retention ratings and online learning experience (likelihood ratio, $p = .128$).

Transformation of Practice Results

The final block of descriptive statistics involved the variable of transformation of practice. As with satisfaction and retention, the variable of transformation was analyzed against the variables of gender, age, induction model, and online experience. Figure 5.6,

produced from analysis of survey data, identifies the important independent variables

analyzed with the dependent variable of transformation of practice.
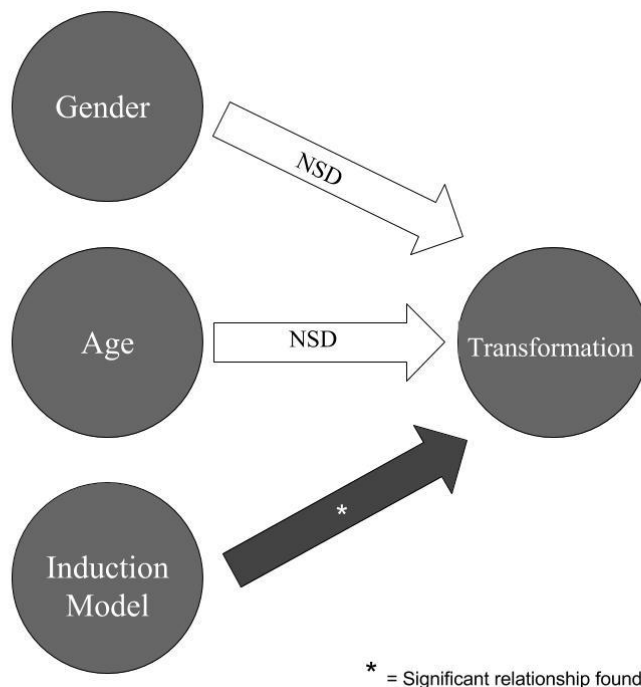
Figure 5.6.   Impact of Induction Model and Demographics on Transformation

Table 5.6 represents the mean scores, on a 0-10 scale, for each of the components

of the transformation of practice survey item. As with the satisfaction aggregate scale, the

transformation of practice items were adapted into an aggregate scale. That aggregated

transformation measure was first compared to gender. Females had a mean

transformation practice score of 6.54, and males had a mean of 6.39. Use of a *t*-test for

equality of means revealed that there was no statistically significant difference found

between transformation ratings and gender at the 0.05 level of significance ($p = .809$).

Table 5.6   Mean Scores of Transformation of Practice Components

Transformation of Practice Component	Mean Score
Teaching skills	8.05
Range of instructional practices	8.14
Technology skills	6.64
Student collaboration	7.54
Ability to assess student learning	7.67
Application of technology in planning for instruction	7.01
Ability to implement student-to-student interactions	7.29

Interestingly, the means for transformation of practice rose in a linear fashion as participant age increased. Figure 5.7 represents that linear trend. The *x*-axis in that figure represents the age categories while the *y*-axis represents the mean aggregated transformation of practice measure on a scale of 0-10. The mean for the 22-27 group was 5.75. The mean for the 28-32 group was 6.02. The mean for the 33-42 group was 7.07. The mean for the 43-and-higher group was 7.22. A one-way ANOVA test showed that there were no statistically significant differences found between transformation ratings and age at the 0.05 level of significance ($p = .133$).
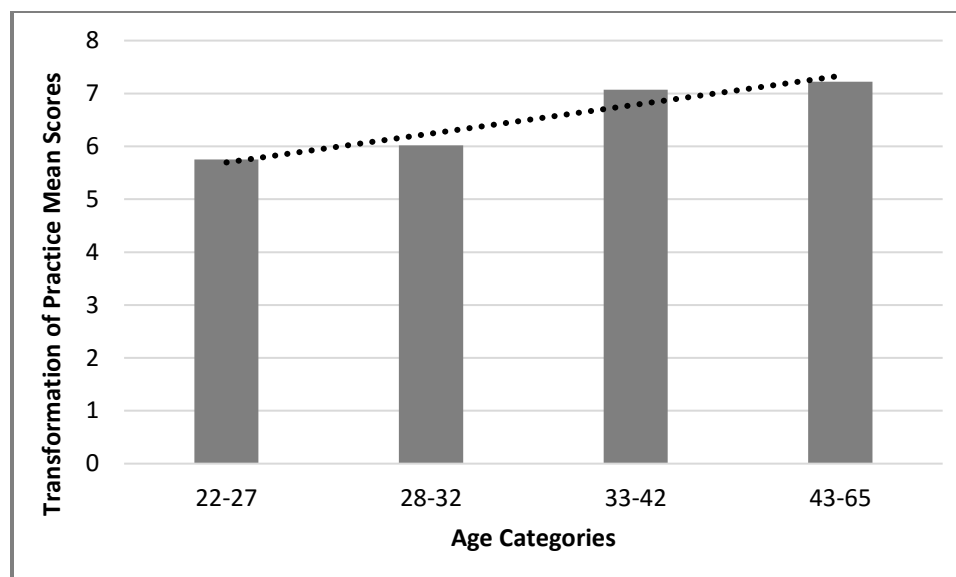
Figure 5.7.   Transformation of Practice by Age with Trend Line

Next, the transformation of practice variable was compared to the induction

model variable. The fully online participants had a mean transformation of practice score

of 6.86, and the distance participants had a mean transformation of practice score of 5.59.

Use of a *t*-test for equality of means, showed a statistically significant difference found

between transformation ratings and induction models (t(48) = 2.01, p <0.05). The fully

online participants had a greater transformation of practice than the distance participants

did.

Lastly, the ratings for transformation of practice were compared to the online

learning experience levels of the participants. A cross tabulation analysis showed no

statistically significant differences between the transformation ratings and the online

learning experience levels (*p* = .407).

Participant Interviews

In order to protect the privacy of the participants, the researcher assigned random

pseudonyms to each interviewee using an online random name-generating tool.

References to any individual participants in this dissertation were all done using the

pseudonyms. The participant interview data collection and analysis procedures are fully

detailed in Chapter 4. Briefly, eight semi-structured interviews (see Appendix D), each

approximately thirty minutes in length, were conducted in April and May of 2016. The

purpose of the interviews was to elicit participant perceptions, build a comprehensive

description of the participants' experience of the online new teacher induction program,

and understand how it may have affected the teaching practices of the participants. The

researcher used purposive sampling and selected interviewees to obtain a mixture of

participants according to (a) gender, (b) age, (c) years of teaching experience, (d) current

grade levels and subjects taught, (e) participation in fully online or distance versions of

the induction model, and (f) previous experience with online learning. Table 5.7

represents the outcome of that sampling. The purposive sampling for the interview pool

was based on a preliminary analysis of the survey results. This process allowed the

researcher to ensure the interview population included representation of the significant

subgroups of the survey population.

Table 5.7   **Demographics of Interviewees Based on Purposive Sampling**

Pseudonym	Gender	Age	Years Teaching	Grade Level(s)	Induction Model	Online Experience
Cambria	F	34	2	6-8	Distance	Much
Eva	F	27	2	2	Online	Much
Gwen	F	26	1	3	Distance	None
Joy	F	32	2	3	Online	Little
Adam	M	36	2	9-12	Online	Little
Leslie	F	26	1	4	Distance	Much
Benny	M	36	1	9-12	Online	Little
Kelley	F	25	1	5	Online	Little

Virtual interviews were conducted when face-to-face interviews were not feasible due to time constraints or geographic barriers. All interviews were recorded, transcribed, coded, analyzed, and categorized into themes. The coding of the data was done according to an inductive process, allowing the researcher to develop codes unique to this case. This process involved the researcher going through interview transcripts multiple times in order to code pertinent pieces of data. As shown in Figure 5.8, the researcher used the NVivo software in order to organize and code transcriptions of interviews. Using NVivo, the researcher analyzed the data gathered and identified the themes that emerged from that analysis.
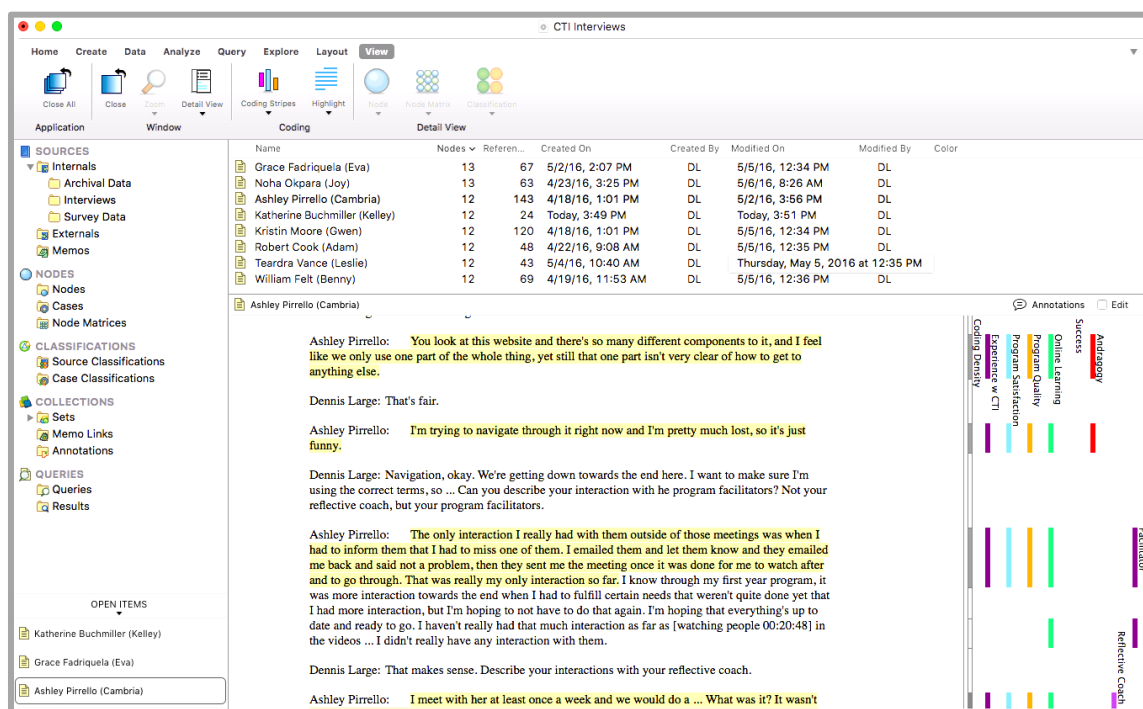
Figure 5.8.   Interview Transcript Coding with NVivo

Table 5.8 represents the frequency disbursements of codes in the interview transcripts. Theme analysis was used in order to make sense of the interview data and to form common categories that were then interpreted as the main themes across all of the

interviews. The researcher used an inductive, constant comparative analysis process

through multiple reads of each transcript to produce iterations of the list of codes.

Table 5.8   Final Frequency Disbursement of Codes in Interview Analysis

Codes	Number of Sources	Number of References
Andragogy	8	40
CTI Experience (overall)	8	127
Facilitator	8	15
Online Learning	8	70
Peers	8	10
Program Quality	8	102
Program Satisfaction (overall)	8	104
Program Success	8	34
Reflective Coach	8	51
Retention	7	14
Teaching Background	8	29
Transformation of Practice	8	32

Themes

Careful examination of the interview transcripts revealed a general sense of

satisfaction with the CTI online induction program. The interviewees were very positive

in their remarks about the overall experience; their satisfaction with the program was

high; they rated the quality of the program as high; they were positive regarding the

online learning aspects of the program; and they almost universally praised their

reflective coaches. There were some specific exceptions to the overall praise. One

interviewee in particular had a very negative experience with her reflective coach. Other

interviewees called out some specific aspects of the program as either negative or simply

less affective.

It is those human dimensions of the relationships between the participants and the program and between participants and their reflective coaches that add richness and depth to this case study through the participants' own words. Exact quotes from the interviewees, using pseudonyms, help paint a descriptive picture of the participants' experiences and perceptions as organized by the themes that follow.

<u>Program Satisfaction</u>

The first theme examined here is satisfaction with the program. The interview data revealed a generally high level of satisfaction. That finding is consistent with the high ratings for satisfaction on the participant survey. The survey results showed that 79% of the participants were either moderately or very satisfied with the program. The interview data were similar. The interview data, however, provided specificity regarding aspects of the induction program that participants perceived as being less satisfactory for some of the participants.

The participant comments regarding their level of satisfaction with the program ranged from the general to the specific. The tendency regarding positive satisfaction comments was to cover the range from general to specific. In contrast, the comments of dissatisfaction tended to only be specific. Some of the general high satisfaction comments included:

Eva: It's a great learning experience so I would recommend it to my friends.

Gwen: I feel like everything was very well done.

Joy: Looking back on my entire experience, it's been absolutely positive, and wonderful, and my coach has been nothing but supportive, and the whole process has been really not difficult for me.

Adam: So far, I guess the overall experience has been good. It's been useful. I've been able to integrate it into my teaching.

Benny: Thanks to my coach, it's really been overwhelmingly positive.

Leslie: Teachers have a lot to do already, but I just really appreciate that this program is user-friendly. It's a chore, but it doesn't always feel that way. It goes by pretty fast. You get a lot of information on it. It's just easier to digest, I guess.

The majority of the positive satisfaction comments were more specific about certain aspects of the online induction program. In particular, the participants were highly positive regarding the reflective coaches, the online resources, and the structure of the program. Comments in this theme were coded first as "Satisfaction." Then, the comments were coded again as either "High Satisfaction," or "Low Satisfaction." Some specific comments of high satisfaction levels included:

Eva: I love all the resources that we get from our first meeting cycles when we would ... I feel like that's been very helpful, even outside of each cycle. I really like how I can explore other things when the cycles are over. I definitely love the support I get from my coach, as well as from Angel and Tonya, when I have questions. They're always there to answer. I'm very happy and pleased with this online induction program.

Joy: I feel that the program is clear. I don't have to guess what I have to do next. Everything's laid out and that helps me be successful in the program.

Adam: The resources, the videos, they're very helpful in terms of being very clearly explained, very directly applicable, being able to use them immediately.

Benny: It's aligned with the CSTP's. I think that's awesome. That really works and really helps because that's what my admin is looking for. I think that's really smart to have us choose a CSTP at the beginning of every cycle to align with.

The results of the online survey showed that 10% of the participants were either moderately dissatisfied or very dissatisfied with the online induction program. The interview data showed similar results. Although a few of the eight interviewees expressed one or two points of dissatisfaction, only Cambria expressed an overall sense of dissatisfaction with the program.

Cambria: Specifically, for me, a lot of the things online and then what we were seeing ... asked to do sometimes, didn't necessarily connect 100%. But I'm not really sure the course was extremely helpful.

> Cambria: One thing I would change is the navigation of the website that they used online, the e-Connect thing. It is really difficult. It's just a lot of steps that seemed like a lot of hoops to jump through just to get a cycle completed. There were times that I was so frustrated, and then I was like ... when I'm done, I would hope that you would make the program better for future people who come to you. That's exactly why I'm trying to help you, that's just why I'm giving you my input.

Perceptions of Reflective Coaches

Perceptions about the reflective coaches constituted the next theme examined. The survey and the interview data were correlated insofar as both sources of data indicated high levels of participant satisfaction with the online induction program. Additionally, both data sources indicated that the program element responsible for the highest levels of satisfaction was the reflective coaches. That result was in even greater evidence in the interview data. Several interviewees made it clear in their comments that they felt the interactions with their reflective coaches were the primary reason for their satisfaction and success. In particular, participants felt that their coaches were supportive in working through any issues that came up in the classroom or in the induction program. Fully virtual coaches were viewed as being just as important to the program as the face-to-face coaches. Seven of the eight interviewees, including Cambria, who was the interviewee with the least overall satisfaction with the induction program, had very positive interactions with their reflective coaches.

> Eva: Even though I've never physically met my coach, my coach has been very supportive. I do feel successful in this program so far. Some things that have contributed to that, definitely I've got to give a lot of credit to my coach. I feel like my coach has really been supportive… I really like getting feedback whether it's good or bad. She would tell me things that I could improve on or areas that I can strengthen.
>
> Adam: She's been very, very helpful in this. I can take nearly any problem to her, and she has dealt with it before, and she can give me some advice. She's been a mentor since my first day here on this campus. She's been generous with her time,

> always willing to help, always willing to stick with me, even when I got very behind in the program.

> Benny: Thanks to my coach, it's really been overwhelmingly positive. I can't thank her enough. She's been so accommodating and positive and just helpful. She's online…but we email at least a few times a week. Definitely she contributed to my feeling of success.

> Leslie: I think I've been successful in this program because ... with a good reflective coach. We go over what we've talked about, and then I can apply it, and he can see it, and we can talk about it. That's how I feel like I'm getting success. Without that coach, I don't think I would feel so successful.

One interviewee in particular was polarized in terms of her perceptions of her overall satisfaction and her perceptions of her reflective coach. Gwen was very positive about the induction program in many ways. She indicated high satisfaction with the program multiple times during her interview. However, Gwen also expressed some pointedly negative comments about her experience with her reflective coach.

> Gwen: But my reflective coach has not really been available all year. I've been my own coach and candidate. It's been very hard. In fact, my principal was not happy with the way because my class is a little out of control.

> Gwen: I never got to meet with her. I had a lot of very challenging students who weren't getting the support they were needing. I feel like I was cheated because I didn't get the assistance.

Because the induction program being studied is an online program, the researcher had an expectation of collecting a great deal of interview data specifically about the online characteristics of the program. However, the interviews did not produce much data about the participant perceptions of the online characteristics of the induction program. The interview data, much like the survey data, generally showed positive perceptions of the affordances of online learning. The researcher found that the interest level of interviewees in discussing the affordances of online learning was low compared to other aspects of the program such as (a) satisfaction, (b) reflective coaches, and (c)

transformation of practice. Even when probed with follow-up questions, the results of the

interviews were less extensive than expected on this topic.

> Eva: I wanted something that was fast and that was flexible with my schedule. I decided to go with the online induction program. I actually enjoy it.

> Eva: We have curated resources where we would look up all the information. That's a great resource. We had some videos from the curated resources that we needed to observe and get ideas from. That really guided me through what I do now with the class. I have a lot of EL's in my class. The differentiation that they provided and modeled in the videos I used in my class. I find it very, very effective.

> Kelley: I do feel like this program is more effective than being face to face with a program that I've worked with in the past, like student teaching for example.

Transformation of Teaching Practice

The next theme examined was the transformation of teaching practice as a result

of participating in the online new teacher induction program. Transformation of practice

is both a goal of the CTI Online New Teacher Induction program and a research question

for this study. The survey results showed, on a 0-10 scale labeled "Stayed the Same"

through "Improved Greatly," that participants rated themselves at approximately 7.5 on

each of the transformation measures. The interview data revealed some specific ways

participants were transforming their teaching in their own classrooms. The main practices

reported as having increased were (a) general knowledge of strategies or pedagogy, (b)

differentiation, (c) project-based learning, (d) communication and collaboration, (e)

classroom management, (f) reflection, (g) Socratic seminars, (h) formative assessments,

and (i) technology integration.

> Eva: The differentiation that they provided and modeled in the videos I used in my class.

> Kelley: I loved the way that the project based learning just ... it was the kids showing me what they learned. I'm excited to incorporate these things next year.

Gwen: I was able to put in more collaborative learning within my classroom. I feel definitely the video examples on this were most impactful.

Benny: I had done Socratic seminars before, but I feel like I need to do them more often. I wanted to continue doing this right and focus and improve.

Joy: We do more inquiry based learning where, okay, you're… going to create a slide show and you're going to teach the class. They are the ones that are responsible with it. Of course, I'm guiding their learning, but I put it on them.

The survey data included high ratings for the concepts of adult learning theory. Similarly, the interview data contained many references to the online new teacher induction program being in alignment with many of the concepts of adult learning theory. For example, the interviews showed that the participants felt (a) they were supported by their reflective coaches and by the program facilitators, (b) the induction program work was applicable to their own classroom teaching, (c) they had opportunities to self-select some of the topics, and (d) they had a measure of control over their learning environment. A couple of participant comments summed up the feeling of alignment between the program and the needs of new teachers:

Leslie: I felt that it was really focused to the teacher, and really what we're doing in the classroom. It didn't make me feel like it was another hoop, because I've jumped through a lot of those.

Gwen: In some ways it was easier because I have to commute an hour and 15 minutes to work one way. It was easier in a way because I could do it at my own convenience.

Teacher Retention

The last theme analyzed from the interview data was teacher retention. This was the only theme that emerged solely from participant comments, initially without a related interview question. Although some of the most interesting survey results came from the question of retention (Q17) and its relationship to other variables, the researcher had not

included a question about retention in the original interview protocol. The omission from

the interview protocol of a question about remaining in the teaching profession was the

result of a combination of factors including (a) simple oversight, (b) lack of perception of

the significance of the question, and (c) poor methodological protocol in terms of timing,

in that the survey results had not been analyzed before the interviews were conducted. As

the result of participant input, a change to the interview protocol was made to include a

specific item about teacher retention.

In the first interview, Cambria was not asked about retention and she did not offer

any comments on the topic. During the second interview, Gwen was also not asked about

retention. However, she brought up the topic and made it clear that it was very important

to her. Following that second interview, the researcher added a question regarding

retention in the teaching profession to the interview protocol. The following are the initial

comments from Gwen that prompted the change in the interview protocol:

> Gwen: I feel like I could have been more successful. I've mentioned this in email
> earlier. I'm not blaming anybody on this, but my reflective coach has not really
> been available all year. I've been my own coach and candidate. It's been very
> hard.
>
> Gwen: In fact, my principal was not happy with the way because my class is a
> little out of control. She did ask me to leave the position in June. You just got to
> move on and just take what you can from it.

While Gwen indicated an uncertain future in the teaching profession, the

interview data analysis revealed that the rest of the interviewees affirmed their intentions

to continue in the teaching profession. Some of the interviewees credited the induction

program as having an influence on that decision, and some of the interviewees indicated

that the desire to remain in the teaching profession was firmly in place prior to

participating in the induction program.

Joy: Oh, absolutely one hundred percent. I'm not going anywhere.

Adam: Well, I'm dedicated to it. It's been my only career. It is what I'm going to do. I'm not going to leave it, so I might as well beat it.

Benny: I want to do this for the foreseeable future. I feel really positive about it. As long as they'll give me a job, I'll keep teaching. I think that feeling was already there, but, man, maybe induction has helped.

The final data source examined was a few documents from the CTI induction program archival data. According to Yin (2012), the strengths of using archival records in case study research include the following: (a) they are precise to the case, (b) they tend to be quantitative, (c) they are stable and can be viewed over time, and (d) they are unobtrusive in terms of having been collected prior to the start of the case study.

Program Archival Data

This case study used archival data belonging to CTI as another data source to help build a thick description of participant experiences and perceptions of the online teacher induction program. The CTI unit shared with the researcher three sources of archival data regarding the induction program, including (a) the "Candidate Teacher-Reflective Coach Match Satisfaction Survey, Fall 2015 Report" executed by the Graduate School of Education at the University of California, Riverside; (b) interim program cycle participant evaluations for the current year, 2015-16; and (c) the end-of-year program evaluation for the 2014-15 program year.

The Candidate Teacher-Reflective Coach Match Satisfaction Survey is the description of the results of a survey administered by the Teacher Professional Development Program staff at the University of California, Riverside (UCR) on behalf of the CTI unit (Mitchell, Huston, & Sanada, 2016). The survey questionnaires were completed by 1,990 induction program participants and by approximately 160 reflective

coaches working for the program. Two-hundred sixty-eight (13%) of the 1,990 program participants were enrolled in the online new teacher induction program.

The UCR study was focused on the entire CTI induction program and not just on the online version of the program examined in this case study. The purpose of the UCR survey was to examine the relationships that develop between the induction program participants and their reflective coaches, and to determine if that relationship affected the level of participant satisfaction with the program. The UCR study reported that the level of participant satisfaction was most strongly affected by the frequency and length of the meetings between the participants and their coaches. When the frequency or the length of participant-coach meetings increased, the program satisfaction of participants increased.

The second archival data source examined was the Cycle 6 interim program evaluation of the current participants. The interim program evaluations are distributed as an online survey to all program participants, not just online participants, at the end of each cycle of inquiry associated with the program content module. The archives of cycle evaluations are maintained online in the CTI eConnect system. The researcher chose to review the Cycle 6 evaluation because it was the most recent cycle evaluation available and therefore represented more participant induction program experience than the evaluations of the previous cycles.

The Cycle 6 interim program evaluation contained only seven questions and was not aligned to the research questions of this case study. However, it did reveal some closely related data. For example, two of the questions were related to the affordances of online learning. The evaluation showed that 92% of the participants reported that the induction program either greatly enhanced their technology skills (72.40%) or somewhat

enhanced their technology skills (19.27%). The evaluation also showed that 99% of the

participants reported their comfort level with the program's online eConnect learning

management system as either confident (72.92%) or comfortable (26.04%). Those two

items are similar in results to items regarding the affordances of online learning in the

survey and in the interviews for this case study.

The Cycle 6 evaluation also included two items about participant experiences

with their reflective coaches. One program evaluation question asked about the frequency

of meetings with the reflective coaches. The results of that item indicated that 92% of the

participants met either face-to-face or virtually with their coaches on average either once

per week (68.23%) or more than once per week (23.68%). A very small portion of the

participants (.52%) reported that they had never met with their coach. Those results were

also in alignment with what the interviewees reported in this case study.

The program evaluation also asked participants about the most helpful elements

of their meetings with their coaches. Table 5.9 shows that the top three responses to that

item were, in order, (1) sharing of resources and strategies, (2) emotional support and

encouragement, and (3) expert input, suggestions, and feedback.

Table 5.9　　　**Most Helpful Elements of Reflective Coach Meetings**

Element of Meetings with Reflective Coaches	Percentage of Total Responses
Emotional support and encouragement	26.04%
Sharing of resources and strategies	27.60%
Sharing of personal experiences	13.02%
Expert input, suggestions, and feedback	25.52%
Technical support with navigating the learning management system	1.04%
Clarification of inquiry cycle tasks	6.77%

The third archival data source reviewed was the end-of-year program evaluation for the 2014-15 program year. The end-of-year program evaluation for 2014-15 was distributed as an online survey to all program participants. The archives of cycle evaluations for the 2014-15 school year are maintained online in the CTI SurveyMonkey account. The 2014-15 end-of-year program evaluation survey was very similar to the Cycle 6 evaluation survey for the 2015-16 year in terms of the set of items and in terms of the survey results. One way it was different was in the inclusion of an item about transformation of practice. Participants were asked if they had made a change in their lesson planning during the final months of the year. Approximately 82% of the participants responded in the affirmative.

As in the current Cycle 6 evaluation, the 2014-15 end-of-year program evaluation contained two items about participant experiences with their reflective coaches. The first asked about the frequency of meetings with the reflective coaches. The results of that item indicated that 89% of the participants met (face-to-face or virtually) with their coaches on average either once per week (65.34%) or more than once per week (24.04%). A very small portion of the participants (.17%) reported that they had never met with their coach. Those results were a very close match to the current Cycle 6 evaluation and were also in alignment with what the interviewees reported in this case study.

Finally, the 2014-15 end-of-year program evaluation asked participants about the most helpful elements of their meetings with their coaches. The results in that survey were closely aligned with the results in the following year in the current Cycle 6 evaluation. The top two ranked items were the same: (1) sharing of resources and strategies, and (2) emotional support and encouragement.

Summary

The analyses of the case study survey data revealed multiple items of interest and several statistically significant results. The researcher found five statistically significant associations among the variables measured, listed by research sub-question:

Participant satisfaction: *To what degree are participants satisfied or dissatisfied with the online induction program and with the instructional practices presented in the program?*

- The 33-year-old to 42-year-old age group was found to be significantly more satisfied with CTI's online new teacher induction program than any other age group.

- Females were found to be significantly more likely than males to be "very satisfied" with the induction program.

Participant success: *What factors influence participants' perceptions about their ability to implement learning from this program into their own classroom teaching? Is there a relationship between the literature on adult learning and the participants' responses regarding their learning in this program? Are participants more likely to remain in the profession?*

- The participants who rated themselves as "very satisfied" with the induction program were significantly more likely to say that they were "more likely" to remain in teaching as a result of the induction program.

- The participants in the fully online program were significantly more likely than the distance model participants to indicate higher likelihood of remaining in teaching as a result of the induction program.

Transformation of practice: *How have participants transformed their own pedagogical practices (if they have) in relation to what is/was presented in the course/program?*

- The participants in the fully online program were significantly more likely than the distance model participants to say they had made changes in their teaching practice as a result of the induction program.

Analyzing the interview data provided a deeper and clearer understanding of the experiences and perceptions of the online induction participants. The interviewees were genuinely interested in sharing their thoughts in support of helping to improve the program. Though the vast majority of the comments were positive, which is a perspective also supported by the survey data, the interviewees also shared their concerns and their areas of dissatisfaction. In general, the participants were satisfied with the program as a whole, and they were satisfied with the component parts of the program. With one notable exception, they were most satisfied with their experiences with their reflective coaches. They appreciated the affordance of online learning. They indicated many ways in which their teaching practices have been transformed. They also indicated intentions to continue in the teaching profession.

The CTI program archival data helped triangulate some of the case study findings. The archival data indicated a high level of satisfaction with some of the affordances of online learning, and it confirmed the perspective that the induction program supports the ideas of teacher retention and transformation of practice. Most strongly, the archival data confirmed the importance of the relationship between the participants and their reflective coaches. The survey data, the interview data, and the archival data all indicated the

reflective coach as being significant to the success of the CTI online new teacher

induction program.

CHAPTER SIX: DISCUSSION

Induction: Eva's Story

Like so many other new teachers, Eva entered the CTI online new teacher induction program with some concerns. Would she be able to handle being a first year teacher, work on her Master's degree, and participate in the induction program? She had received advice about induction from the other teachers on her grade-level team. They all told her to enter induction as soon as possible. They told her that even though she would be very busy, it was best to do the induction program in her first year as a teacher. They knew the value of what she would learn.

Eva listened to the advice and started the induction program at the start of the school year. She wanted something that was fast and had a flexible schedule. She decided to sign up with the CTI online induction program. Although Eva knew that she would appreciate the flexibility of time, pace, and location afforded by the online program, she was worried about having an online coach instead of a face-to-face coach. What she found was that it was easy for her to establish a relationship with the coach through video chat, email, and phone calls. She ended up really enjoying that aspect of the program. Though she never met her coach in person, she appreciated all of the communication and the support.

For Eva, the two keys to her success in the induction program were the coaching support and the wealth of resources shared online. Her coach encouraged her to be a reflective practitioner. Eva felt that was the take-away that would continue to make a

difference in her teaching throughout her career. She also felt that the resources shared online by the program facilitators and the other induction participants would continue to play a valuable role in her teaching. Next year, with her induction program and her Master's degree completed, she believed she would have more time to explore and implement tools and strategies covered in the induction program.

Eva just found out that her principal has offered her a job again next year. She was even more excited to find out that the job would be in second grade again. This way she would be able to work with the same curriculum again and with the same grade level team partners. Recently, Eva has been the one advising friends to get into the CTI induction program as soon as they could. She has told them that the induction program is applicable, that it is hands-on, and that it is a great learning experience that does not amount to a lot of "extra" work.

In Eva's words, "It's like it's been molding me into the teacher that I do want to become, like my ideal teacher in my heart. I honestly don't think I'd be as motivated if I did not start my induction program this early on in my teaching career."

Overview

This case study examined the perceptions of new teachers regarding their experiences in an online version of a new teacher induction program. The need for the study is based on three main factors: (a) the increased need to train new teachers, (b) the limitations of traditional new teacher induction programs, and (c) the affordances of an online version of an induction program. This study was informed by relevant research on induction, teacher professional development, adult learning theory, and online teacher professional development. The ultimate purpose of the study was to gain an in-depth

understanding of the experience of induction in order to continuously improve induction programs' abilities to meet the needs of new teachers.

Broadly, the research problem examined in this study was the improvement of online new teacher induction programs to best meet the needs of new classroom teachers by developing a deep understanding of RCOE's online new teacher induction program through the voices of those who participate in it. New teacher induction programs have been studied for approximately twenty years. However, the need exists to study online versions of these specific programs because they are so new and their implementations would benefit from an examination of their current practices. The findings of this case study are discussed first in terms of their relationships to the research questions and then in terms of their relationship to potential further research. The central question of this study, namely, *How do educators in an online new teacher induction course on pedagogical practices perceive the effectiveness of instructional practices used in the course, and to what extent did those practices affect their own teaching?* was examined though the analyses of survey, interview, and archival data. The results are addressed most directly through the findings for each of the following subquestions.

Discussion of Findings

To what degree are participants satisfied or dissatisfied with the online induction program and with the instructional practices presented in the program? (Subquestion 1)

All data sources of this study (survey, interviews, and archival documents) indicated that participant satisfaction with the induction program was very high overall. Specifically, two statistically significant relationships pertaining to the topic of satisfaction were observed. First, a relationship was discovered between program

satisfaction and age. The 33-year-old to 42-year-old age group was found to be more satisfied with CTI's online new teacher induction program than any other age group. This finding aligns with the results from other studies. Howard (2008) found a "positive predictive relationship between current age and perception of teacher induction" (p. 68). She found that as age went up, so did the positive perceptions of teacher induction programs. Age also plays a role in the perceptions of teachers' ability to be successful in the classroom after induction, with evidence suggesting older teachers are considered more successful and better role models for other teachers (Chen & Wang, 2001). Although the results of the CTI induction study were generally in alignment with other studies, one exception existed. The oldest age category in the CTI study was slightly less satisfied with the program than the 33-year-old to 42-year-old age group. Therefore, the trend of increasing induction satisfaction with age differed minimally in this case.

Second, the survey results indicated that females were more likely than males to be "very satisfied" with the induction program. Other researchers have not found that to be the case. Multiple studies have shown no significant difference in satisfaction by gender (Klassen, 2009; Klassen & Chiu, 2010; Nasser-Abu Alhija & Fresko, 2010). However, González-Gómez (2012) found that females in e-learning environments had higher satisfaction than males in the same environment. Further research may ask if the affordances of an online environment might provide a higher degree of satisfaction for females.

Similar to other research, the interview data did not support the findings of the CTI survey. Analysis of the interview data indicated that all participants, male and female, were generally very satisfied with the program. Joy reported, for example, that,

I really do have nothing but positive things to say about. I think as a teacher you're supposed to normally, naturally reflect on your profession, on what you do, but it's helping me because it's building a habit within myself.

Benny shared that, "I feel like what I'm doing is relevant. It has been overwhelmingly positive." These excerpts from Benny and Joy represent typical participant sentiments.

What factors influence participants' perceptions about their ability to implement learning from this program into their own classroom teaching? (Subquestion 2a)

Recent literature states that affordances of new teacher induction programs include (a) reducing teacher stress and anxiety, and (b) increasing teacher confidence (Kane & Francis, 2013). The results of this case study seem to align with those previous findings. The survey, interview, and archival data all indicated that participants felt successful and able to implement their learning into their teaching. Together, these findings support the idea that self-efficacy, which is the belief in one's own ability to accomplish desired outcomes, is connected to the level of success in an endeavor (Ferdig & Kennedy, 2014; Tschannen-Moran & McMaster, 2009).

Specifically, analysis of the interview data provided multiple statements in support of the theme of success and self-efficacy through the program. Cambria reported that the program was, "[…] making me a better teacher in my classroom and the school setting that I'm in now." Eva reported that, "Now I can change my lessons, differentiate more, explore new resources." Leslie added, "I've been successful in this program because I can apply it, and my coach can see it, and we can talk about it. That's how I feel like I'm getting success."

Those examples indicate that CTI's online induction participants completed the induction program feeling like they had improved their own teaching practice. The

participants' feelings of self-efficacy in the program indicated they would contribute to their feelings of success in the program. Evidence in this study in which so many study participants related their feelings of success to their reflective coach is supported by other research. Researchers have found professional development models that include coaching have stronger effects on teacher self-efficacy than programs without coaching (Joyce & Showers, 1988; Tschannen-Moran & McMaster, 2009).

Is there a relationship between the literature on adult learning and the participants' responses regarding their learning in this program? (Subquestion 2b)

The principles of andragogy include facilitating (a) the acquisition of content knowledge, (b) critical thinking about the new knowledge, and (c) the application of new knowledge to practical life and work situations (Pew, 2007). Adults have a need for their learning to be applicable, meaningful, and substantial with sufficient support, proper feedback, and continuing follow-up (Daloz, 2012). The benefits of support, feedback, and follow-up were provided in the CTI program through the reflective coaches. The survey data showed that 97% of the participants felt that the coach was "always" available (on a scale of never to always), and 92% of participants reported that they were "always" interacting with their coach.

The findings suggest that the characteristics of adult learning theory were integrated into the new teacher induction program. For instance, analysis of the survey data indicated that 89% of the participants strongly agreed that the learning in the induction program was applicable to their work. In addition, 88% of the participants strongly agreed that the program aligned with their personal goals, and 97% strongly agreed that the program gave participants responsibility for their own learning. A

previous study emphasized the similar notion that adult learning programs should shift the power, responsibility, and motivation away from the instructor and to the learner (Fornaciari & Dean, 2014).

Similarly, the interviews showed that the participants felt (a) they were supported by their reflective coaches and by the program facilitators, (b) the induction program work was applicable to their own classroom teaching, and (c) they had some measure of control over their learning. Gwen reported that, "I feel like I had control and that I could usually email them if had questions about things." Joy indicated that the program was applicable to her: "I feel like it was definitely me, like it was myself selected topics, like that was my focus." Benny reflected on choice and agency: "There was lots of choice in creating my own professional learning plan for each cycle and deciding which CSTP element to work on and I liked having that choice." The results of this study were consistent with the adult learning concepts of directing one's own learning, preferring program goals in alignment with personal or professional goals, and preferring activities applicable to one's situations (Cercone, 2008; Merriam, Caffarella, & Baumgartner, 2007).

Are participants more likely to remain in the profession? (Subquestion 2c)

Teacher induction and mentoring programs have been shown to increase the rates of new teacher retention, job satisfaction, and self-efficacy (Ingersoll & Smith, 2004). Smith and Ingersoll (2004) also found effective induction to be "strongly and significantly connected to teacher turnover" (p. 685). Those authors found that when new teachers are effectively supported, the retention rates increased. In this CTI case study, survey participants who rated themselves as "very satisfied" with the induction program

were significantly more likely to also say that they were "more likely" to remain in teaching as a result of the induction program. Likewise, all of the interview participants indicated a desire to remain in the profession.

The interview data also supported the idea that the new teacher induction program was related to retention in the profession. Theme analysis of the interview data revealed both high program satisfaction and high intention of remaining in teaching. Consistent with the research on teacher induction and on online teacher professional development, teachers need to feel supported in order to increase their likelihood of retention (Ingersoll & Strong, 2011; Owston et al., 2008).

Second, a statistically significant association was found between the variables of retention and program model. CTI's online induction program includes a fully online model and a distance model. The only difference between the two program models is that the distance model participants met face-to-face with their reflective coaches, whereas the fully online participants met virtually (via videoconference, phone, or email) with their reflective coaches. Analysis of the interview data did not reveal a difference between the participants in the fully online or distance models in terms of their intentions to remain in the profession. However, the survey showed that participants in the fully online program were significantly more likely than the distance model participants to indicate a higher likelihood of remaining in teaching as a result of the induction program. This finding is consistent with the literature on adult learning theory and online professional development. Although technology does not directly improve teacher professional development, it does facilitate learning that is consistent with constructivist learning for

adults (Vrasidas & Zembylas, 2004). Ingersoll and Strong (2011) add that effective

induction programs incorporate constructivist learning.

Although this study showed females to have higher satisfaction with the induction

program than males, the results showed no relationship between gender and retention.

That finding is consistent with other current research. For example, evidence suggests

that gender does not have a significant relationship with teacher retention (Ingersoll &

Strong, 2011).

One of the strongest associations of the study was between the variables of

retention and the induction model. Fully online model participants rated themselves as

more likely to remain in teaching than the participants in the distance model. The strength

of that relationship likely indicates a need for further research on that specific topic of

fully online model participants having higher retention ratings than distance model

participants.

Another aspect of the retention question that would benefit from further study is

the validity of the question itself. In reading this case study, a researcher could ask if it is

valid to ask someone who is new to a profession if they are planning to stay in the

profession. In many cases it would be reasonable to assume that the participants would

feel an obligation to answer in the affirmative. However, a unique challenge of the

teaching profession is that so many teachers leave in the first few years (Headden, 2014).

That phenomenon is part of the reason for the existence of new teacher induction

programs. In this case study the survey and the interviews indicated that most, but not all

of the participants were planning to continue with teaching. One of the eight (12.5%)

interviewees reported that they were not planning to return to teaching. That results indicates a willingness to respond to the question with accuracy.

How have participants transformed their own pedagogical practices (if they have) in relation to what is/was presented in the course/program? (Subquestion 3)

Effective new teacher induction programs are able to move beyond reducing stress and providing information; they are able to actually improve teaching practice (Kane & Francis, 2013). Analysis of the survey data revealed a pattern of participants self-reporting as "Greatly Improved" for the components of transformation of practice. Table 5.6 shows the mean scores for individual components ranged from 7.01 for "application of technology in planning for instruction," to 8.14 for "range of instructional practices."

Interview data on the same topics showed that the participants in both models were highly likely to have changed some instructional practices as a result of the induction program. Interviewees mentioned many specific ways their teaching has changed due to their participation in the induction program. For example, Eva reported the following:

> Two things that really helped me out. The differentiation that they provided and modeled in the videos I used in my class. I find it very, very effective. The second thing is project based learning. I'm excited to use more of these next year.

Joy added, "I now do more inquiry based learning where students are going to report on something and they are going to teach the class." Analysis of the study data reflects other research connecting induction to improved practice (Kane & Francis, 2013; Martin, Buelow, & Hoffman, 2016). The self-reported examples provided by the survey and the interviews point to specific improvements made in teaching practice.

A statistically significant relationship was found between the variables of transformation of practice and program model. The participants in the fully online program were more likely than the distance model participants to say they had made changes in their teaching practice as a result of the induction program. As previously stated, the only difference between the two models was that the distance participants had face-to-face interactions with their reflective coaches. This outcome raises the question of why the difference between the two groups would be greater than chance would suggest. Recent research has shown that online professional development can result in greater levels of active participant engagement (Cho & Rathbun, 2013). Online professional development can also reduce the affect of obstacles, such as lack of time or resources, that impede high-quality professional development (Reeves & Pedulla, 2011). One possible explanation is that the fully online participants seemed to have more interaction with their reflective coaches, although the difference was not statistically significant different. According to the survey data, the fully online participants had a very slightly higher mean (8.64) for frequency of interaction with the reflective coach than the distance participants (8.38). A larger difference was found in the interviews. Table 6.1 shows the reported frequencies of participant-reflective coach interaction by program model type. The fully online participants reported a weekly average frequency of interaction with reflective coaches of 1.2 times per week, whereas the distance participants reported a weekly average of 0.5 per week. Given the evidence supporting the importance of the role of the coach in all aspects of teacher induction, the frequency of those interactions would be worth further study.

Table 6.1   Frequencies of Participant-Coach Interaction by Model

Participant	Program Model	Average Number of Coach Interactions per Week
Adam	Fully Online	1
Benny	Fully Online	2
Cambria	Distance	1
Eva	Fully Online	1
Gwen	Distance	0
Joy	Fully Online	1
Kelley	Fully Online	1
Leslie	Distance	0.5

What are the considerations for future online teacher induction programs regarding course design, implementation, and evaluation based on the findings of this study? (Subquestion 4)

The results of this case study have implications for future versions of online new teacher induction programs. In general, the findings of this case study support the perception that CTI's existing online version of the new teacher induction program is well received by the participants and thought to be of high quality. The results of the UCR study (2016) are a good match for the results of the survey and the interviews of this case study. For example, the interviewees almost universally indicated that their interactions with their coaches were in large part responsible for their level of satisfaction with the program. The survey in this study and the UCR study both support the statements of the interviewees regarding their experiences with their reflective coaches.

Given the high levels of satisfaction amongst participants, other online induction program organizers may find the implementation of the CTI online new teacher induction program interesting. In particular, these results may lead induction programs to examine

how they train, deploy, monitor, and evaluate their reflective coaches. This study indicated that the reflective coach was a significant factor to the success of the CTI online new teacher induction program – true whether the coaching took place virtually or face-to-face. With only one exception, participants who indicated high program satisfaction also indicated high satisfaction with their reflective coach. Adam commented that, "My reflective coach has been fantastic. She's been a mentor since my first day here on this campus. She's been generous with her time." Leslie added, "We always check in every day, see how each other is doing, answer text messages, emails, whatever, so very supportive." Benny explained that, "Thanks to my coach, it's really been overwhelmingly positive. I can't thank her enough. She's been so accommodating and positive and just helpful."

Research on induction and on teacher professional development supports the value of the role of the reflective coach in CTI's program. Mentoring is a high need for new teachers (Brannon et al., 2009). Coaching from a mentor improves the quality and effectiveness of professional development, and it improves the practice of teachers in the classroom (Joyce & Showers, 1980; Neufeld & Roper, 2003).

This case study may end up being more applicable to other online new teacher induction programs than it has to the specific CTI program. Because the ratings for each measured variable were generally very high, there is little room for improvement in the CTI program. For example, one aspect of the program that was consistently rated as lower than the others was collaboration among participants. The induction facilitators could consider ways to incorporate more collaborative activities into the design of the program. Similarly, the participant ratings for feeling as if they were part of a community

were relatively low. Research supports the benefits for teachers of building a sense of community in an online environment (Rice & Dawley, 2007).

As other online new teacher induction programs become more prevalent, there is much those new programs can learn from this case study. Most significantly, new online induction programs should look carefully at how they incorporate coaching into their online model. The results of this case study were clear in terms of the importance of the role of the reflective coach in the satisfaction, success, transformation of practice, and retention of the participants. Additionally, the survey revealed very high levels of satisfaction for the incorporation of online resources. Other than the dimensions of reflective coach interactions, categories of online resources were rated higher. Specifically, the participants rated the following three dimensions of online resources as "Very Satisfied": (a) online resources organized in the learning management system, (b) websites used as curated resources, and (c) videos used for delivering content.

<u>Practical Implications</u>

This study revealed some practical implications for the CTI new teacher induction program. Some of the important practical implications include one for the reflective coach program component and two for the online learning program component. As discussed, the reflective coaches play a large role in the satisfaction and success of the participant teachers. Because participants in the fully online model reported more interaction with their coaches, the induction program facilitators could look for ways to increase the participant-coach interactions for participants in the distance model. The distance model is characterized by face-to-face participant-coach interaction. The CTI program might consider training the face-to-face coaches on virtual communication

strategies such as email, phone, and videoconferencing as a means to increase the frequency of reflective coaching instances. CTI might also consider including a survey item in each of the end-of-cycle evaluations regarding satisfaction with participant-coach interaction. In this way, the program would be getting formative data throughout the year. That data may lead to earlier intervention with a coach who is not having as much interaction with a participant as is desirable.

Participants rated both collaboration with peers and sense of community as less satisfying than other program components. The program facilitators could consider ways to incorporate more collaborative activities such as designing research projects or lesson planning activities that would allow participants to choose to work with other induction participants. According to Desimone (2009), building a sense of community in teacher professional development has well-established benefits. In order to build a stronger sense of community in the online environment, the CTI program facilitators could increase collaboration opportunities among participants, regularly mix the groupings for collaborative work, provide situations for participants to present their learning, and create opportunities for celebrating the success of participants.

Limitations of the Study

Creswell (2013) identified limitations in research studies are characteristics of a study design that may negatively affect the results of the study or restrict the generalizability of the study. For this study, the researcher chose to examine the CTI online new teacher induction program at RCOE, as opposed to any other online new teacher induction program, as a convenience due to the researcher's employment at RCOE. Further, the researcher used purposive sampling, instead of random sampling, in

selecting interviewees from the potential pool in order to obtain a mix of (a) gender, (b) age, (c) years of teaching experience, (d) current grade levels and subjects taught, and (e) previous experience with online learning. These conditions limit the generalizability of the results beyond the case being studies. Although the CTI program may be representative of the emerging online induction programs across the United States, the results of this study cannot be widely generalized. It is possible that a larger study including participants from multiple other induction programs would produce results that are more generalizable.

According to the CTI program facilitators, some of the participants in CTI's online new teacher induction program were directed to enroll in this program by their school or district. However, other participants specifically chose the online or distance version of the program over the traditional face-to-face model. This study did not investigate the motivations for selecting CTI's online induction program when a choice was available.

Data for this case study was collected prior to the end date of the program. It is possible that the study would have been stronger if the data had been collected after the end of the full program. However, there were two reasons for collecting data in April instead of May, which would have been the final month of the school year. Only the final program cycle was missed. Including that final cycle would likely not have added much to the data collected as that cycle focused on wrapping up the program artifacts. Additionally, the researcher believed that the participating teachers would have been substantially more difficult to contact for surveys and interviews once they were released from work for the summer.

The response rate for the survey was 30%. While that is an acceptable rate, it still left the majority of induction participants silent on substantive issues such as teacher retention.

The study data was triangulated through a survey, interviews, and archival documents. However, each of those data sources relied on self-reporting. The accuracy of the results, specifically the transformation of practice results, may have been improved by including data from classroom observations.

Recommendations for Future Research

This case study yielded several interesting unanticipated questions. For example, two of the statistically significant findings in this study could be seen as pointing toward one demographic group. Females were significantly more likely than males to have higher overall satisfaction with the online induction program. The 33-year-old to 42-year-old age group was found to be significantly more satisfied with the online induction program than any other age group. It makes sense to look more closely at gender and age and investigate how those factors affect success in induction programs. Other research would also seem to point toward the need for further investigation of this concept. For example, Klassen and Chiu (2010) found that although female and males have equal satisfaction ratings, females report higher stress levels. In addition, among new teachers, both genders experienced high levels of professional satisfaction. However, whereas female teachers were more concerned with day-to-day classroom problems, male teachers were more concerned with global and external factors such as compensation, human relations, and the status of the teaching profession (Klassen, 2009). These differences likely fall well beyond the scope of induction. Greenglass and Burke (2003) speculated

the higher work stress of females might originate from gender differences in total workload, accounting for both school tasks and domestic tasks. The authors also suggested females have higher role conflict than males between work and family roles. Further research into online new teacher induction might take a closer look at more demographic characteristics potentially related to gender and age, such as child-rearing and other familial or domestic responsibilities.

Prior to data collection, the researcher held two assumptions about participant program satisfaction that the researcher was unable to confirm through data analyses. The researcher hypothesized that overall program satisfaction would be higher for the distance model group because they had face-to-face meetings with their reflective coaches, whereas the fully online model participants only experienced virtual coaching. The researcher also hypothesized that overall program satisfaction would be higher for the participants with the most previous online learning experience because they would already be familiar with the tools and processes of online learning. In both cases, no significant differences could be found in analyses of the variables. Because online new teacher induction programs are still a new phenomenon, there is need for further investigate how the affordances of online learning relate to the outcomes of induction programs.

Finally, the researcher was surprised to find that age appeared to have a potential affect on teacher retention and teacher transformation of practice. Although the data analyses in this case study did not find statistically significant differences between the variables of age and retention or between the variable of age and transformation of practice, the findings were of interest for potential further study. The researcher found it

interesting that the likelihood of retention in the teaching profession rose along with the age of the induction participants. Similarly, it was of interest that reports of transformation of practice also rose as the participant age rose. Further investigation would be needed to determine more specific data regarding (a) the types and frequencies of changes in practice by age, (b) attitudes toward and perceptions of transformation of practice by age, and (c) what might be some of the induction program factors influencing the transformation of practice at different ages.

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APPENDIX A

Survey Instrument

CTI Online New Teacher Induction Survey

Q1 Thank you for taking the time to respond to this survey regarding the Center for Teacher Innovation's (CTI) Online New Teacher Induction Program at the Riverside County Office of Education. I am a student in the educational technology doctoral program at Boise State University and this survey is part of my dissertation study. I am hoping to learn more about your experience as an online participant in this induction program. Your responses to this survey are important because they will help CTI continue to design the most effective online induction program possible. You were selected to participate in this survey because you are a member of the 2015-16 online or distance learning cohort. Additionally, I am hoping to be able to interview several of you in order to gain an even deeper understanding of your experience in this online program. The last item on this survey asks about your willingness to participate in a follow-up interview.

Thank you,
Dennis Large
Director, Educational Technology
Riverside County Office of Education
dlarge@rcoe.us

Q2 Informed Consent (see Appendix B)
Q3 I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement and possible risks have been explained to my satisfaction. I understand I can withdraw at any time.

○ Yes (begin survey) (1)
○ No (exit survey) (2)

Q4 Please indicate if you are
○ Female (1)
○ Male (2)
○ Prefer not to answer (3)
○ Other (4) _____

Q5 Please indicate your age (two digit number only)

Q6 How many years of teaching experience do you have? (please enter the number of years)

Q7 Please indicate the grade levels that you currently teach (check all that apply)
❏ Kindergarten (1)
❏ 1st grade (2)
❏ 2nd grade (3)
❏ 3rd grade (4)
❏ 4th grade (5)
❏ 5th grade (6)
❏ 6th grade (7)
❏ 7th grade (8)
❏ 8th grade (9)
❏ 9th grade (10)
❏ 10th grade (11)
❏ 11th grade (12)
❏ 12th grade (13)
❏ Other (14) _____

Q8 Please indicate the subject(s) you currently teach (check all that apply)
❏ Multiple subjects (i.e. elementary school) (1)
❏ Special Education (2)
❏ English/Language Arts (3)
❏ Mathematics (4)
❏ Social Studies (5)
❏ Science (6)
❏ Visual/Performing Arts (7)
❏ Physical Education (8)
❏ Technology (9)
❏ Career Technical Education (10)
❏ Other (11) _____

Q9 Please indicate your level of experience with online learning, as a teacher or as a student, prior to this program
○ No previous online learning experience (1)
○ Little previous online learning experience (2)
○ Much previous online learning experience (3)

Q10 Please select the day and time of your regularly attended synchronous Cycle Overview sessions (Blackboard).
○ YR1 Online Mondays 4:00pm - 5:00pm (1)
○ YR2/ECO Online Mondays 6:00pm - 7:00pm (2)
○ YR1 Distance Tuesdays 3:30pm - 4:300pm (3)
○ YR2/ECO Distance Tuesdays 4:30pm - 5:30pm (4)

❍ YR2/ECO Tuesdays 5:30pm - 6:30pm (5)
❍ YR2/ECO Online Wednesdays 3:30pm - 4:30pm (6)
❍ YR1 Online Wednesdays 5:30pm - 6:30pm (7)
❍ YR2/ECO Distance Thursdays 4:30pm - 5:30pm (8)
❍ YR1 Distance Thursdays 4:30pm - 5:30pm (9)
❍ Don't know (10)

Q11 Please rate the level of satisfaction with each of the following instructor strategies used during this course. **Rate from 0-10**.

	Very Dissatisfied (0)	(1)	(2)	(3)	(4)	(5)	(6)	(87	(8)	(9)	Very Satisfied (10)
Synchronous (live) sessions through Blackboard Collaborate (1)	○	○	○	○	○	○	○	○	○	○	○
Organization of resources in the learning management system (2)	○	○	○	○	○	○	○	○	○	○	○
Screencast video tutorials of the facilitator(s) delivering content (3)	○	○	○	○	○	○	○	○	○	○	○
Videos (from YouTube or other sources) used for delivering content (4)	○	○	○	○	○	○	○	○	○	○	○
Collaborative Google Slides (Cycle 5) (5)	○	○	○	○	○	○	○	○	○	○	○
Blog (Cycle 3) (6)	○	○	○	○	○	○	○	○	○	○	○
Creation of products using Web tools (i.e. Google Docs, Google Forms, Google Slides, multimedia presentation) (7)	○	○	○	○	○	○	○	○	○	○	○
Websites used as curated resources (8)	○	○	○	○	○	○	○	○	○	○	○
Collaboration on tasks with other participants (i.e. Google Docs - Cycle 2) (9)	○	○	○	○	○	○	○	○	○	○	○
Reflections (10)	○	○	○	○	○	○	○	○	○	○	○
Email exchanges with facilitator(s) (11)	○	○	○	○	○	○	○	○	○	○	○
Email exchanges with reflective coaches (12)	○	○	○	○	○	○	○	○	○	○	○
Virtual meetings with reflective coaches (13)	○	○	○	○	○	○	○	○	○	○	○

Q12 Please rate the level of impact that each of the following instructor strategies used during this course has had on your own learning.

	No Impact (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	High Impact (11)
Synchronous (live) sessions through Blackboard Collaborate (1)	○	○	○	○	○	○	○	○	○	○	○
Organization of resources in the learning management system (2)	○	○	○	○	○	○	○	○	○	○	○
Screencast video tutorials of the facilitator(s) delivering content (3)	○	○	○	○	○	○	○	○	○	○	○
Videos (from YouTube or other sources) used for delivering content (4)	○	○	○	○	○	○	○	○	○	○	○
Collaborative Google Slides (Cycle 5) (5)	○	○	○	○	○	○	○	○	○	○	○
Blog (Cycle 3) (6)	○	○	○	○	○	○	○	○	○	○	○
Creation of products using Web tools (i.e. Google Docs, Google Forms, Google Slides, multimedia presentation) (7)	○	○	○	○	○	○	○	○	○	○	○
Websites used as curated resources (8)	○	○	○	○	○	○	○	○	○	○	○
Collaboration on tasks with other participants (i.e. Google Docs - Cycle 2) (9)	○	○	○	○	○	○	○	○	○	○	○
Reflections (10)	○	○	○	○	○	○	○	○	○	○	○
Email exchanges with facilitator(s) (11)	○	○	○	○	○	○	○	○	○	○	○
Email exchanges with reflective coaches (12)	○	○	○	○	○	○	○	○	○	○	○
Virtual meetings with reflective coaches (13)	○	○	○	○	○	○	○	○	○	○	○

Q13 Please rate the level of impact each of the following instructor strategies used during this course has had on your own classroom teaching.

	No impact (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	High Impact (11)
Synchronous (live) sessions through Blackboard Collaborate (1)	○	○	○	○	○	○	○	○	○	○	○
Organization of resources in the learning management system (2)	○	○	○	○	○	○	○	○	○	○	○
Screencast video tutorials of the facilitator(s) delivering content (3)	○	○	○	○	○	○	○	○	○	○	○
Videos (from YouTube or other sources) used for delivering content (4)	○	○	○	○	○	○	○	○	○	○	○
Collaborative Google Slides (Cycle 5) (5)	○	○	○	○	○	○	○	○	○	○	○
Blog (Cycle 3) (6)	○	○	○	○	○	○	○	○	○	○	○
Creation of products using Web tools (i.e. Google Docs, Google Forms, Google Slides, multimedia presentation) (7)	○	○	○	○	○	○	○	○	○	○	○
Websites used as curated resources (8)	○	○	○	○	○	○	○	○	○	○	○
Collaboration on tasks with other participants (i.e. Google Docs - Cycle 2) (9)	○	○	○	○	○	○	○	○	○	○	○
Reflections (10)	○	○	○	○	○	○	○	○	○	○	○
Email exchanges with facilitator(s) (11)	○	○	○	○	○	○	○	○	○	○	○
Email exchanges with reflective coaches (12)	○	○	○	○	○	○	○	○	○	○	○
Virtual meetings with reflective coaches (13)	○	○	○	○	○	○	○	○	○	○	○

Q14 During your Online Induction experience so far:

	Never (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	Always (11)
A facilitator was available (1)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
I interacted with a facilitator (2)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
A reflective coach was available (3)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
I interacted with a reflective coach (4)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
I felt I was part of an online community (5)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
The online community supported my learning (6)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Technical support was available (7)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
I needed and used technical support (8)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
Assessment of my learning occurred (9)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
I created or modified lessons for my classroom based on my learning in this course (10)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯
There was positive impact on my own teaching (11)	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Q15 Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	Strongly Agree (11)
I was actively involved in the learning. (1)	○	○	○	○	○	○	○	○	○	○	○
The learning was applicable to my work. (2)	○	○	○	○	○	○	○	○	○	○	○
The activities were meaningful for me. (3)	○	○	○	○	○	○	○	○	○	○	○
I received sufficient feedback. (4)	○	○	○	○	○	○	○	○	○	○	○
I felt supported by the program staff. (5)	○	○	○	○	○	○	○	○	○	○	○
I had opportunities to work independently. (6)	○	○	○	○	○	○	○	○	○	○	○
The goals of the program aligned with my goals. (7)	○	○	○	○	○	○	○	○	○	○	○
My experience as an educator was valued. (8)	○	○	○	○	○	○	○	○	○	○	○
I was given responsibility for my own learning. (9)	○	○	○	○	○	○	○	○	○	○	○

Q16 As a result of my Online Induction experience so far:

	Stayed the same (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	Improved Greatly (11)
My teaching skills (1)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
My range of instructional strategies used (2)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
My technology skills (3)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Student collaboration in my classroom (4)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
My ability to assess student learning (5)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
My application of technology in planning for instruction (6)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
My ability to implement student-to-student interactions (7)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Q17 As a result of my Online Induction experience so far, I am:
❍ Less likely to remain in the teaching profession next year (1)
❍ Neither more nor less likely to remain in the teaching profession next year (2)
❍ More likely to remain in the teaching profession next year (3)

Q18 Please indicate the extent to which you agree or disagree with each of the following statements regarding the goals of the Online Induction program.

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	Strongly Agree (11)
I was provided a flexible, supportive, and individualized induction experience. (1)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
I was supported in improving instructional practices to positively affect student learning. (2)	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Q19 Please rate your overall level of satisfaction with the Online Induction program
- ○ Very dissatisfied (1)
- ○ Moderately dissatisfied (2)
- ○ Neither satisfied nor dissatisfied (3)
- ○ Moderately satisfied (4)
- ○ Very satisfied (5)

Q20 At this point, are you happy that you chose to do this program online?
- ○ Yes (1)
- ○ No (2)
- ○ Unsure (3)

Q21 Please add any additional comments you may have regarding your experience with the online new teacher induction program.

Q22 Can we contact you for a follow-up interview? Interviews take approximately 30 minutes. We can meet at your school site or we can do the interview online.
- ○ Yes (1)
- ○ No (2)

If No Is Selected, Then Skip To End of Survey

Q23 Please provide your name and contact information in order to set up an interview. This demographic information will not be used in connection with data gathered earlier in this survey.

First Name (1)
Last Name (2)
Email Address (3)
Contact phone (4)
District of Employment (5)
School (6)

APPENDIX B

Outline of New Teacher Induction Program Cycles of Inquiry

Cycle	General Description	Major Assignments
Cycle 1: Building Community to Support Learning	This cycle helps teachers in developing a positive class culture. That culture begins with knowing your students, reaching out to their families and creating a safe, structured learning environment.	• Participate in online synchronous sessions • Participate in discussions • Implement a change in classroom practice • Reflect on change in blog • Connect with Reflective coach online • Collaborate with peers on curating digital resources
Cycle 2: Effective Management: Student Perception and Engagement	Cycle 2 investigates effective management starting with building relationships and demonstrating genuine care and concern for every child. This is sustained through the development of relationships and the challenge of authentic engagement.	• Participate in online synchronous sessions • Participate in discussions • Administer online student perception survey, analyze results, post in a Google doc • Create professional learning plan (PLP) • Online reflection on PLP • Connect with Reflective coach online
Cycle 3: Planning and Analyzing Student Learning	In this cycle, teachers learn that planning and analyzing student learning begins with determining which diagnostic, formative, and summative assessments best align to learning goals. Teachers will focus on refining their expertise in using a variety of assessments to plan and adjust student learning.	• Participate in online synchronous sessions • Participate in discussions • Share one of your existing lesson plans online • Create a new learning opportunity based on a specific Common Core Standard, include a student assessment • Analyze the assessment data and make a change to the lesson • Teach the enhanced lesson • Reflect on the lesson iterations • Connect with Reflective coach online
Cycle 4: Approaches to Instructional	Cycle 4 teaches that approaches to instructional design begins with	• Participate in online synchronous sessions • Participate in discussions

Design	determining what new learning needs to occur and which instructional design best aligns to the learning outcomes.	• Select a standard an an approach to facilitating the new learning for students and design a learning opportunity based on your choices • Teach the lesson and have it recorded on video • Reflect on the recorded lesson • Connect with Reflective coach online
Cycle 5: Self-Selected Inquiry	Cycle 5 allows for the selection of one of the following topics: • engaging and supporting all students in learning • creating and maintaining effective environments for student learning • understanding and organizing subject matter for student learning • planning instruction and designing learning experiences for all students • assessing students for learning • developing as a professional educator	• Participate in online synchronous sessions • Participate in discussions • Construct a driving question for your inquiry topic and explore the curated digital resources aligned to the topic • Implement a change in practice based on your topic • Reflect on the implemented change • Connect with Reflective coach online
Cycle 6: Differentiating for Success	Cycle 6 prepares teachers to plan learning for ALL students using the nine guiding principles of differentiated instruction, identify and service students with special needs, and increase competence in facilitating differentiated instruction.	• Participate in online synchronous sessions • Participate in discussions • Administer a diagnostic assessment to determine a specific student need • Identify a principle of differentiated instruction to address the specified need • Create a video showing your knowledge of differentiation • Reflect on your evidence video and the results of the diagnostic tool • Connect with Reflective coach

		online
Cycle 7: Strategies for a Successful End of the Year	Cycle 7 focuses on application of strategies and resources for learning through the last days of school, integration of resources for social and emotional closure, and analyzing professional growth by comparing and contrasting pre and post self-assessments.	• Participate in online synchronous sessions • Participate in discussions • Complete a final self-assessment • Synthesize your induction experience using a multimedia presentation tool • Reflect on plan for end-of-year leaning • Connect with Reflective coach online

APPENDIX C

Informed Consent Form

Q2 Informed Consent

Study Title: Teacher Perceptions of the Instructional Practices in an Online New Teacher Induction Program: A Case Study Principal Investigator: Dennis Large, Co-Investigator: Dr. Ross Perkins Sponsor: Riverside County Office of Education Faculty Advisor: Dr. Ross Perkins, rossperkins@boisestate.edu, 208-426-4875   The purpose of this consent form page is to give you the information you will need to understand why this research study is being done and why you are being invited to participate. It will also describe what you will need to do to participate as well as any known risks, inconveniences or discomforts that you may have while participating. You are encouraged you to ask questions at any time. If you decide to participate, you will be asked to sign this form and it will be a record of your agreement to participate. You will be given a copy of this form to keep. Purpose and Background: You are invited to participate in a doctoral dissertation research study to learn more about teachers' perceptions of their experience with an online teacher induction program designed to support first and second year teachers in their classroom instruction. The information gathered will be used to better understand the impact of online instructional strategies and tools on teacher satisfaction with the program and on the transformation (if any) of the participants' own instructional practices. You are being asked to participate because you are currently enrolled in the Center for Teacher Innovation's (CTI), a unit of the Riverside County office of Education (RCOE), online new teacher induction program. Procedures: If you agree to be in the study, you will be asked to participate in an online survey that will take approximately 15 minutes to complete. Some participants will also be asked to participate in a follow-up interview of approximately 30 minutes in length. The interview may be face-to-face or it may be conducted through an online videoconferencing tool. In either case, the interview will be scheduled at your convenience. During the interview, you will be asked about your experience with the online new teacher induction program in general. You will be asked about how some specific instructional strategies and tools might have affected your perceptions of the program and about any potential transformation of your own teaching practices. The interview will be audio-recorded and the researcher may take notes as well.

RISKS: The survey will include a section requesting demographic information. Due to the make-up of the online new teacher induction program's population, the combined answers to these questions may make an individual person identifiable. We will make every effort to protect participants' confidentiality. However, if you are uncomfortable answering any of these questions, you may leave them blank.   In the unlikely event that some of the survey or interview questions make you uncomfortable or upset, you are always free to decline to answer any question or to stop your participation at any time.

BENEFITS There will be no direct benefit to you from participating in this study. However, the information that you provide may help the instructors of CTI's online new teacher induction program better understand the experiences of participating teachers and may help inform future iterations of the program.

EXTENT OF CONFIDENTIALITY Reasonable efforts will be made to keep the personal information in your research record private and confidential. Any identifiable

information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. The members of the research team, and the Boise State University Office of Research Compliance (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants.   Your name will not be used in any written reports or publications which result from this research, unless you have given explicit permission for us to do this. Data will be kept for three years (per federal regulations) after the study is complete and then destroyed.

PAYMENT/COMPENSATION You will not be paid for your participation in this study.

PARTICIPATION IS VOLUNTARY You do not have to be in this study if you do not want to. If you volunteer to be in this study, you may withdraw from it at any time without consequences of any kind or loss of benefits to which you are otherwise entitled. Participation in this study is in no way connected to the requirements of the CTI induction program.

QUESTIONS If you have any questions or concerns about your participation in this study, you should first contact the principal investigator at dlarge@rcoe.us or (951) 826-6382.   If you have questions about your rights as a research participant, you may contact the Boise State University Institutional Review Board (IRB), which is concerned with the protection of volunteers in research projects. You may reach the board office between 8:00 AM and 5:00 PM, Monday through Friday, by calling (208) 426-5401 or by writing: Institutional Review Board, Office of Research Compliance, Boise State University, 1910 University Dr., Boise, ID 83725-1138.

Q3 I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement and possible risks have been explained to my satisfaction. I understand I can withdraw at any time.
❍ Yes (begin survey) (1)
❍ No (exit survey) (2)
If No (exit survey) Is Selected, Then Skip To End of Survey

APPENDIX D

Interview Protocol

My name is Dennis Large. I am recording this interview with _____ on _____

1. Please begin by describing your background and experience in teaching so far.

2. Describe your experience with the RCOE Online Induction program.

3. In what ways did the instructional strategies addressed in the CTI Online Induction program impact your teaching?

    a. Follow-ups:

        i. Strategies included: Synchronous sessions through Blackboard Collaborate, discussion boards, content videos or websites, instructor screencast videos, creating products with web tools, …

        ii. Which instructional strategies were most impactful for you?

        iii. Which instructional strategies were least impactful for you?

4. What changes, if any, to your teaching practices have you made as a result of this course?

    a. Follow-ups:

        i. content?

        ii. instructional practice?

        iii. assessments?

        iv. delivery models?

        v. technology use?

5. Have you felt successful in this program?

    a. If so, what contributed to that feeling of success?

    b. What might help increase the feeling of success?

6. Was your learning in this program applicable and meaningful to your classroom teaching? If so, how?

7. In what ways, if any, did you have control over or input in how you interacted with the program?

8. How would you compare your experience in the CTI Online Induction program with current or past face-to-face professional development programs?

    a. Follow-ups: In what ways was this process:

        i. better, worse, same?

        ii. easier, harder, same?

        iii. more effective, less effective, same?

9. How likely are you to want to continue your teaching career into next year?

    a. What influence, if any, did this program have on that decision?

10. Describe your interaction with the facilitator.

11. Describe your interactions with the reflective coach.

12. Describe your interaction with your peers in the program.

13. Is there anything else you would like to add?

APPENDIX E

Pilot Feedback

- This sentence "You are being asked to participate because you are currently enrolled in the Center for Teacher Innovation's (CTI), a unit of the Riverside County office of Education (RCOE), online new teacher induction program." is awkward - it's something about where the apostrophe is.
- It requires name, email address and phone, school and district so there wasn't much sense of anonymity.
- "Some participants will also be asked to participate in a follow-up interview of approximately 30 minutes in length." You might start that statement with, "If you choose to provide contact information, you may be asked...
- "Please rate your level of satisfaction with the overall Online Induction program" - I'd suggest putting "overall" at the end of the sentence.
- We did, however, have a grade level collaborative opportunity in Cycle 5 via Google Slides, so you might want to ask about that instead of the MIA discussion board.
- The first direction line seems to be missing the word "rate"
- When we use the word facilitator, are we referencing synchronous session facilitator or the program manager. Sometimes they are the same but not always.
- Maybe when referring to "Facilitator" you could follow it with "of the Blackboard synchronous sessions", because I could see where candidates might confuse facilitator which would be Angel, Tiffany, Jaymie, Melissa, Bev, Gwen, and Tonya with program manager which is just Angel and Tonya.
- Took the survey on my phone just to see. Very easy to navigate even on that platform.
- Otherwise it was easy to use. I took it on my iPad.
- The questions look like exactly what we will want to know.
- The informed consent is, in my opinion, unnecessarily elaborate. However, there may be little you can do about that.
- Experience w/online learning – is this as a teacher or student or both?
- Impact Items – I don't think the "neutral" response option fits on a nothing-to-all type of scale.
- Which of the following you found to be true section. The "which" kind of suggests pick one, but this is a check all. These questions I think would work well with Likert-type response options – Strongly Agree to Strongly Disagree. For example, "Please indicate the extent to which you agree or disagree with each of the following statements."

- The key dependent variables fine the way they are. However, I would prefer to use 0-to-10 scales on these. I would probably use them on the others variables as well. This would allow you to use more powerful statistical techniques in general. In particular, it would allow you to do regression analyses on those key DVs to assess the relative independent importance of the factors you think might be affecting them.

APPENDIX F

IRB Approval Letter

BOISE STATE UNIVERSITY
RESEARCH AND ECONOMIC DEVELOPMENT

Date: March 09, 2016

To: Dennis Large   cc: Ross Perkins

From: Social & Behavioral Insitutional Review Board (SB-IRB)
c/o Office of Research Compliance (ORC)

Subject: SB-IRB Notification of Approval - Original - 104-SB16-041
Teacher Perceptions of the Instructional Practices in an Online New Teacher Induction Program: A Case Study

The Boise State University IRB has approved your protocol submission. Your protocol is in compliance with this institution's Federal Wide Assurance (#0000097) and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Protocol Number: 104-SB16-041	Received: 2/19/2016	Review: Expedited
Expires: 3/8/2017	Approved: 3/9/2016	Category: 7

Your approved protocol is effective until 3/8/2017. To remain open, your protocol must be renewed on an annual basis and cannot be renewed beyond 3/8/2019. For the activities to continue beyond 3/8/2019, a new protocol application must be submitted.

ORC will notify you of the protocol's upcoming expiration roughly 30 days prior to 3/8/2017. You, as the PI, have the primary responsibility to ensure any forms are submitted in a timely manner for the approved activities to continue. If the protocol is not renewed before 3/8/2017, the protocol will be closed. If you wish to continue the activities after the protocol is closed, you must submit a new protocol application for SB-IRB review and approval.

You must notify the SB-IRB of any additions or changes to your approved protocol using a Modification Form. The SB-IRB must review and approve the modifications before they can begin. When your activities are complete or discontinued, please submit a Final Report. An executive summary or other documents with the results of the research may be included.

All forms are available on the ORC website at http://goo.gl/D2FYTV

Please direct any questions or concerns to ORC at 426-5401 or humansubjects@boisestate.edu.

Thank you and good luck with your research.

Mary E. Pritchard

Dr. Mary Pritchard
Chair
Boise State University Social & Behavioral Insitutional Review Board

1910 University Drive Boise, Idaho 83725-1139
Phone (208) 426-5401   orc@boisestate.edu
This letter is an electronic communication from Boise State University