Increasing Mentoring Skills of Cooperating Teachers

to Enhance Support for Pre-service Teacher Candidates

by

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ABSTRACT

Mentor teachers have a significant impact on pre-service teachers. Unfortunately, mentors are often underprepared for their role, and thus, the potential learning from a student teaching experience is not maximized. Mary Lou Fulton Teachers College at Arizona State University provides training to mentors who host pre-service teachers during their student teaching experience. Training is delivered in two formats: online prior to the start of the semester and face-to-face each month throughout the semester. This action research study looked at how training contributes to mentor understanding and actions in supporting teacher candidates and how mentor support impacts teacher candidate performance. The study included two mentor/teacher candidate dyads and one university site coordinator. Qualitative and quantitative data were collected from a variety of sources including observations of mentor trainings, teacher candidate lessons, and coaching conversations. Additional data sources included semi-structured interviews with mentors, teacher candidates, and the site coordinator. Analysis of data found that training may contribute to mentor understanding, but other factors matter too. The data also indicated that current training is insufficient at producing all desired mentor behaviors. With respect to the ways that mentors support teacher candidates, this study found that mentors play a multifaceted role, provide ongoing feedback, and employ various strategies during coaching conversations. This study found mentors help teacher candidates see their performance through the eyes of an experienced educator. Modeling and coaching helped teacher candidates improve. This study also suggests a positive, professional relationship between mentor/mentee and certain teacher candidate characteristics such as openness to feedback facilitate learning from a mentor.

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DEDICATION

I could not have completed this doctoral journey without the unwavering support of my family and friends. I am fortunate to have such a strong network of support.

To my husband, I don't know where to begin to thank you for all you have done these last three years. Your patience, understanding, and willingness to step up have allowed me to pursue this opportunity to learn and grow. You took on all the mundane responsibilities that would have made this time overwhelmingly stressful and never once allowed me to feel guilty about it. You really are one of a kind and I can't imagine my life without you. I love you today and always.

To my parents and siblings, it has always been a source of comfort to know that I can count on you for support no matter what, no matter when. I know how rare a gift this is and how lucky I am to have you all. I would not be where I am today without the love and encouragement I've had from you my entire life.

And to my friends, who are my family, for making sure that I had balance in my life throughout this journey. Girls' nights and dinner parties with all of you kept me sane and reminded me of what's really important in the world.

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GLOSSARY OF TERMS

Mentor teacher- A mentor teacher is an in-service teacher who has more than three years of experience and has demonstrated the ability to improve the academic achievement of the students with whom he/she works.

Performance assessment- The site coordinator formally evaluates teacher candidate performance twice each semester. Site coordinators use eight indicators from the TAP rubric to evaluate proficiency.

Site coordinator- Site coordinators are ASU faculty members assigned to coach and evaluate teacher candidate progress. The National Institute for Excellence in Teaching certifies site coordinators as qualified to evaluate with the TAP rubric (explained below). This involves a four-day training that requires a passing score on a rubric usage test and yearly recertification.

TAP rubric- This is an instructional rubric designed by the National Institute for Excellence in Teaching as part of the TAP System. The rubric was developed to assess practicing teachers in the field. A score of 3 indicates proficient teacher performance. A score of 5 indicates exemplary teacher performance. Mary Lou Fulton Teachers College has adopted this rubric for use in the coaching and evaluation of teacher candidates. Teacher candidates are expected to develop increasing levels of proficiency throughout the teacher preparation program. Scores of 2 (approaching proficiency) are developmentally appropriate and expected during internships and the first semester of student teaching. Scores of 3 (proficient) are expected by the end of student teaching. Teacher candidates in this study were evaluated on seven indicators. The seven indicators include: (1) Standards and Objectives, (2) Presenting Instructional Content, (3)

Activities and Materials (4) Academic Feedback, (5) Teacher Content Knowledge, (6)

Teacher Knowledge of Students, and (7) Managing Student Behavior

Teacher candidate- A teacher candidate is a student in the Mary Lou Fulton Teachers

College who has passed all academic requirements and is approved to enter the final

semesters of the teacher preparation program which includes student teaching.

CHAPTER 1

INTRODUCTION

Stories from the Field

The following composite vignettes were crafted based on the researcher-practitioner's interactions with actual teacher candidates enrolled in the iTeachAZ teacher preparation program at Mary Lou Fulton Teachers College. Composite vignettes have been used by Spalding and Philips (2007) to represent a wide range of examples in the form of a single, fictional presentation. The vignettes below condense stories shared by many students into three profiles that capture common themes in teacher candidate experiences during student teaching. Their stories explain the motivation behind this study.

Eric (term 7 teacher candidate): My mentor teacher is awful. I mean really awful. You know everything you teach us in this class? She does the exact opposite. The kids just do worksheets all day long. She sits at her desk texting the entire time and doesn't even notice if the kids are raising their hands to ask for help, messing around on their cell phones, or sound asleep on their desks. The only time she looks up is if it gets loud. And then she yells at them; I mean really screams at them to be quiet.

Jillian (term 7 teacher candidate): My mentor says the way that we're learning how to write lesson plans at ASU is not realistic. She has been teaching for ten years and is one of the best teachers at this school. When I shared with her the plan I wrote for my performance assessment, she laughed and said, "Do you really think you'll be writing five pages lesson plans for every subject, every day when you're a classroom teacher?"

Her plans for the entire week fit onto one or two pages and I can tell you from being in her class that it works because kids are learning.

Nancy (term 7 teacher candidate): I really like my mentor, but she doesn't really give me feedback that I want and that I need. She shows up right before the students in the morning and then she has to leave right after school to pick up her own kids. The teachers at this school only get a 30-minute planning period every other day. By the time we drop the kids off and make copies or whatever, there isn't really any time to for us to talk. A lot of the days that we are supposed to have a planning period, it gets canceled because the special area teachers are absent. How am I supposed to know what I am doing good or bad if we don't even get a chance to talk about my lessons?

Researcher's History

In order to explain how I became interested in this study of mentor training, I would like to provide a brief account of my own history as an educator. I began my teaching career as a Teach For America corps member in Phoenix, Arizona. Although I had extensive experience working with children- teaching swimming lessons, developing programs for residents of a local children's home, leading literature discussion groups at a juvenile detention center- I did not have formal training as an educator prior to taking responsibility for a classroom full of students in August of 2000. Teach For America is an organization that offers an alternative pathway to teaching for individuals with a bachelor's degree in any field. As a corps member, I completed five weeks of training provided by Teach For America and enrolled in a Masters degree with certification program offered by the College of Education at Arizona State University. Looking back, I do not believe I was prepared for my first year in the classroom. It took me months to

develop an effective management system and a textbook, rather than standards or the needs of my students, drove my lessons. Too much instructional time was lost because I did not have efficient procedures and routines in place. The job was harder than I had expected and there were days when I wanted to quit. I still feel remorse when I think back to the ways I failed my first group of students because I was not fully prepared for the many challenges I faced in the classroom.

With support from my mentor, experience, and additional training, I eventually developed the knowledge and skills that allowed me to meet the needs of my students. My young scholars showed growth on their assessments and I received positive evaluations from administrators and mentors who observed me in action. I loved the work I was doing with students, but realized there were opportunities for me to have a greater impact if I stepped outside my own classroom walls. After my fifth year of teaching, I moved into the role of instructional coach. It was my job to support other teachers in my school in the areas of planning and facilitating student learning. Here was an opportunity to ensure that other beginning teachers had the support they would need to lead their students to successful learning outcomes.

As an instructional coach, my job brought me into the classrooms of my colleagues on a regular basis where I had the opportunity to observe teaching and learning. The number of teachers who were struggling surprised me and I was distraught at how many students were failing to receive the education they deserved. Through co-planning, coaching, and modeled lessons, I was able to help many of these teachers to improve their practice. However, this improvement took a significant amount of time, during which, students in these classrooms fell farther and farther behind. Some of the

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teachers I worked with did not improve, despite their best intentions and my best efforts as a coach. Many contributed to the oft cited statistic of teachers who leave the profession within their first five years (Milgrom-Elcott, 2011). I realized the positive impact that coaching and mentoring could have, but lamented, that in many cases, help was coming too late. On the other hand, in some classrooms at my school, there were excellent teachers. In those classrooms, students were engaged, inspired, and learning. In my mind, it was unjust that not all children had access to teachers equipped to meet their needs.

I continued to coach teachers for five years. Every day I faced the reality of ill-prepared classroom teachers and the consequences this had for students. When I was offered a position at Mary Lou Fulton Teachers College at Arizona State University (ASU) as a clinical instructor partner, I recognized it as an opportunity to help prepare educators at the pre-service level, before they were on their own with the education outcomes of a classroom full of students in their hands. I spent my first year at ASU learning about the college's teacher preparation program. Much of this time was spent working with teacher candidates and their mentors during their student teaching experience. While many colleges of education offer a single semester of student teaching, most students at Mary Lou Fulton Teachers College completed two semesters of student teaching during their final year of the professional program. This increased amount of clinical experience created a situation where mentors played an even greater role in supporting the growth and development of a novice teacher (Bullough & Draper, 2004). In my second year at the college, I was given the opportunity to serve as the course coordinator for all undergraduate field experience courses. In this leadership role

I had the opportunity to meet with many students and hear their concerns about their clinical placements. Many of the criticisms were related to mentor teachers and the lack of support mentors provided. These experiences made me reflect upon our responsibility, as a college, to ensure our students receive the support they need from mentors during their clinical experiences.

Through all of my experiences as an educator, there runs a common theme: mentoring. As a novice classroom teacher, my mentor helped me develop the skills to make it through my first year and gave me the encouragement to continue in the profession. As an instructional coach, I saw how effective mentoring could increase teacher proficiency and help educators become more confident and competent. As a clinical instructor at Mary Lou Fulton Teachers College, I saw how mentors influence the knowledge, skills, and dispositions of pre-service teachers even before they graduate. Indeed, there is great potential in the power of a mentor teacher. This study represents my attempt to address the challenge of ensuring that mentor teachers possess the knowledge and skills to effectively support pre-service teachers in the iTeachAZ teacher preparation program at Arizona State University.

Background

Teachers face many challenges in the classroom. Among these are students from economically disadvantaged families, classrooms with cultural, linguistic, and academic diversity, and pressure from high stakes testing. New teachers vary in terms of the skills, experiences, and preparation they bring with them into the classroom. Those who are underprepared for these challenges are not likely to stay (Gardner, 2005; Hobson, Ashby, Malderez, & Tomlinson, 2009; Levine, 2006). Better-prepared teachers are more than

twice as likely to remain in the classroom (Gardner, 2005). High teacher turnover results in financial costs to districts that must recruit, hire, and train new staff members. There is also a significant cost to student learning when a third of all new teachers leave the profession within three years and half leave by the end of their fifth year (Milgrom-Elcott, 2011). Research shows that student learning increases with teacher experience (Darling-Hammond & Baratz-Snowden, 2007). If better-prepared teachers are more likely to remain in the classroom and teacher retention supports student learning, colleges of education must ensure that graduates are, in fact, prepared for their role.

A lack of well-prepared, highly effective teachers, particularly in economically disadvantaged communities, has been blamed for achievement gaps that exist in our country today (Milgrom-Elcott, 2011). Preparing effective teachers is the work of teacher preparation programs. In recent years, colleges of education have come under a magnifying glass as the public looks to uncover a cause for the failure of K-12 schools. According to a 2010 poll, Americans believe that improving the quality of teaching in our country should be a national priority (Milgrom-Elcott, 2011). In January 2011, the National Council on Teacher Quality (NCTQ) announced plans to rate all teacher preparation programs. They published the results of their study in *U.S. News & World Report*. These reports can influence public opinion and public perceptions can impact colleges. The NCTQ hopes that increased attention will pressure colleges of education to put measures in place to ensure they are producing effective teachers (Dillon & Silva, 2011).

Practice teaching in the field is a key element in many teacher preparation programs. Darling-Hammond and Baratz-Snowden (2007) looked at programs whose

graduates met two criteria: 1) report feeling better prepared than their peers and 2) are highly rated by their employers. They found strong mentoring to be a common element among programs rated most highly. During clinical experiences, expert veterans should supervise teacher candidates. Supervisory support from a mentor should include coaching and modeling effective practice (Darling-Hammond & Baratz-Snowden, 2007). Teacher preparation programs need to evaluate their existing clinical experience programs to ensure high quality mentor support is provided for developing teachers.

Context

This researcher-practitioner's work takes place within the context of the iTeachAZ undergraduate teacher preparation program at Mary Lou Fulton Teachers College at Arizona State University (ASU). For two years, part of the researcher-practitioner's time was spent teaching field experience and student teaching courses for iTeachAZ teacher candidates. The remaining time was spent designing resources and materials to support the teacher preparation program. Responsibilities included course redesign as well as development of training materials for stakeholders at all levels: university faculty, mentors, and teacher candidates. At the time this study began, the researcher-practitioner was coordinating all undergraduate field experience courses. Completion of these courses is a requirement for all of the undergraduate teacher certification programs.

The goal of Mary Lou Fulton Teachers College is to produce highly effective classroom teachers. The teacher preparation program at ASU can be described as "clinically embedded." This means that pre-service teachers spend time in classrooms working directly with PreK-12 students over the course of four semesters. A variety of

program formats are offered to accommodate the diverse needs of students. In the most common program, teacher candidates complete two semesters of internship and two semesters of student teaching. During the two semesters of student teaching, teacher candidates co-teach with a mentor teacher four days a week. Mentor teachers who serve as hosts play a significant role in ensuring a quality learning experience. Teacher candidates spend many hours observing and working alongside their mentor teachers. One survey found that teacher candidates rank student teaching and their cooperating mentor teachers as the greatest influencers on their developing values and beliefs as a teacher; university supervisors, on the other hand, ranked a distant ninth on the list (Goodlad, 1990). Another survey of secondary English teacher candidates found the practices and procedures of the mentor teacher as the factor with the greatest influence (Tighe, 1991). Given the significant impact of mentors, it is important to ensure they are highly effective in their role.

Recently, 31 students enrolled in Arizona State University's teacher preparation program shared their experience with college faculty in a series of meetings hosted by the Student Advisory Council. Meetings were held at three Arizona State University campuses (West, Tempe, and Polytechnic) at a variety of times. Students who were unable to attend meetings in person were invited to share their concerns via email. With regards to clinical experience, the biggest concern was that host teachers lacked mentoring skills and lacked an understanding of the goals and expectations of clinical experience. Students enrolled in this researcher-practitioner's own field experience courses reinforced these concerns in responses on a voluntary, anonymous survey conducted midway through the semester. For example, when asked a series of questions

about the frequency of feedback from mentors, 50% of students (n=8) reported rarely getting useful feedback on lesson planning and 38% reported rarely or never getting useful feedback on lesson delivery and classroom management. Mentor teachers are asked to provide weekly feedback on teacher candidate performance using a college-wide professionalism rubric as well as selected indicators from the TAP instructional rubric. ASU students participating in the advisory council meetings expressed concerns that mentors lacked a sufficient understanding of the TAP and professionalism rubrics needed to complete a fair evaluation. These comments, though anecdotal, suggested that we, as a college, were not sufficiently preparing mentors for their role. One pre-service teacher reported frustration that her mentor was never available to meet to give feedback on her performance in the classroom. Another complained that it was difficult for him to plan and teach the instructional activities required for his ASU courses because his intern placement teacher did not plan lessons in advance. According to college faculty and staff interviewed by this researcher-practitioner, a highly effective mentor is not only an effective classroom teacher who models instructional best practices, but also an effective coach who is able to support the development of a novice educator. The comments above indicated that these conditions were not currently in place; mentors were not all fully aware of ASU course requirements, the goals of clinical experiences, or the mentor role in supporting teacher candidates in meeting learning outcomes. The training innovation and study sought to ameliorate these conditions.

Prior to fall 2011, mentors who supervised student teachers (final-semester seniors who taught in the classroom five days per week for 15 weeks) were required to attend a one-time, half-day training. When the college made changes to the program and

redefined the mentor role, there was a need and opportunity to revise the mentor training to ensure support for teacher candidates in our new program.

Problem Statement

Mentors have an important role with respect to supporting teacher candidates, but many lack a clear understanding of exactly what that job entails. We depend on mentors to help teacher candidates develop the knowledge and skills needed to be effective, reflective practitioners yet did little to ensure they were prepared for this role. The potential for mentoring programs to yield significant positive benefits to new teachers is often not realized due to a failure to ensure that effective mentoring is taking place.

The researcher-practitioner had the opportunity to discuss this topic with several people affiliated with iTeachAZ including teacher candidates, field experience instructors, site coordinators, directors of clinical experiences, and college leadership. As one of the largest teacher preparation programs in the country, Arizona State University has a responsibility to our teacher candidates, and their future students, to ensure mentors have the capacity to support a pre-service teacher with skills in observation, providing on-going feedback, facilitating coaching conversations, and working collaboratively. There was general consensus in defining our problem: mentors who support our Arizona State University pre-service teachers were not adequately prepared for their role.

Innovation

This action researcher proposed an innovative response to address the problem of mentor teachers who lacked the skills necessary to effectively support pre-service teachers. During the fall 2011 semester this researcher practitioner designed and piloted an online training for mentors who hosted a single-semester student teacher. Although

participation was voluntary, over 260 mentors registered. Feedback on participant

evaluations was positive overall. One mentor wrote that the course "was extremely

helpful" and that she planned to "come back and review it occasionally." Participants

appreciated the flexibility of an online training. According to one, "the self-paced

lessons worked well with my busy schedule." The supplemental handouts provided as

part of the training were identified as helpful resources. One mentor wrote, "I liked the

handouts because I could take notes and also will have something to refer to during my

time as a mentor." Mentors appreciated the discussion boards because they found it

"helpful to see what other mentors were doing." Lessons learned from this experience

were used to inform the design of a new training for mentors who hosted teacher

candidates during the senior year residency (SYR).

This new training was implemented as an innovation for SYR mentors who began

hosting a teacher candidate in spring 2012. A four-module, online training was

developed for mentor teachers. The content of this training was designed to prepare

mentors with the knowledge and skills needed to support teacher candidates during their

student teaching experience. The innovation was referred to as the "iTeachAZ Senior

Year Residency Training." The researcher-practitioner built the training using the

Moodle learning management system and housed the training online. The learning

modules addressed the following topics: information about ASU's teacher preparation

program, role definitions for program participants (mentors, teacher candidates,

university supervisors), training on the rubrics used to evaluate a teacher candidate's

level of professionalism and instructional ability, and training on how to coach an adult

learner. The decision to include this content was based on existing literature on

characteristics of effective mentors and feedback from mentors who had completed the fall 2011 pilot training. The training included narrated modules, videos, artifacts, discussion boards, and surveys where mentors could give feedback or suggest other areas of professional development. A detailed description of the logistics for implementing this online innovation is included in the methods section of chapter three.

While the online training was meant to lay an important foundation prior to the start of student teaching, there was a need for on-going mentor training. Site coordinators and Office of Clinical Experience staff found that mentors needed additional information around how to support teacher candidates in a variety of areas including lesson planning, delivering instruction, and providing students with academic feedback. On-going training is supported by earlier studies which suggest mentors benefit from meeting periodically throughout the year (Browne, 1992; Bullough, 2005; Feiman-Nemser & Parker, 1993). The researcher practitioner developed several resources which are available to site coordinators who facilitate these monthly, face-to-face meetings with mentor teachers. Monthly face-to-face meetings are meant to complement the online training and together provide more comprehensive training to mentor teachers. Both are included within the scope of this study.

Purpose of Study and Research Questions

The purpose of this study was to examine how training affects teachers' mentoring behaviors and how mentor teacher support leads to improved learning experiences for teacher candidates. A mixed-methods design was used to answer the following questions:

1. How and to what extent do mentor teachers support pre-service teacher candidates?

2. How and to what extent does mentor training contribute to mentors' understanding of how to support pre-service teacher candidates?

3. How and to what extent does mentor support impact teacher candidate performance?

The results of this practical study can be used to improve existing mentor training and inform the design of additional professional development resources for iTeachAZ mentor teachers.

This dissertation report is organized in five chapters. Chapter one introduced the study by describing the context, problem, and innovation. Chapter two will use existing literature to justify the mentor training and describe the theoretical framework that was used to help analyze the data. Chapter three will include a detailed description of the innovation and research design. It will also include a description of the methods used for collection and analysis of both qualitative and quantitative data. Chapter four will include the results of data analysis. Chapter five will discuss the significance of the results, implications for the field of teacher preparation, and limitations of the current study. Appendices at the end include data collection protocols, instruments, and code sheets.

CHAPTER 2

LITERATURE REVIEW

The previous chapter provided an introduction to the context of this study, problem to be addressed, and mentor training innovation. Chapter two will summarize relevant areas of literature to justify the need for mentor training and the study completed to answer the following three research questions: (1) How and to what extent do mentor teachers support pre-service teacher candidates? (2) How and to what extent does mentor training contribute to mentors' understanding of how to support pre-service teacher candidates? (3) How and to what extent does mentor support impact teacher candidate performance?

Existing literature summarized below will be used to demonstrate the significant role that mentor teachers play in the development of teacher candidates during the clinical experience. The following sections will also describe the characteristics of effective mentors and the benefits of training that includes online and face-to-face components. In addition, chapter two includes a description of adult learning theory as it applies to this study. In sum, this chapter will describe the research that informed this study of the mentor training being used in Arizona State University's teacher preparation program.

Clinical Experience

Clinical experience has been identified as one of the most important elements of a teacher preparation program (Darling-Hammond & Baratz-Snowden, 2007; Kiraz, 2003). A recent survey of 1,800 principals and over 15,000 education school alumni suggests that the number one proposal for improving teacher education is to strike a better balance

between theory and practice by providing opportunities for more, longer, earlier, and better integrated clinical experiences (Levine, 2006).

Program variation. Thirty-five states require at least some amount of clinical experience in order to earn certification (National Research Council [NRC], 2010). The NRC found there is wide variety, however, in terms of how much time is required, how this time is structured, and what accompanying assignments are completed. Wide variation exists within and across programs with respect to qualifications and selection of mentor teachers and expectations for teacher candidates and mentors during the clinical experience (Darling-Hammond & Baratz-Snowden, 2007; Westerman, 1989). Programs range in length from eight to more than thirty weeks. They include anywhere from minimal opportunities to observe best practice to extensive amounts of modeling and guidance from a mentor. A longer clinical experience that gradually increases teacher candidate responsibility and connects to theory produces better qualified, more confident new teachers (Darling-Hammond & Baratz-Snowden, 2007; Gardner, 2005; National Council for the Accreditation of Teacher Education [NCATE], 2010).

Opportunity to connect theory and practice. Clinical experiences provide pre-service teachers with an opportunity to practice new skills and apply what they have learned from their coursework. Teacher candidates sometimes discover a misalignment between what they learn in their courses and what they see in their placements. They may resolve feelings of cognitive dissonance by following in the footsteps of the mentor with whom they spend a significant amount of time (Beebe & Margerison, 1995). Programs that make connections between theory and practice produce teachers who are

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more comfortable in the classroom and better able to apply what they learn in ways that benefit student learning (Darling-Hammond & Baratz-Snowden, 2007).

Opportunity to learn from a master. A review of clinical experience programs by the Education Commission for the States found that a common characteristic of high-quality clinical experiences was strong supervision by well-trained mentor teachers (Allen, 2003). Novices must learn to put what they know into action and do a wide variety of things simultaneously. According to Darling-Hammond & Baratz-Snowden (2007, p. 124) successful clinical experiences include "modeling of good practices by more-expert teachers in which teachers make their thinking visible; frequent opportunities to practice with continuous formative feedback and coaching; multiple opportunities to relate classroom work to university coursework… and structured opportunities to reflect on practice with an eye toward improving it." Teachers develop their skills when they learn, experiment, and reflect on their practice with feedback from a mentor who has more expertise.

Defining the Role of Mentor

Good mentoring results in more competent teachers and an increased likeliness that the teacher will stay in the profession (Gardner, 2005). In many teacher preparation programs, however, the role and requirements of a mentor are unclear (Abell, Dillon, Hopkins, McInerney, & O'Brien, 1995; Beebe & Margerison, 1995; Browne, 1992; Kiraz & Yildirim, 2007; NCATE, 2010). Left with no clear direction, mentors interpret their role in a variety of ways based on their own assumptions or cues from their interns. Bullough (2005) found that teacher candidates are also unclear of the role a mentor will play and what they can expect from that person. Rowley (1999) states that it is

unreasonable to expect mentors to commit to a role that is not clearly defined and suggests mentors be provided with specific descriptions of their roles and responsibilities.

Mentor as model. New teachers develop their own teaching skills by observing mentors who model good practice (Darling-Hammond & Baratz-Snowden, 2007). Placement decisions should be made with the goal of providing the best clinical experience possible. According to Darling-Hammond (2010, p. 216), "it is impossible to teach people how to teach powerfully by asking them to imagine what they have never seen or to suggest they do 'the opposite' of what they have observed." It is important that teacher candidates not be placed with a struggling or burned out veteran teacher in hopes that the teacher candidate will provide needed classroom support (Beebe & Margerison, 1995). Doing so deprives a developing teacher of opportunities to learn effective practices.

Mentors must be willing to put their own performance on display for mentee observation. Some mentors express feelings of nervousness, insecurity, and inadequacy with regards to being observed by their teacher candidate (Bullough, 2005). These feelings must be overcome, however, as modeling supports the development of the less experienced teacher candidate. We rely on mentors to serve as role models of instructional best practices, but unfortunately, not all mentor teachers possess the skills of an effective classroom teacher (Gardner, 2005; Levine, 2006). "No amount of coursework can, by itself, counteract the powerful experiential lessons that shape what teachers actually do" (Darling-Hammond, 2010, p. 216). Teacher candidates who observe poor models may go on to perpetuate ineffective practices (Cochran-Smith, 1991). For this reason, colleges of education should be certain that mentors are

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competent to serve as the instructional role models that developing teacher candidates need.

In addition to modeling instruction, mentors also serve as role models for how to interact with parents and colleagues. Rowley (1999) studied the qualities common to effective mentors and suggests mentors should be models of continuous learning. They demonstrate this by reflecting on their own practice and seeking out professional development opportunities. Rowley also found that good mentors model optimism. New teachers often struggle at points during their student teaching experience, but are more likely to remain hopeful if mentors share stories of their own challenges and how these were overcome (Rowley, 1999).

The ability to model effective practice is only one part of a mentor's role. Novices benefit when a more experienced mentor teacher is able to demonstrate meta-cognition with regards to effective practices. That is, mentors must be able to explain the thought processes they go through when making decisions about their actions, behaviors, or instruction (Feiman-Nemser & Parker, 1993; Hobson et al., 2009). Mentors who share their way of thinking and process for inquiry make visible and explicit that which is usually invisible and implicit (Feiman-Nemser, 1998). This process supports novices in learning to think like a teacher. Mentors who not only model good practice, but also model the thought process behind it, can help teacher candidates develop greater competency.

Mentor as coach. Rowley (1999) found that effective mentors are committed to the role of mentoring and believe that they are capable of having an important, positive impact on a teacher candidate. Good mentors are accepting of beginning teachers. This

requires empathy and an understanding of the stages of teacher development. Pre-service teachers tend to focus attention initially on themselves (Darling-Hammond & Baratz-Snowden, 2007; Fuller, 1969; Reeves & Kazelskis, 1985). Concerns are about feeling adequate in controlling the classroom and getting positive evaluations from mentors or supervisors. With time and experience, the focus of concern shifts from internal concerns of self to external concerns for student learning. At that point, teachers are concerned with impact and ensuring the needs of children are met (Darling-Hammond & Baratz-Snowden, 2007; Fuller, 1969; Reeves & Kazelskis, 1985). Teachers need different types of support at different points on the developmental continuum. Mentors must be capable of supporting teacher candidates regardless of where they are in their development. Oftentimes mentors lack the knowledge, skills, or dispositions needed to give effective coaching feedback to another adult (Rowley, 1999). Because each teacher candidate is unique, mentors must be able to adjust their coaching style to meet the needs of the teacher they are supporting. This requires an understanding of different personality and communication styles. From a logistical perspective, coaching requires time. Mentoring is facilitated in situations when mentors and mentees have time to meet during the school day (Bullough, 2005; Hobson et al., 2009).

Support from a qualified mentor in the form of coaching and feedback enables a new teacher to learn from the field experience (Darling-Hammond & Baratz-Snowden, 2007; Kiraz & Yildirim, 2007). Effective mentors support learning by observing and interpreting what they see. Mentors can help beginning teachers analyze their performance and connect lesson outcomes to teacher candidate actions. Mentors move novices towards expertise by developing their ability to analyze teaching and expanding

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their knowledge of when to implement a variety of teaching strategies. Beginning teachers grow to value collegial exchange when their practice improves as a result of observation and coaching conversations (Feiman-Nemser & Parker, 1993). Teachers who learn to teach without guidance from an effective mentor may acquire bad habits that are difficult to break (Darling-Hammond & Baratz-Snowden, 2007).

Mentor as professional colleague. In addition to serving as a model and coach, mentors also serve as professional colleagues (Feiman-Nemser & Parker, 1993; Kiraz & Yildirim, 2007). Building a positive relationship grounded in mutual respect and trust results in more positive outcomes. Relationships established to help, rather than evaluate, support the development of trust where struggling novices feel safe seeking the support they need (Abell et al., 1995). Mentors can establish a norm where openly discussing classroom issues with colleagues is considered a valued professional activity.

Collaboration between University and Mentors

The clinical experience provides opportunities to reinforce what teacher candidates learn in their courses (NRC, 2010). Often, however, mentor teachers are unaware of the content of previous or concurrent coursework (Kiraz & Yildirim, 2007). This limits mentor contribution to teacher candidate learning and also creates a feeling that mentors are not university partners, but rather on their own (Feiman-Nemser & Parker, 1993). Mentors play a significant role in forming a new teacher's identity, in particular their understanding of norms, standards, and expectations associated with teaching (Hobson et al., 2009). With respect to instructional practices and teaching philosophies, it is important for the mentor teacher to be aligned with the university program or at least flexible in their opinions so that they can validate the training teacher

candidates receive through their coursework (Hertzog, 1995). Mentors, who maintain

that their way of teaching is best, may undermine the knowledge teacher candidates gain

from their coursework (Browne, 1992; Hobson et al., 2009). Cooperation between the

mentor and teacher education institution supports candidates in applying theory to real

classroom situations (Kiraz, 2003; Kiraz & Yildirim, 2007). Research on field

experience suggests that programs that link clinical experience with the study of theory in

the classroom may be more effective than those that fail to make the connections

(Browne, 1992; Darling-Hammond & Baratz-Snowden, 2007; Gardner, 2005; NCATE,

2010).

Although communication between instructors at the university and mentors in

schools is important, it often does not occur until teacher candidates begin their student

teaching experience and is minimal at best (Beebe & Margerison, 1995). The university

and mentor should collaborate and communicate with one another early and often as

partners who share responsibility for preparing the next generation of teachers. When

there is no collaboration, teacher candidates are negatively affected (Kiraz, 2003).

Universities should clearly articulate the objectives of the field experience to mentors

(Kiraz & Yildirim, 2007). Hobson et al. (2009) support this and recommend the goals of

both the mentee and the mentoring relationship be made clear upfront and revisited

throughout the experience. Browne (1992) described the successful efforts of one teacher

preparation program that brought mentor teachers together periodically to share concerns

and offer suggestions. The meeting led to increased communication among mentors and

between school-based mentors and university faculty. University faculty invited mentors

to participate in methods courses. Teachers and students reported improvements in the

quality of their experience. Specifically, Browne (1992) reports an increased

understanding on both sides, a decrease in theory-practice dissonance for students, and an

increase in quality and quantity of feedback from mentors.

Mentor Training

In a review of mentoring practices in the United States, England, and China,

Feiman-Nemser (1998) found that the most effective mentors did not learn to mentor on

their own. Nor did effective programs rely on short-term, one-time mentor training

(Feiman-Nemser, 1998). Mentor training, if it is even offered by colleges in the United

States, is inconsistent in terms of quality. Training is often focused, "on administrative

aspects of the role [rather than] developing mentors' ability to support and facilitate

mentees' professional learning; often [trainings] are not compulsory, and are poorly

attended" (Hobson et al., 2009, p. 214). Hobson et al. recommend mentor preparation be

a priority for groups invested in the support and training of new teachers. Beebe &

Margerison (1995) examined the experiences of mentor teachers and suggest we can

enhance the clinical experience by providing mentor teachers with examples of effective

mentoring practices.

The associate dean for teacher education at Teachers College, Columbia

University, A. Lin Goodwin, explains that there is a specific skill set mentors must

possess in order to do their job effectively. According to Goodwin, "you can be a great

teacher, but working with an adult and trying to articulate what you know to an adult

learner- that is a separate process completely" (Sawchuk, 2011). A mentor's experience

as an effective teacher is necessary, but not sufficient. Both NCATE and NCTQ suggest

training mentor teachers to ensure they possess the skills needed to support a novice

teacher (Dillon & Silva, 2011; NCATE, 2010). Studies have found mentors more likely to use active listening, demonstrate improved communication, and implement a variety of teaching models if they have participated in some type of mentor preparation training (Browne, 1992; Hobson et al., 2009). Similarly, Feiman-Nemser & Parker (1993) attribute ineffective mentoring to poor training of mentors. According to Rowley (1999), good programs require mentors to participate in formal training. Prospective mentors who are unwilling to participate in such a training may be demonstrating a lack of commitment to the role (NCATE, 2010). Despite the recommendations for training suggested by the previously mentioned studies, Hobson et al. (2009, p. 212) report, "the evidence base on the actual effects of different kinds of mentor preparation and support is generally rather sparse and underdeveloped."

Structure of mentor training. Bullough (2005) suggests training cohorts of mentors together and proposes the use of affinity groups. This structure would allow mentors to support each other and engage in professional dialogue around their shared domain. A supportive, collaborative environment could overcome feelings of isolation expressed by some mentors (Bullough, 2005). Previous studies suggest that one-time, up-front training may not be sufficient; mentors benefit from meeting periodically throughout the year (Browne, 1992; Bullough, 2005; Feiman-Nemser & Parker, 1993). Because the role of mentor is so complex, NCATE (2010) suggests providing a coach for mentors. The coach would be responsible for providing on-going support and professional development to mentor teachers.

Content of mentor training. Mentor training must accomplish several things including: describing the goals of clinical experience, clarifying the requirements and

expectations of teacher candidates at different points in their program, defining the role of mentor, and preparing mentors with the knowledge and skills needed to fulfill their role (Browne, 1992).

In order to understand the challenges new teachers are experiencing, mentors should have an understanding of the stages of teacher development (Rowley, 1999). Hobson et al. (2009) found that mentoring is most effective when mentors recognize the fact that teacher candidates are adult learners and provide support that is appropriate for their current developmental stage.

Mentors should be aware of the importance of establishing a relationship built on mutual respect and trust. The teacher candidate's perceptions of a mentor's knowledge, experience, and ability to mentor influence the potential benefits of this mentoring relationship (Abell et al., 1995). Interns who lack professional respect for their mentor find the support less useful. At the other end of the spectrum, interns who perceive their mentor as possessing relevant experience and knowledge view the relationship as more beneficial.

Mentors must be willing to release some control and provide teacher candidates with opportunities to teach (Hobson et al., 2009). While novices are teaching, mentors must be actively observing. Training should equip mentors with the knowledge, skills, and dispositions to give effective feedback to a colleague. Mentors should know how to conduct observations and coaching conversations that are grounded in data, not opinions or values (Rowley, 1999). Similarly, Kiraz & Yildirim (2007) suggest mentors must possess supervisory strategies in order to be effective coaches. One reason mentors may fail to provide feedback to their teacher candidates is that they lack the skills to engage in

professional conversations about their practice (Louis, Kruse, & Raywid, 1996). Mentors need guidance to know when to intervene and when to step back and allow the intern to learn from mistakes (Abell et al., 1995).

Mentors need training in order to conduct effective pre- and post-lesson conferences (Browne, 1992). To maximize the observation experience, mentors and mentees should identify the observation focus during a pre-conference. A lesson post-conference should be non-threatening, focused on specific elements of the lesson, and provide an opportunity for the mentee to participate in a reflective dialogue (Hobson et al., 2009). Mentors must recognize that effective coaching is an on-going process that takes time.

Mentors must also support the emotional and psychological needs of a new teacher. They do so by being "supportive, approachable, non-judgmental and trustworthy, [by having] a positive demeanor, and good listening skills and the ability to empathize, as well as the willingness and ability to take an interest in beginning teachers' work and lives" (Hobson et al., 2009, p. 212). A lack of this type of support contributed to teacher candidates withdrawing from some preparation programs (Hobson et al., 2006). Mentors may benefit from training in areas such as counseling, communication, and interpersonal skills (Browne, 1992). An actual desire to be a mentor and commitment to the work required enhances the chances for a successful relationship (Hobson et al., 2009). This necessitates a clear, upfront explanation of the scope of work expected of a mentor teacher.

Online Mentor Training

The college recognizes the need for excellent mentors in order to ensure the best possible support for teacher candidates during their clinical experience. To ensure mentors are adequately prepared to support teacher candidates, the literature suggests Mary Lou Fulton Teachers College at Arizona State University provide quality upfront training and on-going support. The approach taken by this researcher-practitioner was to offer upfront training through online modules and on-going training through face-to-face meetings. Online professional development is enhanced when connected with ongoing, face-to-face professional development opportunities (Treacy, Kleiman, & Peterson, 2002). Professional development can help mentors successfully fulfill their role in the teacher preparation program (Westerman, 1989).

In designing online training materials, instructors need to remove nonessential information in order to balance essential course content with limited time for learning activities (Simonson, Smaldino, Albright, & Zvacek, 2012). The online mentor training provided as this researcher-practitioner's innovation included: information about ASU's teacher preparation program (program requirements, role definitions for mentors/teacher candidate/university supervisors), training on the tools used to evaluate a teacher candidate's level of professionalism and instructional ability (orientation to the professionalism and TAP rubrics), and training on how to coach an adult learner (stages of teacher development, coaching strategies). The decision to include this content was based on existing literature on characteristics of effective mentors and feedback from mentors who completed a pilot version of this online training offered the previous semester. The goal of this innovation was to set mentors and teacher candidates up for a

successful start from the beginning of the student teaching experience. The online

training is not intended to teach everything a mentor needs to know; rather it lays an

important foundation of knowledge that is built upon throughout the year during follow-

up, in-person meetings.

The researcher-practitioner built the training course using Moodle, an online

learning management system. In addition to narrated modules for delivering content,

there are discussion boards where participants can interact with each other, videos to

support content, handouts with additional information, and a survey where mentors give

feedback or suggest other topics of professional development needed. Researchers have

found that online professional development that combines interactive activities, relevant

readings, and facilitated, collaborative discussions is well-suited for educators (Treacy et

al., 2002). An online format for this innovation offers many benefits that are supported

by existing research.

Convenient. The asynchronous, online format helps overcome barriers related to

time and distance (Simonson et al., 2012; Treacy et al., 2002). School districts that

partner with Mary Lou Fulton Teachers College follow different academic calendars.

Consequently, in order to complete the training prior to the first day of school, some

mentors will access the training as early as May, and others as late as July. The online

format allows the college to offer the training during multiple windows of time as

needed. Participants work at their own pace, logging-on to complete the training

modules at a time that is personally convenient. The on-line format also provides

convenient access to the training for mentors serving in rural districts located far from an

ASU campus.

Flexible and versatile. The on-line format of this training makes it easy to update materials as the college adopts new program changes, thus ensuring participants always have access to the most current information. With a small investment of resources, multiple versions of the course were created to address participants at different points in the teacher preparation program (i.e. junior year interns, senior year teacher candidates). Similarly variations of the training could be created to meet the unique needs of different degree programs (early childhood, elementary, special education, secondary).

The online mentor training followed a linear-design, but allowed for some level of learner-self-direction (Simonson et al., 2012). Content was divided into four modules, each covering a different topic. Although the modules were presented sequentially on the course home page, participants were not blocked from completing modules in the order of their choosing. Returning mentors could choose to skip modules that they had completed previously and only complete those that had been updated recently.

Sustainable. Online modules ensure more consistent delivery of content than can be guaranteed when multiple facilitators are hired to deliver in-person trainings. Participants retain access to the on-line content after completing the training and can refer back to it as needed throughout the semester. The modules, once created, can be reused or modified to reflect program changes. One of the benefits of online professional development is that once developed, it can be made available to an infinite number of users for an unlimited amount of time (NRC, 2007). This benefit makes the training scalable and sustainable with minimal cost to the college. A single instructor can facilitate multiple sections of the training simultaneously if needed. This person's role is

to field questions, facilitate dialogue on discussion boards, and track course completion. An additional staff person manages course registration and provides technical assistance. An environmental sustainability benefit exists as well, since training handouts and certificates can be delivered in electronic format and will no longer need to be printed in hard copy.

Creating a community of mentors. The online training forum can create a community among participants, connecting mentors across various sites and preventing feelings of isolation (Treacy et al., 2002). To support the development of personal connections in this online community, participants are invited to complete a profile with a short biography and profile picture. The online community allows mentors to serve as a resource to others and share practices with mentors in distant geographic locations. Mentors often appreciate the opportunity to talk to other mentors about their shared challenges (Feiman-Nemser & Parker, 1993).

With in-person formats, once the training is complete, mentors are typically on their own. With this online format, community interactions via discussion boards or direct messaging can continue throughout the semester giving mentors access to a support community when new challenges arise. Online, asynchronous interactions give mentors time to reflect on issues and participate in an ongoing exchange. The content of the training helps provide a common language for mentors to use when discussing the shared practice. Discussion boards also serve as a written history of ideas that are shared. This living, growing artifact serves as a resource that members can refer to at any time. In this way, the online training course serves as an example of just-in-time learning, available at all times and easily accessible to participants when they need it (Simonson et al., 2012).

Theoretical Orientation

The theoretical framework for this action research study is andragogy, adult learning theory. German educator Alexander Kapp is credited with coining the term andragogy in 1833 (Bedi, 2004; Henschke, 2005). Edward Thorndike made an important contribution to adult learning theory with his 1928 publication, *Adult Learning*, in which he demonstrated that adults actually have the ability to learn (Knowles, 1978). Malcolm Knowles later developed the concept into a theory of adult learning during the 1960's and '70s. He distinguished andragogy from pedagogy, the art and science of teaching children. Andragogy has been used by researchers around the world to study adult learning in a variety of disciplines including vocational training and higher education. Andragogy describes assumptions related to adult learners including: (1) Readiness: Adults are motivated by learning that satisfies their personal needs and interests. (2) Foundation: An adult's accumulated life experiences provide the basis for learning activities. (3) Self-concept: Adults are self-directed, autonomous learners. (4) Orientation: Adults are oriented towards learning that can be applied to solve problems. (5) Motivation: The source of motivation for adults is more often internal than external. (6) Need to know: Adults need to know why the learning is necessary (Beavers, 2009; Bedi, 2004; Chan, 2010; Knowles, 1978; Merriam, 2001; Zmeyov, 1998).

Adult learning theory can be used to understand how and to what extent mentors learn from the training provided. As applied to this study, the researcher-practitioner's hope and hypothesis was that mentor teachers would learn from the online and face-to-face training modules because they were designed with the adult learner in mind. The purpose of the training was clearly stated at the start of the first module- to prepare

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mentor teachers with the knowledge and skills needed to be successful in their roles.

There was an assumed readiness to learn because participants in the training were hosting

a pre-service teacher in their classrooms within weeks of completing the initial training.

The training acknowledges the rich experience that mentors bring to their role by

allowing them to share examples from their own lives. The asynchronous online format

honors the desire of adults to operate as self-directed, autonomous learners by allowing

them to complete the course at their own time, place, and pace. Realistic scenarios

throughout the training allow mentors to immediately apply their new learning to

situations they are likely to encounter in their own roles as mentors. This attention to the

needs of adult learners created an environment that was conducive to meeting the training

objectives.

Adult learning theory can also be used to understand how and to what extent

teacher candidates learn from their mentor teachers. With andragogy, the role of the

teacher is one of a guide or facilitator rather than evaluator or transmitter of content

(Henschke, 2005; Taylor & Kroth, 2009). This definition is aligned with the way the

mentor role is defined by the ASU teacher preparation program in the online training.

Based on self-concept and motivation assumptions related to andragogy, mentors should

allow teacher candidates to self-identify areas for reinforcement and refinement. One

would predict, based on the readiness assumption of adult learning theory, that teacher

candidates would be more receptive to learning from mentors if coaching focused on

areas that satisfied their immediate personal needs or interests as a developing teacher.

As described earlier, the needs of a novice teacher may shift as they gain more experience

and increase their confidence and competence throughout the program (Fuller, 1969). In

addition, finding solutions to problems should be a goal of coaching conversations.

Adult learning theory also suggests that teacher candidates will be more receptive to new

learning if it is connected to their previous learning and/or life experiences. These

principles were built into the mentor training.

Chapter Summary

Chapter two summarized existing literature that describes the important role

mentors play in the development of pre-service teachers. Previous studies have found

mentors to be one of the greatest influences on a new teacher. Given this important role,

an argument was made for ensuring these mentors have adequate training to prepare them

for this important role. Literature on the characteristics of effective mentors was used to

justify the content of the mentor training innovation. The innovation is also supported by

literature on the benefits of online training supported by face-to-face interaction. The

following chapter will describe the design of the research study as well as methods that

were used to collect and analyze data to answer the research questions.

CHAPTER 3

METHODS

The previous two chapters described the need and means for preparing highly effective teachers with evidence from the researcher-practitioner's own personal experience as well as existing literature. These findings, briefly summarized here, provide rationale for this dissertation study. Researchers have found that teachers who are underprepared for the challenges that exist in schools today are not likely to stay in the profession (Gardner, 2005; Hobson, Ashby, Malderez, & Tomlinson, 2009; Levine, 2006). Mentor teachers play a significant role in the development of pre-service teachers (Allen, 2003; Darling-Hammond & Baratz-Snowden, 2007; Gardner, 2005). Multiple studies have concluded that good teacher preparation programs require formal mentor training (Dillon & Silva, 2011; Feiman-Nemser & Parker, 1993; NCATE, 2010; Rowley, 1999). Despite the recommendations for training suggested by the previously mentioned studies, Hobson et al. (2009) reported that there is little existing evidence demonstrating the effects of different types of mentor teacher preparation and support. This study attempts to address this gap in the literature by examining the experience of mentors and teacher candidates as it relates to the mentor training provided by Mary Lou Fulton Teachers College.

This chapter will describe methods that were used to collect data related to the following research questions: (1) How and to what extent do mentor teachers support pre-service teacher candidates? (2) How and to what extent does mentor training contribute to mentors' understanding of how to support pre-service teacher candidates? (3) How and to what extent does mentor support impact teacher candidate performance? The

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chapter begins by outlining the timeline for innovation implementation and data

collection. This is followed by an overview of the mentor training provided by Mary Lou

Fulton Teachers College as part of the teacher preparation program. This training

included two components: the online mentor training innovation developed by this

researcher-practitioner and monthly face-to-face trainings. The remainder of this chapter

will (1) describe and provide justification for using a sequential mixed methods design

for this study, (2) describe the tools and procedures for data collection, and (3) describe

the processes that were used for data analysis.

Study Timeline

This sequential mixed methods study took place over the course of eight months

from May 2013 through December 2013. Table 1 presents a timeline for the study and is

followed by a written description. A more detailed explanation of each data source is

provided in the sections that follow.

Table 1

Study Timeline

Timeline	Event
May 2013	Office of Clinical Experiences sent flyer for online training registration to all mentor teachers
	Registration for online training began
	Session one of "iTeachAZ Online Mentor Training" innovation offered to mentors
June 2013	Registration continued
	Session two of "iTeachAZ Online Mentor Training" innovation offered to mentors

July 2013	Researcher-practitioner identified cohort for participation in study
	Session three of "iTeachAZ Online Mentor Training" innovation offered to mentors
August 2013	Session four of "iTeachAZ Online Mentor Training" innovation offered to mentors
	Researcher-practitioner attended first face-to-face training for mentors, facilitated by site coordinator
	Researcher-practitioner described study and selected participants (mentor-teacher candidate dyads)
September 2013	Researcher-practitioner collected lesson recording and evaluation results from teacher candidates' first performance assessment
	Researcher-practitioner collected first phase of mentor coaching data (observe lesson, observe coaching conversation, interview mentor and teacher candidate)
	Researcher-practitioner attended second face-to-face training for mentors, facilitated by site coordinator
October 2013	Researcher-practitioner collected second phase of mentor coaching data (observe lesson, observe coaching conversation, interview mentor and teacher candidate)
	Researcher-practitioner observed third face-to-face training for mentors, facilitated by site coordinator
November 2013	Researcher-practitioner collected third phase of mentor coaching data (observe lesson, observe coaching conversation, interview mentor and teacher candidate)
December 2013	Researcher-practitioner observed fourth face-to-face training for mentors, facilitated by site coordinator
	Research-practitioner conducted semi-structured interview with site coordinator
	Researcher-practitioner analyzed data

This section provides a more detailed explanation of the information presented in Table 1 above. During month one, the Office of Clinical Experiences sent a flyer to all mentor teachers and registration for the online training innovation began. During months one through four, participants completed the online training. Due to the large number of mentors and teacher candidates in the ASU teacher preparation program, two sections of the Senior Year Residency Online Mentor Training were originally offered in May and June prior to the start of the fall 2013 semester. Two additional sections were later added in July and August to accommodate all participants. The college hired an academic associate to facilitate the online training and provide support to participants. In July, the researcher-practitioner began contacting site coordinators to invite participation in this study. Site coordinators serve as the main point of contact for each district. In addition to supervising teacher candidates, site coordinators are responsible for recruiting mentor teachers and facilitating monthly mentor professional development meetings. During month four of this study, the researcher-practitioner attended the first face-to-face mentor training, which was facilitated by the site coordinator. Face-to-face trainings complement the online training and are the second part of the college effort to support mentor teachers. The rubric used for evaluating monthly mentor trainings can be found in Appendix A. Procedures for recording data and using the rubric will be explained in a later section. At this in-person training, the researcher-practitioner described the study and invited mentors to participate. Information about the study was shared with teacher candidates via email the next day. Once participants gave informed consent, the researcher-practitioner scheduled classroom visits to begin the first phase of data collection. This first phase of data collection for each dyad took place in September and

included a lesson observation (see Appendix B), observation of a coaching conversation after the lesson (see Appendix C), and semi-structured interviews with the mentor and teacher candidate (see Appendices D-E). Data collection procedures will be explained in a later section. In addition to the live observations, a copy of the first formal performance assessment video was collected from each teacher candidate. At the end of September, the researcher-practitioner attended the second face-to-face mentor training. In October a second visit was scheduled to each classroom to collect another set of data as described previously (lesson observation, coaching conversation observation, semi-structured interviews with mentor and teacher candidate). Observation of the third mentor professional development training also took place in October. In the same way, during November, the researcher-practitioner collected a third set of observation and interview data. A fourth, and final, mentor training was observed at the start of December. Data collection concluded with a semi-structured interview with the site coordinator in mid-December (see Appendix F). Preliminary data analysis took place within each phase of the study (see Data Analysis section below). Data collected during the coaching conversation observations helped inform the questions asked during semi-structured interviews with mentors and teacher candidates. Formal analysis of data began during month eight of the study.

Innovation

   Rationale for innovation. Mary Lou Fulton Teachers College at Arizona State University recognizes the need for excellent mentors in order to ensure the best possible support for teacher candidates during their clinical experience. Good mentoring results in more competent teachers and an increased likeliness that the teacher will stay in the

profession (Gardner, 2005). Previous studies have identified characteristics of an effective mentor. These include: the ability to model effective teaching practices as well as the thought processes behind those practices and the ability to coach an adult learner (Cochran-Smith, 1991; Darling-Hammond & Baratz-Snowden, 2007; Feiman-Nemser & Parker, 1993; Hobson et al., 2009; Rowley, 1999). Despite this knowledge of what makes an effective mentor, in many teacher preparation programs the role and requirements of a mentor are unclear (Abell, Dillon, Hopkins, McInerney, & O'Brien, 1995; Beebe & Margerison, 1995; Browne, 1992; Kiraz & Yildirim, 2007; NCATE, 2010). According to Rowley (1999), good teacher preparation programs require mentors to participate in formal training. With this in mind, the researcher-practitioner developed an online training for mentors.

Pilot testing of the online training took place during the Fall 2011 semester. Feedback from participants and faculty members was used to make revisions. Mary Lou Fulton Teachers College now requires all mentors to complete the online training before hosting an ASU teacher candidate for the first time. Returning mentors are encouraged to review the content on an annual basis both as a refresher and also to stay informed of any changes to the teacher preparation program. The goal of this online training innovation is to prepare mentors who support ASU pre-service teachers with critical knowledge and skills needed to be effective in their role. This includes: knowledge of the iTeachAZ program expectations for mentors and teacher candidates, understanding of the co-teaching models to be used throughout the semester, understanding of the formal and informal ways that teacher candidates are evaluated, and strategies for coaching a novice teacher through stages of new teacher development. The online training serves as a

foundation for mentor professional development that continues throughout the year through monthly face-to-face meetings. The face-to-face component of mentor training is described in more detail in a later section of this chapter. Although the focus of this study was the effects of the training on *mentor teachers*, it should be noted that ASU *students* also complete the online training prior to the start of student teaching. The intent of this program requirement is to ensure a common language and common understanding of expectations for both members of the dyad.

Online environment. The researcher-practitioner built the iTeachAZ Senior Year Residency Online Training using Moodle, a free, open-source learning management system (LMS). The course is housed in the Professional Learning Library (PLL). This decision was made in order to ensure quick and easy access to content for mentor teachers. Blackboard, the LMS commonly used by Arizona State University for course management, requires users to have an ASUrite ID to access content. Creating non-student accounts for Blackboard is possible, but takes time and relies on support from other units within the university system. Unlike Blackboard, the PLL allows access for users, such as mentor teachers, who do not have an ASUrite ID. Use of Moodle and the PLL provided a streamlined process for mentors to register, enroll, and access content for the online training. Management of this process takes place within Mary Lou Fulton Teachers College and is not dependent on other groups in the university.

The iTeachAZ Senior Year Residency Online Training is designed for asynchronous, distance learning. This means that participants can access the course from any location at any time. Mentors who completed this training during the past four semesters since the innovation began have expressed their appreciation for this flexibility.

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It is no longer necessary for mentors to drive to an ASU campus, pay for parking, and spend several hours in a face-to-face training as was expected in the past. This offers increased accessibility to mentors who have busy schedules and may not live near an ASU campus. Some drawbacks of the online training include technical challenges faced by mentors who are uncomfortable with an online format or who lack the technology needed (computer with high-speed internet connection) to effectively stream some of the content of the training.

The college offers the online training multiple times leading up to the start of each semester and participants choose the session that best accommodates their schedules. For the fall 2013 semester, there were four sessions from which mentors could choose. The researcher-practitioner, in collaboration with the Office of Clinical Experiences, determined this number based on current college enrollment numbers. Although participants select a specific session for course management purposes, they can continue to access all training materials at any time during their participation in the yearlong student teaching program.

Content of online training. The online training begins with a welcome message and instructions for getting started (see Figure 1). The first activity is a discussion forum where participants introduce themselves. Providing a way for learners to share information about themselves and learn more about each other supports successful learning in an online setting where participants may not otherwise see or hear each other (Simonson et al., 2012). This introductory activity also provides a way for learners to become familiar with the technical process for posting to a discussion forum within this course, a task repeated multiple times throughout the online training. The "Getting

Started" section of the course also includes links to download the free software needed to view the learning modules and supplemental resources.

Figure 1

Screenshot of Online Training Welcome Message and Instructions for Getting Started

Another important factor for success in distance education is easy access to support when learners need it (Simonson et al., 2012). At a visible location on the course homepage, the iTeachAZ Senior Year Residency Online Training includes a link to email the course facilitator. This person fields questions related to content and provides basic technical support. There is also a link to the college Office of Clinical Experiences, another source of support. Feedback from pilot testing of the training during an earlier cycle of research led to the creation of a video tutorial that demonstrates how participants can adjust their personal settings to subscribe or unsubscribe to discussion forum postings. The main section of the course also includes a reminder to complete the training by the session end date and to submit the online training evaluation in order to receive a certificate of completion.

The content of the online course is divided into four modules (see Table 2 and Figure 2) that address the following topics:

1. iTeachAZ overview- key features of ASU's teacher preparation program including requirements for teacher candidates and definitions of participant roles

2. Co-teaching- definition and examples of co-teaching, strategies for building effective relationships and co-planning

3. Teacher candidate evaluation- orientation to the professionalism and TAP rubrics used to evaluate teacher candidate performance

4. Coaching the teacher candidate- information about stages of teacher development and strategies for coaching an adult learner

The researcher-practitioner used existing literature on characteristics of effective mentors and feedback from mentors who completed this online training during the previous four semesters when deciding what content to include. Earlier studies have found that mentors are more likely to demonstrate effective coaching behaviors, such as active listening and improved communication, after participating in some form of mentor training (Browne, 1992; Hobson et al., 2009).

The design of modules one, two, and three of the online training is supported by research around the importance of mentors being aligned with the university program, or at least flexible in their beliefs, in order to validate the training provided to teacher candidates through their coursework (Hertzog, 1995). To this end, the key features of the program were articulated in the first three modules of the online training. These key features include the roles of program participants, explanations of the co-teaching models

that participants are expected to use throughout the semester, and an overview of the ways that teacher candidates are evaluated. Module four of the training was designed to help mentor teachers develop knowledge about the stages of teacher development and coaching skills needed to support a novice educator in progressing through these stages. Rowley (1999) reports that mentors should have an understanding of the stages of teacher development in order to understand the challenges their teacher candidates face. In this module, multiple examples of effective coaching conversations are provided. This is supported by research by Beebe & Margerison (1995) which found that providing mentors with examples of effective mentoring practices enhances the clinical experience. Additional support for the content of this module comes from Browne (1992) who found that mentors need training in order to effectively conduct a pre- or post- lesson conference. To summarize, the contents of the online training were purposefully selected and supported by research about what mentors should know in order to be effective in their role.

In addition to narrated modules for delivering program information and training content, there are discussion boards where participants interact with each other and surveys where mentors can give feedback or suggest other topics for professional development. After completing the four modules, participants complete an online evaluation. This information is used to continually refine the training to better meet the needs of participants.

Table 2

iTeachAZ Senior Year Residency Training Overview

Training Section	Contents
Introductory section	Welcome message
Getting started	Participant introductions via discussion board
	Downloadable word document containing all handouts
	Links to free software needed to access course content (Adobe Flash Player, Adobe Reader)
Module 1: Course Introduction and iTeachAZ Overview	Narrated presentation
Module 2: Co-Teaching	Narrated presentation
	Video of co-teaching models
	Three discussion boards
Module 3: Teacher Candidate Evaluation	Narrated presentation
	Lesson plan and lesson video for evaluation practice
	One discussion board
Module 4: Coaching the Teacher Candidate * *this section completed by mentors only, not teacher candidates*	Narrated presentation
	Six discussion boards
Final Steps	Link to course evaluation
Other Resources	Section links for direct access to sections of the course
	Link to college Office of Clinical Experiences
	Link to course facilitator
	Video explaining how to subscribe/unsubscribe to discussion forum postings

Figure 2

Screenshot of Online Training Homepage

Image: A screenshot of the online training homepage showing course modules with the following text content:

2 Module 1: Course Introduction & iTeachAZ Overview
In order to successfully complete Module 1:
- Click below to watch the "Module 1 Presentation"
- Module length ~ 25 minutes
Note: If you are unable to view the presentation, be sure you have downloaded the required Adobe software listed above. If you need technical assistance, click on the link on the right to email the course facilitator.
Module 1 Presentation
Module 1 Presentation Slides (if you would like to take notes)

3 Module 2: Co-Teaching
In order to successfully complete Module 2:
- Click below to watch the "Module 2 Presentation"
- Post a response in the discussion forums
- Module length ~ 1 hour
Module 2 Presentation
Module 2 Presentation Slides (if you would like to take notes)
Module 2 Discussion Forum #1
Module 2 Discussion Forum #2
Module 2 Discussion Forum #3

4 Module 3: Teacher Candidate Evaluation
In order to successfully complete Module 3:
- Click below to watch the "Module 3 Presentation"
- Module length ~ 1 hour
Module 3 Presentation
Module 3 Presentation Slides (if you would like to take notes)
Module 3 Discussion Forum

5 Module 4: Coaching the Teacher Candidate
Note: This module is required for mentors only.
In order to successfully complete Module 4:
- Click below to watch the "Module 4 Presentation"
- Post a response in at least 3 of the 6 discussion forums below
- Module length ~ 1 hour
Module 4 Presentation
Module 4 Presentation Slides (if you would like to take notes)
Module 4 Discussion Forum #1
Module 4 Discussion Forum #2
Module 4 Discussion Forum #3
Module 4 Discussion Forum #4
Module 4 Discussion Forum #5
Module 4 Discussion Forum #6

6 Final Steps
In order to successfully complete this course:
- Ensure all Modules are complete, including discussion forum posts
- Complete the course evaluation below.
  - Upon completion, participants will receive a certificate for four professional development hours.
  - Teacher candidates will submit a copy of the certificate to Site Coordinators at the start of the semester.
Click here to complete the course evaluation.

7 Resources
ASU Office of Clinical Experiences

Implementation of innovation. The researcher-practitioner identified the need for a course facilitator and defined the roles and responsibilities of this individual. Consequently, the college assigned an academic associate to facilitate the online training. The researcher-practitioner met with this individual to provide an orientation to the course content and format. The facilitator was responsible for responding to discussion board postings, answering email questions from participants, monitoring course evaluations, and sending certificates of completion. This person was also able to answer

basic technical questions. As enrollment in the online training increased over the course

of four semesters, additional support was needed. The college now has one student

worker who assists the facilitator with tracking mentor completion and a second

individual who assists with participant registration and enrollment. The researcher-

practitioner was available as an additional resource to the training facilitator to answer

questions or provide support as needed.

In May, the Office of Clinical Experiences emailed a flyer with information about

the online training to all mentors who would host a teacher candidate during the Senior

Year Residency. Mentors registered for the online training via an electronic Google form

(see Figure 3).

Figure 3

Online Training Registration Google Form

Senior Year Residency Online Training Registration

Please complete the information below to register for the senior year residency online training. The course will take approximately 4 hours to complete. It does not need to be completed in one sitting.
* Required

Role *
○ Mentor teacher
○ Teacher candidate
○ Arizona State University faculty member
○ Other: _____

First name *
(please double check spelling to ensure accurate registration)
_____

Last name *
(please double check spelling to ensure accurate registration)
_____

District *
[ASU Preparatory Academy ▾]

School *
_____

Email address *
_____

Please re-enter your email address *
_____

Phone number *
_____

ORC or IDEAL username
(If you have an ORC or IDEAL account, this is required. Leave blank only if you do not have an ORC or IDEAL username.)
_____

ASURITE ID
(leave blank if you do not have an ASURITE ID)
_____

Course Window *
Select the dates during which you will complete the online training.
[Nov. 30 - Dec. 9, 2012 ▾]

[Submit]

When registering for the online training, participants chose from several different two-week sessions. Setting official session start and end dates helped with managing

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course registration, tracking course completion, and kept class sizes at a level that was manageable for the course facilitator. The course was designed for asynchronous, online learning, which means participants could access content from anywhere at any time. Participants technically enrolled in a specific two-week session, but they maintained access to all training materials for the duration of the yearlong student teaching program. The training is offered at no cost to participants. After completing the course modules, participants submit an online evaluation of the training. Upon receipt of this evaluation, the course facilitator sends a certificate documenting completion of four hours of professional development.

Monthly face-to-face training. The content of the iTeachAZ Senior Year Residency Online Training designed by this researcher-practitioner provided an important foundation for mentor professional development. In addition to the online training, mentors in the iTeachAZ program are expected to attend monthly face-to-face trainings. This is supported by literature which suggests the need for ongoing communication between mentors teachers and the university given their shared responsibility in preparing and supporting these novice educators (Kiraz, 2003). Research by Browne (1992) found that when mentors and university faculty communicate more regularly, there is an increased understanding on both sides, a decrease in theory-practice dissonance for students, and an increase in quantity and quality of mentor feedback to teacher candidates. Mentors benefit from meeting periodically throughout the year (Browne, 1992; Bullough, 2005; Feiman-Nemser & Parker, 1993). The monthly mentor meetings were approximately one hour in length. The site coordinator, who is employed by Mary Lou Fulton Teachers College to support

the cohort, planned and facilitated these monthly meetings. The site coordinator chose the topic for these meetings based on the needs of participants in that district. Trainings were designed to help mentors increase their effectiveness in supporting ASU teacher candidates.

Research Design

Having described the mentor training, which included the online training innovation and monthly face-to-face meetings, the next section will describe the overall design of this research study. An exploratory, sequential, mixed-methods design (see Figure 4) was used to answer the following three research questions: (1) How and to what extent do mentor teachers support pre-service teacher candidates? (2) How and to what extent does mentor training contribute to mentors' understanding of how to support pre-service teacher candidates? (3) How and to what extent does mentor support impact teacher candidate performance?

Figure 4

Research Design: Exploratory, Sequential Mixed Methods
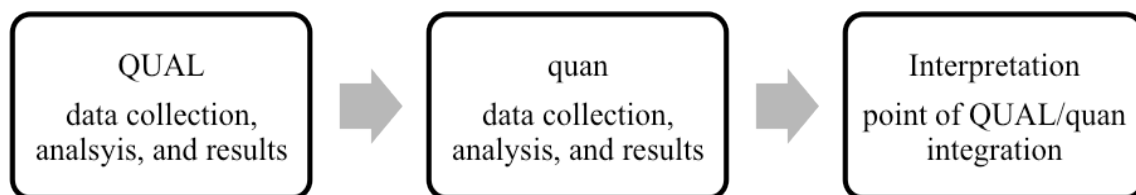
Mixed methods. This study followed a sequential mixed methods design. According to Johnson & Onwuegbuzie (2004), mixed methods research involves a combination of quantitative and qualitative methods in a single study. The epistemological underpinnings for these two methods are different. According to

Creswell (1999), studies that use quantitative methods tend to have a post-positivist assumption characterized by empirical observation and measurement. There is an attempt to identify causal relationships and assign numeric measurements to observations (Creswell, 2009). Qualitative researchers, on the other hand, recognize the complexity of phenomena and subscribe to the belief that truth cannot be known. They believe that reality is subjective in that it relies on the perspective of participants (Creswell, 2009). While some purists argue that qualitative and quantitative methods are so theoretically different that reconciliation or integration is impossible, this researcher-practitioner believes that combining the strengths of both methods enhances the study and expands one's understanding (Johnson & Onwuegbuzie, 2004). Qualitative data sources in this study included observations of coaching conversations (see Appendix C for observation protocol) and semi-structured interviews with mentors, teacher candidates, and the site coordinator (see Appendices D-F for interview protocols). Quantitative data sources in this study included TAP performance assessment scores from teacher candidate lesson observations (see Appendix B for rubric). A second set of quantitative data included scores for the monthly mentor professional development, which was evaluated with a mentor training observation rubric (see Appendix A). Please see Table 3 for a summary of all data sources. Use of multiple methods allows a researcher to answer a broader range of research questions than is possible in a study that is confined to a single approach (Johnson & Onwuegbuzie, 2004). In this case, the researcher-practitioner examined not just how, but also to what extent mentors support pre-service teachers. This study also looked at both how and to what extent mentor support impacted teacher candidate performance.

Several reasons for mixing methods are provided in the literature (Greene, 2007). In this case, mixed methods were used for the purpose of complementarity. Complementarity mixed methods studies are an appropriate way to study complex, multifaceted phenomena such as this one (Greene, 2007). In such studies, the researcher-practitioner looks at different aspects of the phenomenon from a variety of perspectives. Results of one method help clarify the results from another method (Greene, Caracelli, & Graham, 1989; Johnson & Onwuegbuzie, 2004). In this study, qualitative data from coaching conversation observations (see Appendix C) and participant interviews (see Appendices D-F) provided rich detail in the participants' own words about their experience in the iTeachAZ teacher preparation program. Complementarity was purposefully selected instead of triangulation in which the researcher attempts to isolate the actual phenomenon of interest. Complementarity studies, such as this one, examine more complex phenomenon from different perspectives. They integrate qualitative and quantitative data sources to create a rich description of the phenomenon from which it is possible to make stronger claims while at the same time recognizing it is not possible to know everything. This qualitative data was used to help make sense of the numerical data collected through observations (TAP and mentor training observation scores). By including both qualitative and quantitative methodologies, the researcher-practitioner attempted to increase the validity of findings and conduct a more thorough study that yields a deeper understanding of the phenomenon (Greene, 2007; Taylor-Powell & Steele, 1996).

Exploratory design. This study prioritized qualitative methods over quantitative methods and followed an exploratory design (see Figure 4). In an exploratory study,

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results from the qualitative phase inform the results of the quantitative phase (Gelo, Braakmann, & Benetka, 2008). A strength of mixed methods research is the ability to use detailed narrative to add meaning to numbers (Johnson & Onwuegbuzie, 2004). The use of capitalization (QUAL → quan) in Figure 4 above indicates the priority given to qualitative data sources in this study. Emphasis of qualitative data over quantitative data is common in exploratory studies (Clark & Creswell, 2010). In this study, qualitative observations and interviews provided a rich description of the relationship and interactions between mentors and teacher candidates (see Appendices A-F for observation and interview tools). This information was used to explain changes in teacher candidate performance, which were measured quantitatively with the TAP evaluation rubric and qualitatively through interviews.

Sequential design. In this study, qualitative and quantitative data were collected separately and sequentially (see Figure 4). The data sets were analyzed separately and integrated at the point of interpretation. With mixed methods research, practitioners can develop complex designs to meet the needs of the study (Johnson & Onwuegbuzie, 2004). This study included multiple phases of data collection. This model allowed the researcher-practitioner to collect relevant data over the course of an entire semester during which mentors and teacher candidates were working together. Quantitative data in the form of TAP evaluation scores was collected at four different points in order to see how and to what extent teacher candidate performance changed over time. These observations began in September and took place approximately every four weeks. Qualitative data was collected through observations and interviews at four points during

the semester. A detailed representation of the study design including all data sources is

provided in Figure 5 below.

Figure 5

Detailed Research Design: Exploratory, Sequential Mixed Methods
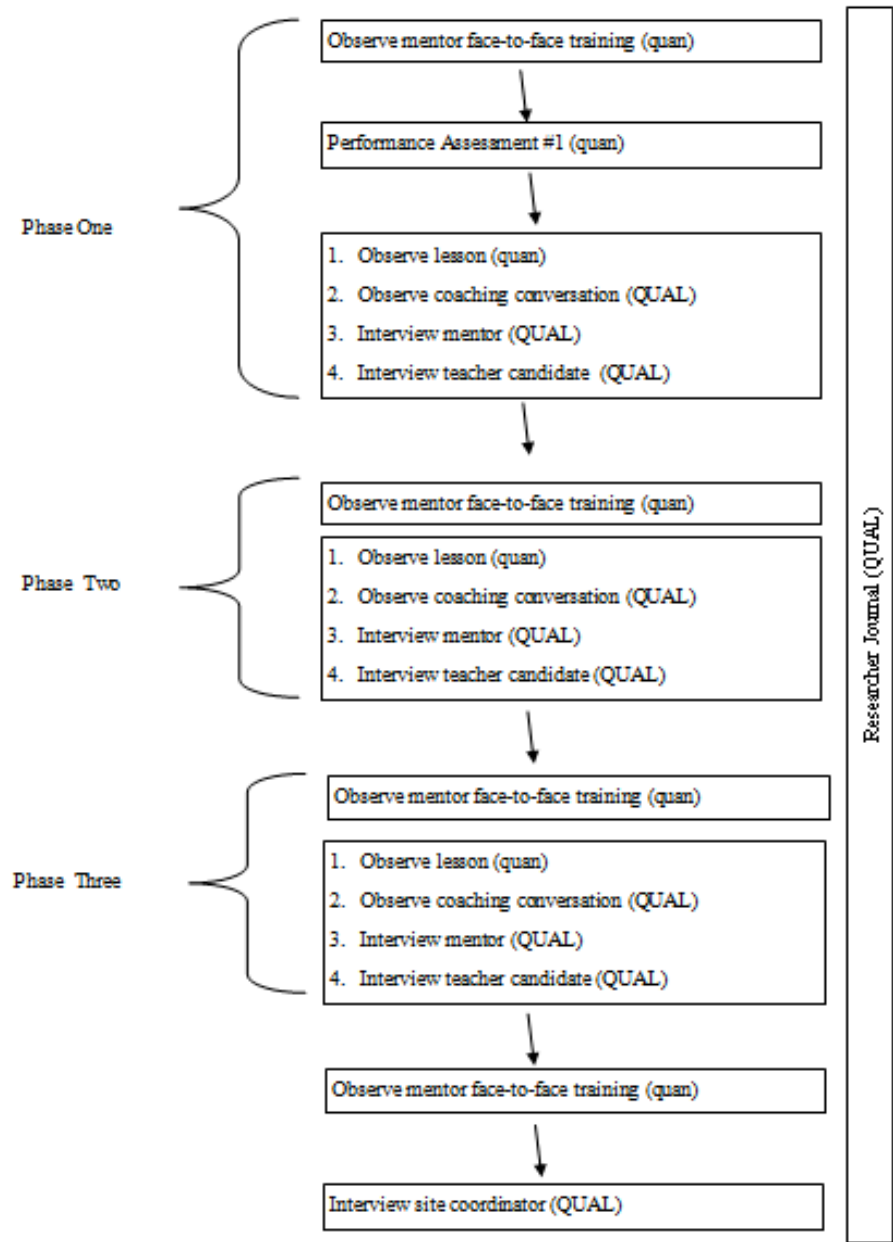
Participants

Having described the overall design of this research project, the next section describes the participants in this action research study. In this action research study, the researcher-practitioner is also a participant. The researcher's role is described below. Additional participants include mentors, teacher candidates, and a site coordinator. The selection and demographics of the participants are also described.

Role of researcher-practitioner. This section describes the positionality of the researcher in this action research study. In this study, the researcher-practitioner assumes the role of outsider collaborating with insiders. This participatory method allows insiders and outsiders to share their knowledge and work together (Herr & Anderson, 2005). The researcher is an outsider, given her position as an observer of the relationship that exists between mentors and teacher candidates. This relationship is made more complex because the researcher is also an employee of the Mary Lou Fulton Teachers College and committed to the success of its students. In order to avoid contaminating the data by influencing participant actions and interactions, the researcher maintained an outsider position during all interactions and refrained from interfering or offering help or suggestions even when asked. This decision was justified by the belief that there is greater value to the organization and its future students if the researcher minimized any influence on the participants, and consequently, the data.

The researcher-practitioner brings knowledge gained from working with the college Office of Clinical Experiences for the last three years. Having served as a coordinator for field experience courses and supervisor of student teaching, the researcher-practitioner was in a position to identify a need for mentor training. This led

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the researcher to design an innovative solution that has gone through several revisions during the past five semesters of implementation. The researcher possesses important background knowledge including a deep understanding of both the innovation and the teacher preparation program in which it is situated.

In approaching this study, the researcher demonstrated an appreciation for the knowledge and experience that mentors, teacher candidates, and site coordinators possess by having them participate as co-learners. According to Herr & Anderson (2005), co-learning reflects a mode of participation in which all stakeholders share their unique pieces of knowledge in order to create new understanding. In this case, the mentors can share their perspectives as recipients of the training provided by the college. The participants in this study possess a great deal of insider knowledge about the interactions between mentor and teacher candidate. The researcher-practitioner took a collaborative stance in valuing the knowledge these mentors possess. Although less participatory than other action research traditions (participants do not play a role in shaping the research question or study design), participant input may inform refinements made to the innovation.

Participant selection process. This study included two mentor teacher/teacher candidate dyads and a site coordinator purposefully selected from a single iTeachAZ cohort. Mentors in the study were both hosting an iTeachAZ teacher candidate for the first time. This purpose of this was to ensure participants experienced the mentor training at the same time. Selecting participants from a single cohort helped control for variability that may exist across different sites. Participants in this study were members

of the same special education/elementary education cohort and supported by the same site coordinator.

In July, the researcher-practitioner contacted a site coordinator who agreed to participate in this study. In August, the researcher-practitioner attended the first face-to-face mentor meeting facilitated by the cohort's site coordinator. At that meeting, the researcher-practitioner explained the goals of this study and invited mentors and teacher candidates to participate. Of the 12 mentors who were invited to participate, five declined participation citing busy schedules and limited time, five did not respond despite follow-up emails, and two agreed to participate. In order to avoid introducing additional variables associated with participants from different district cohorts, the decision was made to focus on this limited number of participants in an in-depth way. These two dyads are not intended to be representative of all participants in their cohort or in the iTeachAZ program. Rather their experiences reflect two of the many different realities that exist for mentors and teacher candidates. The small number of participants allowed the researcher-practitioner to collect ample data to paint a rich picture of each dyad within a single semester.

Participant demographics. This section will describe the demographics of mentors and teacher candidates who participated in this study.

Site coordinator demographics. The site coordinator who agreed to participate in this study was experienced, having supported two previous cohorts of elementary education students in this same district. This was her first time working with a special education/elementary education dual certification cohort. This site coordinator supported a cohort of 13 teacher candidates during the senior year residency. Her role was multi-

faceted and includes recruiting mentor teachers and facilitating monthly mentor professional development meetings. The site coordinator was responsible for teaching several ASU courses for teacher candidates at this site and on campus. In addition, she was responsible for observing and evaluating teacher candidates throughout the semester.

Teacher candidate demographics. The ASU teacher candidates in this study were undergraduate pre-service teachers enrolled in the special education/elementary education dual certification program. RTC was a male teacher candidate placed in a 5th/6th grade special education resource setting. MPTC was a female teacher candidate placed in a 6th grade math classroom. During the study, both were completing the first of two semesters of student teaching. The teacher candidates spent Tuesday afternoons and all day Thursday completing coursework for their undergraduate education degree and teaching certification. On the remaining days, teacher candidates co-taught with their mentor teachers.

Mentor teacher demographics. Mentors in this study were certified teachers who were hosting an iTeachAZ senior year residency teacher candidate for the first time. The site coordinator worked with district staff to select mentor teachers who would co-teach with a student teacher for one semester. To host a teacher candidate, mentors were required to have at least three years of teaching experience and approval from their building principal. RMT was a male teacher with four years of experience teaching 5th and 6th grade students in a special education resource setting. He did not have previous experience serving as a mentor. MPMT had eighteen years of experience teaching a variety of grade levels. She had hosted four student teachers in the past, though not through the iTeachAZ program. She had also worked as an instructional coach in her

district. At the time of the study, MPMT was teaching math to 6th grade students. RMT did not complete the online training, but attended all four face-to-face trainings this semester. MPMT completed the online training, but did not attend any of the face-to-face trainings.

Ethical considerations. The researcher-practitioner implemented procedures to protect the rights of participants in this action research study. Before beginning data collection, the study was approved by the ASU Institutional Review Board. Study participants were informed in writing and verbally of the research design and consequences to them as individual participants. The researcher explained precautions taken to ensure confidentiality was maintained and all data was kept in a secure location.

Data Collection

This data collection section will describe methods the researcher practitioner used throughout the semester to answer the following research questions: (1) How and to what extent do mentor teachers support pre-service teacher candidates? (2) How and to what extent does mentor training contribute to mentors' understanding of how to support pre-service teacher candidates? (3) How and to what extent does mentor support impact teacher candidate performance?

In this sequential mixed methods study, the researcher-practitioner collected both qualitative and quantitative data related to the research questions. A summary of all data sources is provided followed by a more detailed description of each data collection procedure and tool.

Data collection summary. This section summarizes the data collected for this study from August 28, 2013 to December 11, 2013 (See Table 3). The researcher-

practitioner observed and evaluated four face-to-face trainings for mentor teachers. Once a month for three months, the researcher-practitioner observed and evaluated the teacher candidate during a lesson. Observing teacher candidates provided context for the subsequent coaching conversations. On all but one occasion, teacher candidate lessons were followed by an observation of a coaching conversation between the mentor and teacher candidate. Immediately after, the researcher-practitioner conducted a brief, preliminary analysis of the coaching conversation by reviewing the list of prepared interview questions and noting any modifications based on what was observed in the coaching conversation. This was followed by a semi-structured one-to-one interview with each mentor and teacher candidate. Interviews were conducted separately to create an environment where participant responses could be kept confidential. The hope was that ensuring confidentiality would increase the probability of getting honest responses to questions about the mentor/teacher candidate relationship. This cycle of mentor training, lesson observation, coaching conversation observation, participant interview was completed three times during the 15-week semester. The researcher-practitioner was given the opportunity to observe a fourth and final mentor training during the last week of the study by which point student teaching had ended for the semester. In addition to the three live observations of each teacher candidate, the researcher collected video recordings and evaluation scores for the first formal performance assessment evaluation the site coordinator completed for each teacher candidate. A final source of data was a semi-structured one-to-one interview with the site coordinator. The site coordinator was in a unique position to share information about the support provided to both mentors and teacher candidates in this cohort. This interview took place on the final day of the study,

so that responses from the site coordinator did not bias the researcher during earlier data

collection activities. An inventory of all data collected is provided below (see Table 3).

The following sections will describe, in greater detail, the procedures and tools that were

used to collect data during lesson observations, coaching conversation observations, and

semi-structured interviews.

Table 3

Data Collection Inventory

Data collection source	Description	Inventory
Observation of mentor training	The researcher observed the monthly trainings that the site coordinator facilitated for mentor teachers. The researcher evaluated these with the mentor training observation rubric.	4 observations 254 minutes total
Observation of teacher candidate lesson	The researcher observed the teacher candidate teaching a lesson. The researcher evaluated the lesson using the TAP rubric.	4 observations of MP teacher candidate 266 minutes total 4 observations of R teacher candidate 186 minutes total
Observation of coaching conversation	The researcher observed coaching conversations between the mentor teacher and teacher candidate.	3 observations for MP dyad 16 minutes total 2 observations for R dyad 13 minutes total
Semi-structured interview with mentor teacher	The researcher interviewed each mentor teacher after each coaching conversation.	3 interviews with MP mentor teacher 51 minutes total 3 interviews with R mentor teacher 77 minutes total
Semi-structured interview with teacher candidate	The researcher interviewed each teacher candidate after each coaching conversation.	3 interviews with MP teacher candidate 34 minutes total

		3 interviews with R teacher candidate 71 minutes total
Semi-structured interview with site coordinator	The researcher interviewed the site coordinator at the end of the semester.	1 interview with site coordinator 33 minutes total
Researcher journal	The researcher kept a journal throughout the study documenting methodological moves, notes about data collection and analysis, and reflections.	15 pages total

Mentor professional development observation. The researcher-practitioner observed four face-to-face mentor trainings to help answer the question of how and to what extent mentor training contributes to a mentors' understanding of how to support pre-service teacher candidates. The site coordinator planned and facilitated these monthly meetings. The researcher-practitioner acted as an observer and used the Mentor Training Observation Rubric (see Appendix A) to evaluate the site coordinator's competency in facilitating a data-driven and TAP-guided professional development. The Mentor Training Observation Rubric was developed by the college as part of a more comprehensive review of the iTeachAZ program. The researcher practitioner collected handouts, attendance data, and field notes at each of the meetings.

Procedures. The researcher requested copies of handouts from the site coordinator. Attendance of participating mentors was observed and verified with meeting sign-in sheets. During the meeting, the researcher-practitioner played an observer, non-participant role and collected handwritten field notes. Observation notes were used to determine proficiency levels on the various indicators included in the Mentor Training Observation Rubric (see Appendix A). The data collected from these monthly mentor

meetings was used to make sense of data collected through other methods as will be explained in subsequent sections.

Teacher candidate lesson observation. The researcher had the opportunity to observe each teacher candidate four times between September and November 2013. The first observation was via a video recording of the teacher candidate's first performance assessment. A performance assessment is a formal evaluation conducted twice each semester for each teacher candidate. The next three observations were live and scheduled one month apart on a date and time that was convenient for the participants. Including four observations over the course of the semester allowed the researcher-practitioner to identify patterns and irregularities in teacher candidate performance. The following sections will describe the procedures followed during each observation and measures taken to increase reliability and validity of results.

Observation procedures. To ensure the opportunity to observe a lesson, observe a coaching conversation, and conduct interviews with both the mentor and teacher candidate, visits were scheduled in advance. The researcher-practitioner acted as a non-participant observer scripting each lesson by hand. Lessons ranged in length from 28 to 105 minutes and varied depending on lesson objective and class schedule. In the case of co-taught lessons, the focus of the observation was on the teacher candidate, not the mentor teacher. Immediately after each lesson, notes were filled in from memory in preparation for later analysis. Data analysis procedures will be described in a later section.

Reliability and validity. Earlier cycles of this action research study included only one lesson observation. By conducting a series of four observations, the researcher-

practitioner hoped to develop a better understanding of how teacher candidates develop over the course of the semester. Including multiple lesson observations allowed the researcher-practitioner to gain a more accurate picture of each teacher candidate's performance than could be gathered in a single observation. These multiple observations also provided more opportunities for coaching conversations.

Mary Lou Fulton Teachers College uses the TAP rubric to evaluate teacher candidate performance throughout the professional teacher preparation program. The TAP system began in 2000 and is now managed by the National Institute for Excellence in Teaching (NIET). As is true of all ASU faculty members who have a role in evaluating teacher candidates, this researcher-practitioner has completed TAP training provided by NIET and is certified to use the rubric for evaluation purposes. The certification process included four days of training on the TAP rubric and opportunities to practice observing and scripting lesson videos at a variety of grade level and content areas. The researcher-practitioner has completed re-certification exams on an annual basis and received additional training through the TAP summer institute. The researcher-practitioner has more than three years of experience using the TAP rubric to evaluate pre-service teacher candidates. The researcher-practitioner has also co-observed multiple lessons in the past to ensure consistent collection of classroom evidence.

Coaching conversation observation. The researcher-practitioner observed three coaching conversations between the MPMT-MPTC and two coaching conversations between the RMT-RTC. On the final visit to RTC, the coaching conversation was canceled due to an unexpected grade level event that the RMT needed to help with. The purpose of the observations was to collect data during a coaching conversation between a

mentor and teacher candidate to help answer the research questions. Observation of

coaching conversations provided an opportunity to look for evidence that mentors were

implementing coaching practices presented through the online and face-to-face trainings

that the college provides. Data from the observation helped informed questions asked in

the follow-up semi-structured interview. The following sections will describe the

coaching conversation observation protocol and measures taken to increase reliability of

results.

    Coaching conversation observation protocol. The researcher-practitioner

followed a coaching conversation observation protocol (see Appendix C). All three

coaching conversations between the MPTC and MPMT took place in the classroom while

the 6th grade students were engaged in another task. Their conversations ranged in length

from 4-7 minutes. Coaching conversations between the RTC and RMT took place in

their classroom during planning periods when no students were present. These lasted

from 5-8 minutes. In all cases, the researcher-practitioner served as an observer, not a

participant, in the discussion. The researcher took field notes and, when given the

opportunity, requested permission to digitally record the conversations. The researcher-

practitioner documented meeting logistics on the "Coaching Conversation Observation

Recording Sheet" (see Appendix C) and took notes about participant words and actions

as well as observer reflections. The following questions helped to guide the observation:

1. What is the topic(s) of discussion (debriefing lesson, discussing area of

    refinement or reinforcement)?

2. What elements from the mentor training (online and/or face-to-face) are

    reflected in this coaching conversation?

3. What evidence is there of teacher candidate learning?

4. What coaching strategies are used (direct feedback, asking questions)?

5. What language is being used (consistent with TAP rubric)?

Immediately after the observation, the researcher-practitioner recorded the end time and filled-in notes from memory. The researcher-practitioner transcribed the audio recording and field notes in preparation for analysis. The process for analyzing this data will be discussed in a later section of this chapter.

Reliability. The use of a protocol ensured consistent data collection across all observations. The research-practitioner received input from a more experienced researcher when designing this instrument in the semester before this study began. The researcher piloted the use of the observation protocol during this earlier cycle of research in order to refine the tool. Audio recording the observations helped ensure the dialogue between mentor and teacher candidate was captured accurately.

Mentor teacher interviews. On the same day as each lesson observation, the researcher-practitioner conducted a one-to-one interview with the mentor teachers. The coaching conversation observations helped inform the questions asked during each interview. The interview provided an opportunity to gather information about the extent to which mentors found the online and in-person mentor training helpful. In addition, questions elicited information about how and to what extent the mentors were implementing what they learned from these trainings and the ways in which mentors believed they were having an effect on teacher candidate performance. The following sections will describe the interview protocol and measures taken to increase reliability and validity.

Mentor interview protocol. The researcher-practitioner followed the mentor teacher interview protocol (see Appendix D). Interviews ranged in length from 12-42 minutes. The researcher-practitioner conducted interviews during a time when neither the teacher candidate nor students were present. The researcher-practitioner obtained permission to digitally record the conversations and took notes to ensure accuracy. The researcher-practitioner reminded mentor teachers of their right to not answer any questions or to stop the interview at any time without consequence. The interviewer asked a series of questions including the following: How would you describe the role of a mentor teacher? To what extent are your coaching conversations helping the teacher candidate improve? How did the online and monthly mentor trainings enable you to better support your teacher candidate? Appendix D includes a list of possible interview questions prepared in advance for each interview. During each semi-structured interview, the actual questions asked varied slightly depending on the coaching conversation observed immediately prior and mentor responses to questions posed. The researcher-practitioner noted logistical details on the "Mentor Teacher Interview Recording Sheet" (see Appendix D) and took notes during the interview. Immediately after the interview, the interviewer documented the end time and filled-in notes from memory. The researcher-practitioner transcribed the audio recording in preparation for analysis. The process for analyzing this data will be discussed in a later section of this chapter.

Reliability and validity. A semi-structured interview format was chosen to overcome challenges in previous cycles of research with a single online survey with a pre-set list of questions for all mentors. The semi-structured format provided the

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opportunity to select the most germane questions from the list of questions created in advance (see Appendix D). The real-time format provided the opportunity to probe for more information if needed, an option not available with the online tool used previously. By conducting a series of three interviews with each mentor over the course of the semester, the researcher-practitioner hoped to build a more familiar relationship with each mentor in order to encourage more open and honest sharing during the interview.

Audio recording the interviews ensured the dialogue between mentor and interviewer was captured accurately. The use of a protocol helped ensure consistent data collection across all interviews. The researcher-practitioner received feedback from more experienced researchers in developing the protocol and list of questions. The protocol was piloted during earlier cycles of research in order to refine the tool. Interviews took place when the teacher candidate was not present in order to protect the mentor's right to confidentiality and increase the probability of obtaining candid responses to questions that involved the teacher candidate. Taking these steps helped increase the reliability and validity of results.

Teacher candidate interviews. The researcher-practitioner followed a similar protocol when interviewing teacher candidates. On the same day as each lesson observation, the researcher-practitioner conducted a one-to-one interview with each teacher candidate to gather information related to the research questions. The coaching conversation observations helped inform the questions asked during the interview. The interview provided an opportunity for the teacher candidate to describe the type of support provided by the mentor and the extent to which this was contributing to improved

performance. The following sections will describe the interview protocol and measures taken to increase reliability and validity.

Teacher candidate interview protocol. The researcher-practitioner followed the teacher candidate interview protocol described in Appendix E. Interviews lasted between 7-33 minutes. The researcher-practitioner conducted interviews during a time when neither the mentor teacher nor students were present. Permission was obtained to digitally record the conversation and notes were taken to ensure accuracy. The researcher reminded teacher candidates of their right to not answer any questions or to stop the interview at any time without consequence. The interviewer asked a series of questions such as the following: How would you describe the role of a mentor teacher? To what extent are coaching conversations with your mentor helping you to improve your teaching performance? If you were designing the training for mentor teachers, what would you want them to know? Appendix E includes a list of possible questions prepared in advance of each interview event. Based on teacher candidate responses, the researcher-practitioner asked follow-up questions to elicit a more detailed explanation. Logistics of the meeting were recorded on the "Teacher Candidate Interview Recording Sheet" (see Appendix E) and notes were taken. Immediately after the interview, the researcher recorded the end time and filled-in notes from memory. The researcher-practitioner transcribed the audio recording in preparation for analysis. The process for analyzing this data will be discussed in a later section of this chapter.

Reliability and validity. A semi-structured interview was used in this study to overcome challenges in previous cycles of research, which relied on electronic surveys. There was a low response rate for these surveys and they did not afford the opportunity to

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ask follow-up questions to elicit additional information needed for a more accurate or in-depth understanding. The use of a semi-structured interview provided opportunities to select the most relevant questions from the list created (see Appendix E). Face-to-face interviews also provided an opportunity to probe for more information if needed. By conducting a series of three interviews over the course of the semester, the researcher-practitioner hoped to build a more familiar relationship with each teacher candidate in order to encourage more open and honest sharing during the interview.

Audio recording the interviews helped ensure the dialogue between the teacher candidate and interviewer was captured accurately. The use of a protocol helped ensure consistent data collection across all interviews. The research-practitioner piloted the use of this protocol during earlier cycles of research in order to refine the tool. Interviews took place when the mentor was not present in order to protect the teacher candidate's right to confidentiality and increase the probability of obtaining candid responses to questions that involved the mentor. These measures helped to increase the reliability and validity of results.

Site coordinator interview. The researcher-practitioner conducted a one-to-one semi-structured interview with the site coordinator at the end of the semester. The timing of this interview was purposeful. The researcher-practitioner did not want responses from the site coordinator to bias interactions with the other participants. The purpose of this interview was to gather information related to all three of the research questions that guided this study. The interview provided an opportunity for the site coordinator to describe the support provided to the mentors as well as her perception of the ways in which mentors helped teacher candidates improve performance. The following sections

will describe the interview protocol and measures taken to increase reliability and validity.

   Site coordinator interview protocol. The researcher-practitioner followed the site coordinator interview protocol described in Appendix F. The site coordinator interview lasted 33 minutes and took place on the final day of data collection. The researcher-practitioner conducted the interview during a time when neither mentors nor teacher candidates were present so that the site coordinator could speak in confidence. Permission was granted to digitally record the conversation and notes were taken to ensure accuracy.

   The interview involved a series of questions including the following: What support/training did you provide to mentors? How have the mentors changed as a result of the support/training you provided? To what extent are mentors helping to improve the performance of teacher candidates? Appendix F includes a list of questions prepared in advance. Based on site coordinator responses, the researcher-practitioner asked follow-up questions to elicit a more detailed explanation. Meeting logistics were documented on the "Site Coordinator Interview Recording Sheet" (see Appendix F) and notes were taken throughout. Immediately after the interview, the researcher recorded the end time and filled-in notes from memory. The researcher-practitioner transcribed the audio recording in preparation for analysis. The process for analyzing this data will be discussed in a later section of this chapter.

   Reliability and validity. In previous cycles of this action research study, this researcher-practitioner did not include the site coordinator perspective. This individual was able to offer a unique perspective given her role supporting the mentors and teacher

candidates in this cohort. She was familiar with the individual participants but outside of their mentor-teacher candidate relationship.

The use of a semi-structured interview provided opportunities to select the most relevant questions from the list created (see Appendix F). A face-to-face interview format provided an opportunity to probe for more information as needed to elicit additional information or clarify responses. Audio recording the interview helped ensure all responses were captured accurately. Interviews took place when neither mentors nor teacher candidates were present in order to protect the site coordinator's confidentiality and increase the probability of obtaining candid responses to questions that involved the participants. These measures helped increase the reliability and validity of results.

Researcher journal. The researcher used a running word document as a journal throughout the study. All entries were dated and kept in chronological order, which proved helpful when writing the methods section of this report. Information recorded included steps taken to recruit participants, notes from meetings with members of this dissertation committee, information about data collection events, methodological moves, and challenges faced throughout the study. The journal also included ideas and wonderings that occurred during the study that the researcher wanted to capture and reread at a later point in time. The researcher reread the journal multiple times during the months of data analysis and writing to recall and reflect on the challenges and implications of this study. The journal provided a record of actions taken and increased transparency around the research process to help increase the validity of the study.

Data Analysis

This section describes the steps followed to analyze qualitative and quantitative data collected from each of the following data sources: mentor training observations, teacher candidate lesson observations, coaching conversation observations, interviews with mentors, teacher candidates, and site coordinators. Preliminary data analysis took place within each phase of the study. Data collected during coaching conversation observations informed the questions asked during each semi-structured interview. For instance, mentors were asked during the interview to identify the goal of the previous coaching conversation and the rationale for choosing a particular focus area for their feedback. In addition to this informal analysis, which occurred throughout each phase, a thorough analysis of all data began in December after all data had been collected.

In this exploratory, sequential mixed methods study, data from qualitative and quantitative data sources were analyzed separately. As will be discussed in the next chapter, integration of qualitative and quantitative results occurred at the point of interpretation for the purposes of complementarity. Qualitative findings were used to help gain an understanding of the role of mentor training and the relationship between mentors and teacher candidates. This qualitative data complements the quantitative results, which looked at different aspects of the same phenomenon from a different perspective. The analysis procedures are described in detail below. The results of this analysis will be described in chapter four.

Analysis of qualitative data. The qualitative data sources in this study included observations of coaching conversations, interviews with mentors, teacher candidates, and site coordinators. All of these data sources were analyzed in the same way as described

in this section. The researcher-practitioner created audio recordings and took written

notes during the coaching conversations and interviews according to the protocols

described above. To prepare data for analysis, immediately after each observation or

interview, handwritten notes were reviewed and details filled in from memory. Soon

after, the researcher-practitioner transcribed the recording and typed up hand-written field

notes. Transcription involved listening to each recording multiple times to ensure an

accurate representation. Another researcher reviewed a small sample of one interview to

ensure accuracy of the transcription. Data was analyzed by source type in the order in

which it was collected.

The researcher-practitioner conducted a preliminary exploratory analysis by

reading the transcripts multiple times, without making any notations, in order to get a

general sense of the material. After getting an initial sense of the data, the researcher-

practitioner followed the steps for open coding followed by axial coding as described by

Corbin and Strauss (1990). Open coding began by reading transcripts and memoing key

words, phrases, and interesting quotes in the margins. Once all data from a single source

type were covered with memos, those that addressed a similar idea or topic were grouped

together to form categories. Each category was given a conceptual label and definition.

These labels served as initial codes. After transcripts were analyzed through open

coding, the researcher-practitioner used an axial coding procedure to combine initial

codes and create distinct themes. An initial codebook was created with a list of codes

and sub-codes. All of the transcripts were then reread and sections of text were

highlighted and labeled with sub-codes to represent each theme. Once the text was

highlighted and labeled, the researcher read through the text another time combining a

few related sub-codes for which there were little evidence in the text and making the necessary adjustments to create a final codebook. Codebooks for coaching conversations and interviews with mentors, teacher candidates, and the site coordinator are found in Appendices G-J. Tables, which listed codes, sub-codes explanations, and examples from the data, were created for each source type to help organize the data (see chapter 4). After the codebook was created, a separate code sheet document was created that categorized the text according to theme (see Appendices G-J). This same procedure was followed to analyze all coaching conversation observation and interview data. The results of this analysis, along with codes, explanations, and examples, will be presented in chapter four.

Reliability and validity. The researcher took several steps to ensure inter-rater reliability during the data analysis process. During the data analysis phase of this study, the dissertation chair reviewed a coaching conversation transcript with memos to ensure analysis was on the right track at that step of the process. At a later date, the dissertation chair reviewed the coaching conversation codebook created based on the transcript memos. He asked me to justify the distinction between some of the sub-codes for "Topic" and asked if these could be further combined. After providing my rationale, this more experienced researcher agreed that the way that sub-codes were grouped made sense. Another doctoral student trained by the same dissertation chair also reviewed a randomly selected mentor teacher interview transcript at each stage of the analysis process. Through discussion, the researcher was able to justify the memos noted, codes developed, and application of the codes in analyzing the text. These steps taken to ensure

inter-rater reliability with respect to analysis of qualitative data increased the validity of the results reported.

Analysis of researcher journal. The researcher journal was a final piece of qualitative data. This chronological record was maintained throughout the semester and reread several times. It served as a reminder of past actions when describing the steps taken during data collection and analysis. Rereading allowed the researcher to recall ideas from earlier in the semester and reflect on challenges faced, methodological moves, and inferences made based on the data. The journal also captured ideas from earlier in the semester, which proved helpful when writing the methods and conclusions sections of this paper.

Analysis of quantitative data. Quantitative data sources include rubric evaluation scores of teacher candidate lesson observations and mentor training observations. These were analyzed separately and in the order in which they were collected.

Mentor training observation analysis. The researcher observed four mentor teacher professional development meetings. During the meetings, the researcher, who did not participate in the meetings, took notes. Immediately after each observation, notes were filled in from memory. The researcher scored each mentor training with the Mentor Training Observation Rubric (see Appendix A). This involved reading each transcript multiple times to identify evidence aligned with the descriptors for each rubric indicator. Evidence included things that the site coordinator or mentor teachers said and did during the meeting. Additional evidence included things that were written or posted in the training classroom. After documenting evidence for each indicator, a score was

determined by looking at where the preponderance of evidence existed for each of the indicators. A score of 1 (unsatisfactory) to 5 (exemplary) was possible for each of the seven indicators. Actual scores earned are shown in Table 4 below.

Table 4

Mentor Training Observation Scores

	PTS	SO	PIC	AM	AF	SCCK	SCKM
Observation 1	4	3	4	3	2	3	2
Observation 2	4	3	3	4	3	3	2
Observation 3	2	2	2	3	3	3	2
Observation 4	2	2	2	2	2	3	2

These scores were entered into an excel sheet. Descriptive statistics were used to calculate the mean and standard deviation for scores earned (see Table 5).

Table 5

Descriptive Statistics for Mentor Training Observation Scores

PTS		SO		PIC		AM		AF		SCCK		SCKM	
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
3	1.16	2.5	0.58	2.75	0.96	3	0.82	2.5	0.58	3	0.00	2	0.00

These results will be discussed in chapter four.

Mentor training observation reliability and validity. In order to increase the reliability and validity of these results, a second researcher, with more experience using the mentor training observation rubric, was asked to read and score transcripts from two of the four mentor trainings. Through discussion of evidence in the transcript aligned to the different descriptors on the rubric, consensus was reached with respect to scores for each rubric indicator.

Teacher candidate lesson observation. Each teacher candidate was observed four times during the semester. The formal performance assessment lesson was recorded

by another teacher candidate and shared with the researcher practitioner. The researcher-

practitioner transcribed the lessons from the recordings. Transcription involved watching

the videos multiple times to ensure an accurate representation. The researcher took

written notes during the other three observations, which were not recorded. Immediately

after each observation, notes were filled in from memory. The researcher, a certified

TAP evaluator, scored each lesson with the TAP rubric. This involved reading each

transcript multiple times to identify evidence aligned to the descriptors under each rubric

indicator. Evidence included things that the teacher and students said or did during the

lesson. After documenting evidence on each rubric, a score was determined by looking at

where the preponderance of evidence existed for each indicator. A score of 1

(unsatisfactory) to 5 (exemplary) was possible for each indicator. Scores earned by each

teacher candidate during each observation are listed in Table 6 below.

Table 6

Teacher Candidate TAP Scores

	SO	PIC	AM	AF	TCK	TKS	MSB
				MPTC			
Observation 1 (Performance Assessment)	3	3	3	2	3	2	4
Observation 2	2	2	2	2	2	2	2
Observation 3	1	1	1	1	2	1	2
Observation 4	2	2	2	1	2	1	3
				RTC			
Observation 1 (Performance Assessment)	2	2	2	2	2	1	3
Observation 2	1	1	1	2	1	2	3
Observation 3	1	1	2	2	2	2	3
Observation 4	1	1	1	2	1	1	2

This data was entered into an excel spreadsheet and a graph was generated for each teacher candidate to visually represent performance on each indicator over time. Figures 6 and 7 below are graphical representations of these repeated measures for each teacher candidate over time. These results will be explained in chapter four.

Figure 6

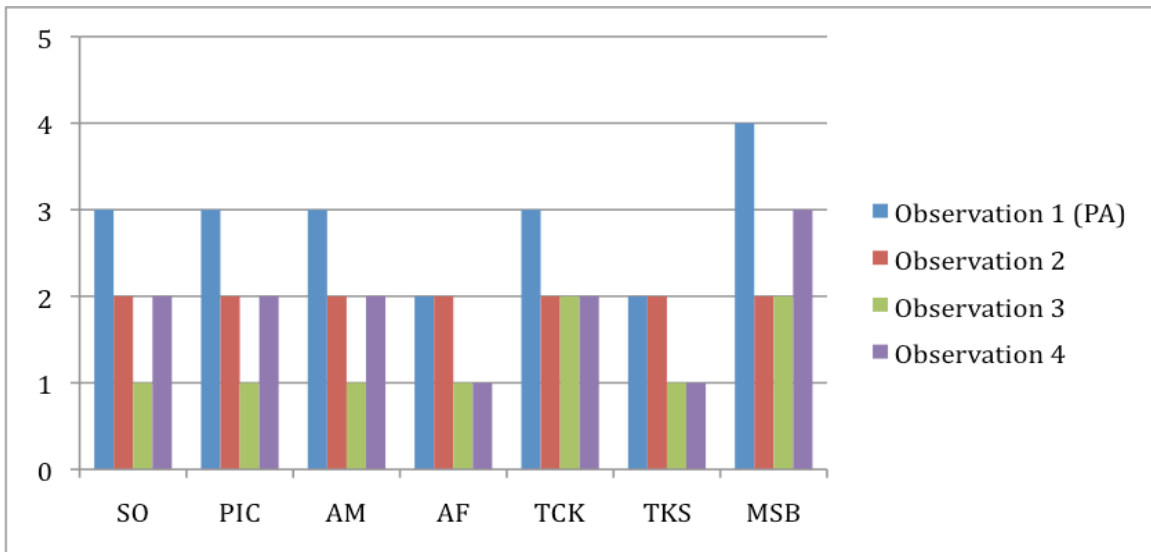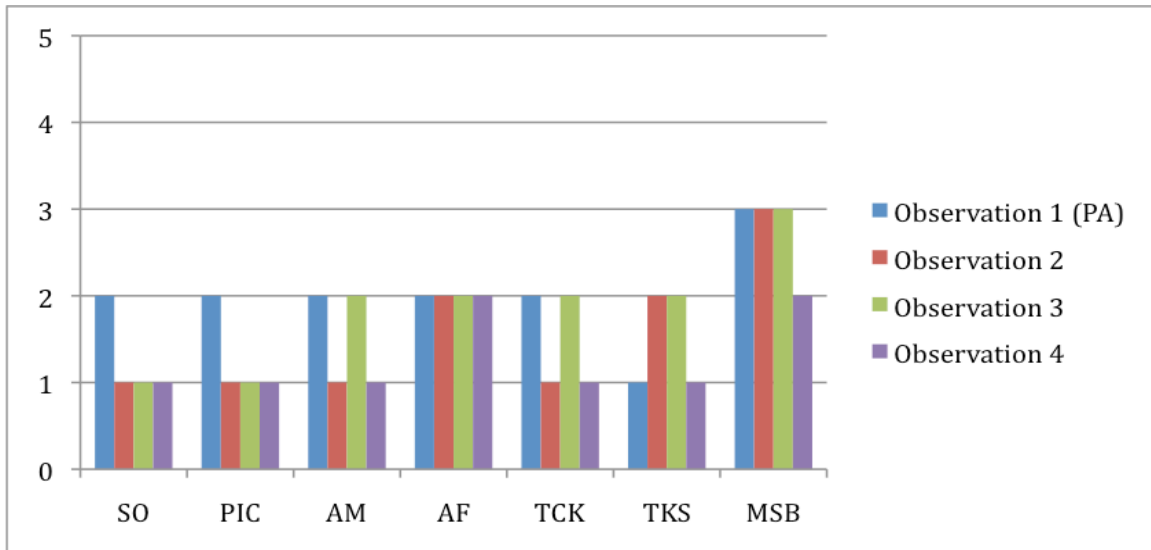*MPTC TAP Scores Over Time*

Figure 7

RTC TAP Scores Over Time

While the data was in an excel spreadsheet, descriptive statistics were used to calculate the mean and standard deviation. This data is presented in the table below and described in chapter four.

Table 7

Descriptive Statistics Teacher Candidate TAP Scores

	SO		PIC		AM		AF		TCK		TKS		MSB	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
MPTC	2	0.82	2	0.82	2	0.82	1.5	0.58	2.25	0.50	1.5	0.58	2.75	0.96
RTC	1.25	0.50	1.25	0.50	1.5	0.58	2	0.00	1.5	0.58	1.5	0.58	2.75	0.50

The results of this analysis of teacher candidate performance will be discussed in chapter four.

Teacher candidate lesson observation reliability and validity. As stated previously, Mary Lou Fulton Teachers College uses the TAP rubric to evaluate teacher candidate performance throughout the professional teacher preparation program. Instructionally focused accountability (teacher performance evaluation) is one part of the TAP comprehensive school reform system. The standards assessed on the TAP rubric were selected based on a review of guidelines developed by several national and state organizations including the Interstate New Teacher Assessment and Support Consortium (InTASC), the National Board for Professional Teacher Standards, Connecticut's Beginning Educator Support Program, and California's Standards for the Teaching Profession ("Instructionally Focused Accountability," 2012). Researchers have found that the TAP rubric is a valid teacher performance evaluation instrument that differentiates effective from ineffective teaching (Daley & Kim, 2010). In the ASU teacher preparation program, teacher candidate performance assessments address eight

indicators from the TAP rubric. These include: Instructional Plans, Standards and Objectives, Presenting Instructional Content, Activities and Materials, Teacher Content Knowledge, Teacher Knowledge of Students, Academic Feedback, and Managing Student Behavior. NIET has defined each of these eight constructs with descriptors of expected, observable behaviors at the various performance levels (see Appendix B). Each indicator is scored on a scale of 1 (unsatisfactory) to 5 (exemplary). A score of 3 represents proficient performance. The goal for undergraduates in ASU's teacher preparation program is to score at least 3 (proficient) on each of the eight indicators by the end of the student teaching experience. This study excluded lesson plans and focused on the remaining indicators, which can be evaluated during a lesson observation.

As is true of all ASU faculty members who have a role in evaluating teacher candidates, this researcher-practitioner has completed TAP training provided by NIET and is certified to use the rubric for evaluation purposes. The certification process included four days of training on the TAP rubric and opportunities to practice scoring videos of lessons at various performance levels. The researcher-practitioner has completed re-certification exams on an annual basis and received additional training through the TAP summer institute. The researcher-practitioner has more than three years of experience using the TAP rubric to evaluate pre-service teacher candidates. The researcher-practitioner has also co-observed multiple lessons in the past to ensure consistent use of the observation rubric. The researcher's scores for the performance assessment lessons (one per teacher candidate) were compared to scores assigned by the site coordinator. There was a great deal of consistency in scores thus ensuring inter-rater reliability with respect to use of the TAP rubric.

Chapter Summary

Chapter three outlined the timeline for innovation implementation and data collection. In addition, the innovation and sequential mixed methods research design were both described in detail. This was followed by a description of the multiple methods that were used to collect data related to the research questions. The process for analyzing data was described in this chapter, and will be expanded in the next section, which focuses on results.

CHAPTER 4

RESULTS

The previous chapter described the processes used to collect and analyze

qualitative and quantitative data from a variety of sources including: mentor teacher

training observations, teacher candidate lesson observations, coaching conversation

observations, and interviews with mentors, teacher candidates, and a site coordinator.

The results of this analysis are reported in this chapter.

Coaching Conversation Observation

Coaching conversation observation results. This section describes the four

distinct themes that emerged from the analysis of coaching conversation transcripts.

These themes are: logistics, coaching conversation topic, coaching conversation goal, and

coaching strategy. Table 8 below provides a definition and example of each code. This

is followed by a more complete explanation of each code with supporting data from the

coaching conversations.

Table 8

Coaching Conversation Codes, Explanations, and Examples

Code = Theme	Explanation	Examples from the data
01.LOG-Logistics		
01.LOG-DUR.01 = duration	Length of coaching conversation	• Start and end time of coaching conversation is noted on transcripts • These last from 4-8 minutes
01.LOG-INT.02 = interruptions	Interruptions to the coaching conversation	• Student interrupts and asks permission to use the restroom • Students are starting to get loud and TC stops to redirect them
01.LOG-SET.03 = setting	Physical location of coaching conversation	• Classroom, no students present, sitting on either side of horseshoe table • In classroom while students are working on bell work

02.TOP-Topic		
02.TOP-CHL.01 = challenges	External factors which create challenges for the teachers	• "That's one of the downsides of always having to do stuff from class" (referring to work sent from the general education teacher) • "It's hard when you have a weekend, you have kids."
02.TOP-STU.02 = students	Discussion of student behavior, individual student needs, student mastery of lesson objective	• "The students were talking a lot today." • "And (that student) has listening comp problems so if there is, like, chatter that's going on while you are trying to talk to him… what you're saying might not register to him."
02.TOP-TCH.03 = teachers	Description of teacher actions during lesson, discussion of MT/TC roles, coordination with other teachers	• "For this group, I'll work with the intervention kids who need re-teach." • "I think we should go take these (completed tests) to Ms. C."
03.GOL-Goal		
03.GOL-CHG.01 = changes for future lesson	Changes that the teachers will make for the next lesson	• "I need to make sure to give more clear directions for how to cut out the walking man." • "So let's talk about what we want to do different for the next lesson."
03.GOL-REF.02 = reflect on previous lesson	Reflection on previous lesson	• "Overall, I thought the lesson went really well." • I think last time there was too much back and forth between the two of us."
03.GOL-TCQ.03 = opportunity for teacher candidate to ask questions	Mentor teacher provides opportunity for teacher candidate to ask questions	• MT: "So do you have any questions about what you did today?" • TC: "Well actually, how much can you help them?"
04.COA-Coaching strategy		
04.COA-DIR.01 = direct feedback	Mentor teacher identifies reinforcement or refinement from previous lesson	• "That's one thing that I saw that I liked that you did though. You were using guiding questions." • "pause after each paragraph to make sure they understood what was going on before going to the writing prompt."
04.COA-MOD.02 = mentor teacher	Mentor teacher models what to do	• "Or what you could've done is moved this chair and slid yourself down to the

models	or what to say	center so that way now you are closer to (that student). (MT models by sliding to center of table.)" • "Say, 'What do you see in the picture? Talk to you partner and tell them what you see.'"
04.COA-REF.03 = teacher candidate to reflection	Mentor teacher prompts teacher candidate to reflect and evaluates his/her own performance	• MT: "How did you think it went?" • TC: "I think it went good."

The four major themes identified from coaching conversation observations (logistics, topic, goal, coaching strategy) are further explained in the sections below.

   Logistics. The theme of "logistics" was divided into three sub-codes and includes data from coaching conversations about the duration of the coaching conversation, the physical setting in which the conversation took place, and events that interrupted the conversation. Coaching conversations between mentors and teacher candidates lasted between four and eight minutes. These took place immediately after the lesson or lesson segment was taught. They took place in one of two settings. The RMT and RTC held meetings in their classroom during a planning period when no students were present. The MPTC and MPMT conducted their coaching conversations in the classroom while students were either working on bell work or practice problems. In the case of the MP dyad, students occasionally interrupted the conversation to ask a question or because they needed redirection.

   Coaching conversation topic. The theme of "topic" was divided into three sub-codes for each of the three topics commonly discussed during coaching conversations. These include challenges that teachers were dealing with, student issues such as behavior

or learning needs, and comments about the teachers' roles. Challenges that participants dealt with were sometimes related to their personal lives, "it's hard when you have a weekend, you have kids." Other times challenges addressed school context factors that influenced their classroom. RMT, a special education resource teacher commented, "that's one of the downsides of always having to do stuff from the (general education homeroom teacher's) class." When the focus of discussion was students, it was often focused on student behavior, "the students were talking a lot today" or learning needs, "he struggles, too, with the long vowel sound." In addition to discussing student issues, participants sometimes focused on teacher actions. For example, the MPMT commented, "I like that we have three different levels for our lesson now. We're ready when we see who gets what."

Goal of coaching conversation. The theme of "goal" was divided into three sub-codes that address the different purposes for having coaching conversations. These include reflecting on a previous lesson, identifying changes that teachers intend to make for future lessons, and providing opportunities for teacher candidates to ask questions. In reflecting on the previously taught math lesson, the MPMT said, "I think last time there was too much back and forth between the two of us." Conversations also addressed changes the individual or pair would make for future lessons. During a brief coaching conversation that took place between the first and second math periods, the MPMT commented, "So let's talk about what we want to do different for the next lesson. I think it's better if we don't introduce the minus." The coaching conversations were also an opportunity for the teacher candidate to ask questions. Mentors invited this with prompts

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such as, "do you have any questions?" or "do you have any questions about what you did today?"

Coaching strategy. The theme of "coaching strategy" was divided into three sub-codes, which reflect different strategies employed by the mentor teachers. These include: mentors giving direct feedback to teacher candidates about things they did well or need to improve, mentors modeling what to say or do in a lesson situation, and mentors prompting teacher candidates to reflect on their own performance.

When being direct, mentors would tell the teacher candidate what they did well or what they need to do differently. The RMT included both reinforcements and refinements with comments such as, "I like how you explained the picture. That was good. But you need to get them to talk." The MPMT offered this piece of direct feedback, "A lot of times you'll say, 'what's the answer, Suzy?' And now you've got 23 off the hook, so make them talk and then call on someone." In these, and similar examples, the mentor is directly telling the teacher candidate what they did well and what they need to change.

At other times, rather than being directive, the mentor teachers would prompt the teacher candidate to reflect. Mentors would ask, "How do you think it went?" or "How did the second group go?" The teacher candidate responses to these questions tended to be very brief such as "I think it went good," "pretty crazy," or "good." On one occasion, the MPMT pushed the MPTC to elaborate, "come on, you have to say more than that." With some scaffolded questions from the mentor, the MPTC was able to elaborate on her original response.

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In addition to giving direct feedback and prompting the teacher candidate to reflect, a third strategy observed during the coaching conversation was modeling by the mentor teacher of what to do or exact words to say. The RMT suggested, "Next time, instead, before you explain the picture say, 'What do you see in the picture? Talk to you partner and tell them what you see.'" On another occasion, the RMT modeled how to use proximity to address off-task student behavior, "what you could've done is moved this chair (pulls chair away from table) and slid yourself down to the center so that now you are closer to (S. student)." (MT slides to the center of the table closer to where the off-task student was previously sitting.)

Mentor Teacher Interview

Mentor teacher interview results. Over the course of the semester, three semi-structured interviews were conducted with each mentor teacher. These ranged in length from 12-20 minutes for interviews with the MPMT and 16-42 minutes for interviews with the RMT. As described in chapter three, these interviews took place in a private setting when neither the teacher candidate nor students were present. Interviews were recorded, transcribed by the researcher, and analyzed following a process of memoing and open coding. Initial codes were combined through the process of axial coding and four themes were identified. The transcripts were then reread and sections of text were labeled using codes that represented each theme. The four common themes that emerged from the mentor teacher interviews include: mentor teacher, teacher candidate, challenges, and coaching conversation. Table 9 below provides an explanation of each of the themes along with examples from the interviews.

Table 9

Mentor Teacher Interview Codes, Explanations, and Examples

Code	Explanation	Examples from the data
01.MEN-Mentor Teacher		
01.MEN-PRE.01 = previous experiences	Mentor teacher references his/her own previous experiences as mentor, coach, student teacher	• "I wanted to give opportunities that I didn't really get to experience until I started teaching… I did not write an IEP while I student taught. I did not attend meetings. I did not have to keep progress notes. I did not have to do any of that stuff so that made for a rough transition that first year." • "we had tons of training as a coach-scripting, LETRS training, DIBELS training, and um, coaching training. How to provide positives and negatives in a way that doesn't sound threatening or anything like that. So with my student teacher I'm able to apply a lot of those things to her experience."
01.MEN-REL.02 = relationship with teacher candidate	Description of the mentor-teacher candidate relationship, factors which contribute to a successful relationship	• "Letting the kids know that she is a valuable asset. That she's another teacher in the room." • "Everything's very comfortable with us. So I can give her feedback and she doesn't take it personal. Um, so I think just our whole rapport is helpful."
01.MEN-ROL.03 = role	Definitions of the mentor's role including: prepare TC for future as a classroom teacher, help TC improve, provide encouragement, provide resources, instill a passion for teaching, serve as a model, provide lesson plan support	• "Being positive for her and making sure she has room to grow and a safe environment to ask questions and make mistakes." • "that's the job of the mentor is to give the experience of what it's like to be a teacher."
01.MEN-SEL.04	Suggestions for	• "she's talked about some other candidates

= selection	ensuring selection of effective mentors	who are not in a good place and I do not want her to have that. I think they need to be a little more selective of who they allow to be mentor teachers. • "They need to ask principals more. They have a good gauge of who's positive and negative on their campus."
01.MEN-TRN.05 = training and support	Ways in which the online and monthly trainings have/have not been helpful, suggestions for training that would be helpful, other sources of support for mentor teachers	• "it's kind of nice to see how (the site coordinator) does it and then I kind of just copy what she does." (on watching SC model a planning conference) • "I haven't gotten to talk too much about the other teachers. I wish they would give us time to kind of talk and see how it's going in their classroom."
02.TCA-Teacher Candidate		
02.TCA-IDT.01 = identity	Teacher candidates discover teaching preferences	• "at first she wasn't sure if she wanted math. Like she was questioning herself. She wasn't sure if she wanted sped or math or if she chose the right profession at all. She's made several discussions that she couldn't imagine being anywhere else." • "now he can tell that he wants to do like a resource kind of class. Or like an older type classroom. He knows that this grade level is what he wants."
02.TCA-IMP.02 = areas for improvement	Mentor teacher identifies areas where the teacher candidate needs to improve and areas where the teacher candidate has shown improvement	• "I don't think she preps quite enough as she needs to." • "The most growth in? I say student knowledge. He's really getting to know the kids a lot better."
02.TCA-RES.03 = responsibility	Statements which describe the teacher candidate's responsibility	• "I teach the first period and she gets to observe. And then she does the second with me together and then she does the third one on her own." • "I just try to give him as much as he can without being too much. And maybe I

		should give more, but I'm just afraid to overwhelm him."
02.TCA-STR.04 = strengths	Mentor teacher identifies teacher candidate strengths including pedagogical areas and a willingness to learn/accept feedback	• "She does want to do the best she can so she does fix what I give her feedback on." • "What I liked is that he made them move the clip and told them why they moved their clip."
03.CHL-Challenges		
03.CHL-ASU.01= ASU related challenges	ASU related challenges include difficulty balancing coursework with student teaching, the high expectations of a rigorous program, unrealistic expectations around lesson planning, disconnect between iTeachAZ program expectations and teaching after college	• "…when she goes into a real job. You're not going to be able to write thorough lessons like they are asking." • "it gets really, really hard cuz we have to lesson plan and he has to do homework."
03.CHL-OTH.02= other challenges	Challenges that do not fit into other sub-codes including family responsibilities, lack of opportunity to apply feedback immediately, financial burden, mentor experience level	• "They're tired. They're poor. They're working for free. They're doing someone else's classroom which is always hard." • "I haven't been teaching that long, so now being the evaluator, it gets really hard because it makes you think of things you never really thought before"
03.CHL-TIM.03	Limited amount	• "it just doesn't feel like we have the time.

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= limited time	of time was a challenge	We're so rushed all the time."
04.COC-Coaching Conversations		
04.COC-FOR.01= format	Format or structure of coaching conversation	• "I always ask her how she thought she did and then we go from there." • "I write notes like do this, do this, do that. And usually there's like a page and a half of notes but I try to mix it in with positives and room for improvement."
04.COC-GOL.02 = goal	Goal or purpose of the coaching conversation	• "to make sure that every time we teach it, it gets better next time." • "I guess the point of those meetings is just to give him those notes so that way he can say, 'ok, this is what I need to work on.'"
04.COC-LOG.03= logistics	Frequency, duration, time when coaching conversations take place	• "we do kind of touch base when the kids are doing bell work." • "every Wednesday for sure and then after lessons"
04.COC-TOP.04= topic	Specific focus of the coaching conversation. This includes specific teacher actions or pedagogy. Mentor comments related to limiting the number of refinements and breaking areas of improvement into manageable pieces.	• "I guess it's just what I observe that day and what I think she needs to still work on" • "the things we talk about are the things that he's constantly struggling with."

The four major themes identified from mentor teacher interviews (mentor teacher, teacher candidate, challenges, and coaching conversations) are further explained in the sections below.

   Mentor Teacher. The theme "mentor teacher" was divided into five sub-codes that included mentor selection, mentor training, the role of mentors in supporting teacher

candidates, mentors' previous experiences, and the relationships between mentors and teacher candidates. Participants shared reflections and suggestions for mentor teacher selection and training. The MPMT felt the process of recruiting mentors should be more selective. She suggested, "They need to ask the principals more. They have a good gauge of who's positive and negative on their campus." She elaborated on the traits to look for, "You need to have that passion, that experience, the enthusiasm." Mentors also offered their thoughts on the training provided to mentors. Their comments suggested ways that the training was helpful. The RMT explained, "It's helped me most to be reflective. Like I think things are going well, but then I'm like, no, I needed to let him take more charge." The mentors also suggested ways that the mentor training could be improved, "I haven't gotten to talk too much about the other teachers. I wish they would give us time to kind of talk and see how it's going in their classroom." For the MPMT who had previous coaching experience, the training provided by ASU was less helpful, "a lot of it was really re-teach from my coaching experience. But the TAP I enjoyed. I liked that part of it." Some comments suggested that the training was not helpful. When asked about his use of the data dashboard, which was explained in the third mentor professional development training, the RMT responded, "I didn't take too much from it because I completely forgot to use it." Mentors reported they were not supported in their role by the district. The RMT commented, "District's not very helpful."

Other comments during the interview addressed the mentor teacher's role in supporting the teacher candidate. Mentor comments suggested that their role is a multi-faceted one that includes preparing novice teachers for the reality of teaching, "I'm just trying to show her what it's like real life," as well as fueling a passion for the profession,

"I want them to feel like I'm doing this for a reason and the love of kids. That's why we're really here." Mentors also talked about preparing teacher candidates to "have balance" and "be able to turn it off sometimes" in order to sustain themselves in the teaching profession. Mentors often provided support to teacher candidates beyond the coaching conversations observed during this study. Examples of this include "a lot of texting and talking after school (and) before." Mentors saw it as their role to give feedback, serve as a model of professionalism and effective practice, and suggest resources. At times, each mentor felt it was necessary to let the teacher candidates struggle on his or her own and purposefully not intervene.

In some ways, mentors' previous experiences influenced their actions. For the RMT, his own experience as a student teacher four years ago influenced the way he approached his role. The RMT explained that he wanted to ensure that RTC was more prepared than he had been:

> I know the main reason I wanted to become a mentor teacher was because I wanted to give opportunities that I didn't really get to experience until I started teaching. And especially in the area of special education…I did not write an IEP while I student taught. I did not attend meetings. I did not have to keep progress notes. I did not have to do any of that stuff, so that made for a rough transition that first year.

For the MPMT, her past experience included training completed during her years working as an instructional coach. The MPMT commented, "we had tons of training as a coach…how to provide positives and negatives in a way that doesn't sound threatening… so with my student teacher I'm able to apply a lot of those things to her experience." Empathy for the teacher candidates came through when mentors made comments about their own experience as student teachers such as, "I know I sympathize because I know

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he has a lot of work to do…. I was there, too." and "I remember being in those shoes. It sucked."

Several comments during the interviews described the relationship between the mentor and teacher candidate. The MPMT made comments such as, "we've become friends," and "we eat lunch with the whole team everyday." The RMT comments suggest a similarly positive relationship with his teacher candidate stating, "me and RTC were like super close from the beginning. We were chatting it up and talking." Mentors described how the relationship influenced their ability to give teacher candidates feedback. For the MP dyad, the comfortable relationship was conducive to coaching, "everything's comfortable with us. So I can give her feedback and she doesn't take it personal. I think just our whole rapport is helpful." For the R dyad, it was a little more complex as the relationship changed over time. He explained:

> I knew him from last semester but it was a little uncomfortable cuz I was afraid to hurt his feelings because we're close…. Now I realize that… it's important for me to be honest. So now we've reached that point where I can be like we're tight, but I need to, like I care what your outcome is, so it's not to hurt your feelings, it's to be honest.

Teacher candidate. Another theme that emerged from mentor interviews addressed issues related to the teacher candidate. This theme was divided into four sub-codes including teacher candidate responsibilities, teacher candidate strengths, teacher candidate areas for improvement, and the role that the student teaching experience plays in helping the teacher candidate discover their teaching preferences.

According to mentors, the student teaching experience helped teacher candidates discover their preferred teaching setting. The MPMT commented:

at first she wasn't sure if she wanted math. Like she was questioning herself. She wasn't sure if she wanted sped or math or if she chose the right profession at all. She's made several discussions that she couldn't imagine being anywhere else.

The RMT noted, "now he can tell that he wants to do like a resource kind of class or an older type classroom. He knows that this grade level is what he wants." Mentors also described the responsibilities given to teacher candidates in the classroom. During our first interview, the MPMT explained, "I teach the first period and she gets to observe. And then she does the second with me together. And then she does the third one on her own." Over the course of the semester, the teacher candidate gradually took on more responsibility while the mentor continued to provide support. At our final interview, the MPMT noted this change, "now she's at the point where she's doing all three." The RMT expressed some uncertainty with how much responsibility to transfer to the TC, "I just try to give him as much as he can without being too much. And maybe I should give more, but I'm just afraid to overwhelm him." The RMT, who was in a special education resource setting, made a conscious effort to give his teacher candidate opportunities to do the types of activities that would be required of him as a special education teacher, "I had him test a student and… he wrote up the MET report and everything."

During the interviews, mentors also commented about their teacher candidates' strengths and weaknesses. Several comments praised teacher candidates for their willingness to accept and apply feedback. The MPMT commented, "She does want to be the best she can so she does fix what I give her feedback on." Similarly, the RMT said, "He is very accepting of help." Both mentors also identified specific areas in which improvement was needed. Some of these were related to planning, "lesson planning was really vague" or preparation, "I don't think she preps quite enough as she needs to… she

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needs to really, like, know the content a little bit more than she does." Other areas of improvement were noted during lesson delivery, "his biggest weakness right now is just being firm with the students." Mentors also noticed improvements over time, "the most growth? I'd say student knowledge. He's really getting to know the kids a lot better."

Challenges. In addition to discussing the participants, mentors also described challenges that impacted their work with teacher candidates. The theme of "challenges" was divided into three sub-codes. These included issues related to ASU's iTeachAZ program and the limited amount of time available for coaching and planning. Additional challenges that were mentioned less frequently were grouped into a sub-code called "other."

Mentors shared several concerns related to the iTeachAZ program expectations, rigor, and schedule. Mentors remarked that the iTeachAZ program expectations were different form their own, and in some cases, unrealistic. When commenting on the detailed lesson plans required by the program, the MPMT said, "I told her I don't expect that. This is reality. This is life. And you've got to have a life outside of this or you will not stay for the five years." Mentors recognized the challenge teacher candidates faced with balancing student teaching with a full course load. The MPMT commented, "I mean she's completely stressed out right now." The RMT described how his teacher candidate was similarly affected. He explained, "I think it just stretches him a little too thin. Because he's like, 'dude, I'm just so stressed." Other program challenges had to do with the schedule which required teacher candidates to be out of the classroom all day Thursdays and for a half day on Tuesdays in order to complete coursework. The RMT saw this as interfering with important events related to his teacher candidate's

preparation. He explained, "Unfortunately, the way it just turned out this semester, a lot

of things get scheduled on like Thursdays. Cuz for whatever reason, that's just the day

that parents seem to be able to do things…. He's gone all day Thursday."

Other challenges were unrelated to ASU and the iTeachAZ program. At times, a

mentor's limited experience presented a challenge. The MPMT admitted she was "new

to the grade level so it's taking me a little while to get into the groove." For the RMT, his

experience level posed a different kind of challenge. He felt he had gotten to the point

that teaching was so natural for him that it was difficult to be metacognitive about his

own practice. He retold this exchange with his teacher candidate as an example:

> He's like "where do you come up with all these ideas?" I'm like, "they just kind
> of happen after a while." My first year I was like oh, how do I teach
> multiplication? Now it just kind of comes to you… it gets harder to be reflective
> the more you go on because you know what you're supposed to be doing and you
> kind of get into the groove of things.

A limited amount of time presented a problem for the MP dyad. The MPMT lamented,

"Time, more time. We literally have like a 30-minute lunch and that's it. And before and

after school it's hard. More time would be ideal." Other challenges included family

responsibilities "she's got two kids at home," financial stress "they're poor," and the

demands of dealing with "just life in general."

Coaching Conversation. The fourth theme identified in mentor teacher

interviews was related to coaching conversations. The theme of "coaching

conversations" was divided into four sub-codes: logistics, format, goal, and topic. The

sub-code logistics described when, where, and how often coaching conversations took

place. Format described how the coaching conversation time was structured. The sub-

code goal described the purpose of coaching conversations while topic included examples of what was actually discussed.

Mentors reported the frequency of coaching conversations with comments such as "every Wednesday for sure and then after lessons," and "we do kind of touch base when the kids are doing bell work." The RMT explained how he resists the temptation to provide coaching support during the lesson, "unless it's like gonna become a problem, I try not to interrupt while he's talking. Today wasn't that bad so I just waited until afterwards to give him the notes." Mentors also described the various formats for these conversations such as "we reflect on ourselves," "I usually ask her first like what her feelings are," and "I'll do a 15-minute script. Tell her what she said, what they are doing so that she can see that." Mentors described how they try to break their feedback into manageable pieces. The MPMT said, "we're trying to do one strategy at a time. Give her the tools, improvement, then we start the next thing." Similarly, the RMT described his approach:

> I try to give him little things… when you give a big thing and then a million little things it feels like, "oh my gosh, it's gonna take forever." But with RTC I've been giving ok like this is one area you need to work on and then he works on it. And then I give him another area that he needs to work on and then he works on that. So little by little he's getting better.

During another interview, this same RMT described his coaching behaviors differently. Rather than one thing at a time, he described giving multiple pieces of feedback at once, "I write notes like do this, do this, do that. And usually there's like a page and a half of notes."

Mentors felt that the goals of the coaching conversations were about reflecting on performance to help increase teacher candidate effectiveness. The MPMT described,

"the coaching part was to make sure that every time we teach it, it gets better next time."
The RMT felt that a goal of coaching conversations was to help the teacher candidate become more reflective, "I feel like a big piece of it is also being reflective. Like looking back and saying this is how it went, this is how I wanted it to go. So these coaching things kind of guide him towards that direction." During coaching conversations, mentors addressed areas where teacher candidates frequently struggled or whatever presented itself during the observation. The MPMT said, "I guess it's just whatever I observe that day and what I think she needs to still work on." The RMT said, "I kind of just look for everything every time" and "the things we talk about are the things that he's constantly struggling with."

Teacher Candidate Interview

   Teacher candidate interview results. The four general themes identified from the teacher candidate interviews were the same as those from the mentor teacher interviews: mentor teacher, teacher candidate, challenges, and coaching conversations. There were differences, however, in the sub-codes for three of these, mentor teacher, teacher candidate, and coaching conversations. Table 10 below describes each sub-code and provides an example from the text. This is followed by a more detailed explanation of each theme.

Table 10

Teacher Candidate Interview Codes, Explanations, and Examples

Code	Explanation	Examples from the data
01.MEN-Mentor Teacher		
01.MEN-DAS.01 = support during and after a lesson	Mentor teacher provides support to the teacher candidate during and after lessons	• "She used to jump in during lessons a lot. Like if I was stuck, I was sinking, then she would rescue me. Whereas now, she makes me go through those struggles so I can realize what I can do better." • "she really told me like hey you need to follow through when you say 'hey stop talking' . . . You just have to follow through and be really firm with your expectations."
01.MEN-PSU.02 = planning support	Mentor teacher provides planning support to the teacher candidate in preparation for lessons	• "She mentors me a lot as far as lesson planning. Like I wasn't doing very descriptive lesson planning and she made sure to point that out and said, 'ok this is what a lesson plan needs to look like.'" • "He kind of shows me different angles to attack a lesson and the standard."
01.MEN-REL.03 = relationship with teacher candidate	Mentor-teacher candidate relationship, factors which help establish an effective relationship, impact of relationship on teacher candidate	• "We had to write a letter to our mentor introducing ourselves, something about our lives. So coming in it was so personalized. She knew something about me and I knew something about her. So getting to know each other at the beginning was very important in creating this relationship that we have now." • "I'd definitely say friend. He's still a teacher, so … we're not like homeys or buddies really, but I think still, we get along very well."
01.MEN-ROL.04 = role	Mentor's role includes: advocate, critic, teacher, role model, mentor	• "She's a role model. I wish that one day I could run my class as smoothly as she does." • "Definitely most importantly is to give you that, help you, you know, learn the real world experience you're going to need."
01.MEN-TRN.05 = training	Suggested topics for mentor teacher training	• "at the beginning, MPMT did not know what the TAP rubric was and what we were being graded on. So at the

		beginning it was like 'Good job on doing that. Good job on doing this.' But after my first PA she realized, 'oh, ok, now I see what she's being graded on. I see what they expect out of her.'" • "I'd want them to understand right away what they want their student teacher to take over."
02.TCA-Teacher Candidate		
02.TCA-IDT.01 = identity	Teacher candidate influencers and experiences that shaped identity, teacher candidates compare self to others	• "Her practices I think has really rubbed off on me. The way she teaches. At the beginning I didn't really have an identity, if that makes sense. But I feel like now I do…. I didn't feel like I presented myself as a teacher or talked like a teacher. You know what I mean, just carried on as a teacher. But now I feel like her…procedures and strategies have rubbed off on me." • "I'm a big guy. I'm kind of stern faced. And I won't laugh for like the first few weeks I knew them. They're kind of, 'he's not mean to me, but I'm a little scared of him because he's huge.' … That's something I was kind of working on, joke with the kids and let them know I'm not the Terminator."
02.TCA-IMP.02 = improvement	Areas where teacher candidates have improved and areas where they still need to grow	• "one of my biggest refinements was the peer student-to-student interaction…. that was my refinement in my first PA. So the fact that it's coming naturally, I'm like it's starting to make me feel better about myself." • "I do sometimes have trouble with knowing how much to help kids. You know, I don't want to help them too much."
02.TCA-SUP.03 = sources of support	Teacher candidate sources of support	• "Just people I know that are teachers. Like relatives that are teachers, I go to them a lot. I ask them for advice." • "The iTeach program that I'm doing, it does feel like I'm learning a lot but it feels like half of everything I am learning and am going to use, I'm learning from RMT as a teacher."

03.CHL-Challenges		
03.CHL-ASU.01= ASU related challenges	ASU related challenges include: difficulty balancing coursework with student teaching, intensity of the iTeach program, different expectations from iTeach and school/mentor, difficulty applying course content in field placement	• "it's like you focus on the lesson planning and then you kind of leave the coursework go away.… It's like I feel selfish if I'm not lesson planning, I feel like I'm not doing my job for my students. And if I'm not doing coursework I feel like I'm going to fail the courses so it's really hard to balance." • "I wrote a lesson plan, he was like 'wow, I've never even seen a lesson plan this good.' And then I turned it in and I got a 1 on it out of 5. And he thought it was awesome."
03.CHL-OTH.02= other challenges	Challenges that do not fit into other sub-codes including family responsibilities, addressing gaps in student learning, teaching multiple grades and lessons each day	• "they have so many holes in their education already" • it's hard because every day 5th and 6th grade, this lesson and that lesson.
03.CHL-TIM.03 = limited time	Limited amount of time for collaboration and coaching	• "having more time in the day, during prep time which is taken a lot by the district, is something that we need. It's necessary." • "We hardly ever have time to sit down and do any talking or conversations on lesson planning or anything. It's mostly on the go all the time. You know even our morning prep is sometimes taken by doing TLTs and PLCs."
04.COC-Coaching Conversations		
04.COC-FOR.01= format	Format or structure of coaching conversation	• "She always starts with reinforcement first, what you did good. And the refinement, she tells me, 'OK this is what you need to do better.'" • "He actually always does, 'how do you think it went?' And I always say 'I think it went OK' just because I don't have a whole lot of experience to judge myself

		with…. I'd say he's definitely a little more direct."
04.COC-GOL.02 = goal	Goal or purpose of the coaching conversation	• "refining the lesson. That was the ultimate goal. Every time after a lesson we always look at what we can do better to improve the next lesson for the next block." • "he's been touching on that a lot just because it's something I continually need to work on."
04.COC-LOG.03= logistics	Frequency, duration, time when coaching conversations take place	• "10 minutes after school, you know. Like it's really quick." • "And usually on Fridays like after school we'll have like a little bit more in-depth one every couple weeks."
04.COC-VAL.04= value	Benefit of the coaching conversation to the teacher candidate; learning or insight gained from coaching conversation	• "it kind of uplifts me because I feel like I'm doing something right when she does tell me, 'ok you are doing this.' Cuz I don't realize I'm doing that. Like the whole, you know, keeping them accountable. I don't realize I'm doing it until she tells me, 'you are doing it.' And I see my improvement." • "Sometimes he'll say stuff that I had no idea. Well, wow, I didn't know I was doing that wrong. Or he'll say stuff … that I would never have known unless he would have told me."

The four major themes that emerged from teacher candidate interviews (mentor teacher, teacher candidate, challenges, and coaching conversations) are further explained in the sections below.

Mentor teacher. The theme mentor teacher was divided into five sub-codes including role, planning support, support during and after a lesson, relationship, and training. During the interviews, teacher candidates described the various roles that the mentors played as well as the ways they provided support before, during, and after lesson

planning. Teacher candidates also described their relationship with their mentors and suggested training that mentors should have to prepare them to host a teacher candidate.

Teacher candidates described their mentors with words like advocate, role model, mother figure, my rock, teacher, and critiquer [*sic*]. The MPTC aspired to be like her role model mentor, "She's my role model. I wish that one day I could run my class as smoothly as she does. She's really good at classroom management. And she's so passionate with her students…. I definitely want to have her passion for what she does." The teacher candidates also described how they looked to their mentors to prepare them professionally for the future "real world experience." Teacher candidates used positive language to describe relationships with their mentors. When asked to describe the relationship, the MPTC said, "We're very comfortable with each other. I see her now more as a friend than anything. We've grown really close." One comment by the RTC described a hierarchy he felt, "I have ideas for his classroom…. Like he wouldn't be offended if I told him these things, but I am just a student teacher and he is my mentor." Despite this power difference, like the MPTC, the RTC also felt that the relationship with his mentor was a positive one, "I'd definitely say friend. He's definitely a teacher, so I'm not like, we're not like homeys or buddies really, but I think still, we get along very well." In contrast, the RTC described the relationship with a different mentor from an earlier semester as awkward, "I was kind of afraid to ask questions and stuff." The MPTC cited community-building activities organized by the site coordinator as a contributing factor to the positive relationship with her mentor. These orientation week activities included get-to-know you activities as well as time for the new dyad to go out for lunch.

Teacher candidates described ways that mentors provided support with lesson planning. Sometimes mentors and teacher candidates worked together to co-plan lessons. Other times, the teacher candidate would write lessons and submit to the mentor for feedback. Mentors pointed out ways in which lesson plans could be improved. The MPTC said, "she mentors me a lot as far as lesson planning. Like I wasn't doing very descriptive lesson planning and she made sure to point that out and said, 'ok, this is what a lesson plan needs to look like." Mentors were helpful in providing teacher candidates with resources. The RTC commented, "He helped me pick out some graphic organizers that were great."

In addition to providing planning support before lessons, mentor teachers also provided support during and after lessons. This took several different forms. During lessons, mentors would sometimes signal to the teacher candidates and provide reminders to administer consequences for misbehavior. The RTC described, "I'll be teaching and… somebody will do something and I'll kind of look at him (the mentor teacher) and he's like 'get him,' pointing like 'stick him.'" The MPTC described how her mentor's modeling was a support, "her modeling the classroom management from the beginning… made me see OK I need to give one warning and do an infraction because I need to do what she does." Mentors sometimes provided support in the form of direct feedback, "she really told me like hey you need to follow through when you say 'hey stop talking.' ...You just have to follow through and be really firm with your expectations." Over the course of the semester, teacher candidates noticed that mentors were gradually letting go. During the final interview the MPTC shared:

she's starting to let go a little bit. Like in the beginning it was like constant feedback, constant, like she was carrying me… whereas now she's like, OK you're on your own. Go do what you have to do.' And she provides me with feedback after I do it, not throughout like she used to do.

With respect to training, teacher candidates suggested several topics for mentor training. One of these was training on the TAP rubric to help develop a common language and shared understanding of program expectations. The MPTC described:

At the beginning, MPMT did not know what the TAP rubric was and what we were being graded on…. But after my first PA she realized, "oh, ok, now I see what she's being graded on. I see what they expert out of her."

The RTC also felt it was important for mentors to have training on how to give feedback to teacher candidates in a way that was effective but did not hurt feelings. He described "other people in my cohort that are kind of getting bummed out" because their mentors reportedly lack this skill.

Teacher candidate. The theme teacher candidate was divided into three sub-codes. These include statements related to the teacher candidate's identity, areas where the teacher candidate has improved or needs to improve, and people and resources that teacher candidates relied on for support.

The MPTC described how her mentor helped shape her identity as a teacher:

Her practices I think has [*sic*] really rubbed off on me. The way she teaches. At the beginning I didn't really have an identity, if that makes sense. But I feel like now I do…. I didn't feel like I presented myself as a teacher or talked like a teacher. You know what I mean, just carried on as a teacher. But now I feel like her…procedures and strategies have rubbed off on me.

The RTC self-identified as a new teacher and questioned his own expertise, "I don't really know necessarily what's best or the worst from my lack of experience I guess." Throughout the semester, the RTC described himself as an "imposing guy" with a "stern

face" who is "not necessarily a people person" and "kind of stand-offish." He compared himself to the Terminator in contrast to his mentor who is "kind of a big nerd" who is "into Disney" and "very playful with the kids." He compared his own challenges building relationships with students to the ease with which his mentor built relationships, "they just connect with him really well." The teacher candidate felt that, with time, he improved in this area. By the final interview reported he "had pretty much nailed down the student-teacher relationship" with his 6th graders and "definitely got the 5th graders all down now." The RTC also compared himself to other teacher candidates in his cohort stating, "I'm definitely not the strongest teacher in our group…. We have some … teacher candidates that are incredible." The RTC disclosed his own experience growing up with a learning disability and shared how this influenced his work with students in the resource classroom setting, "I went through the school system with an IEP and stuff. And I was a bit of a success story. You know my parents were always on me… So I like to try to push the kids."

During the interviews, teacher candidates identified areas where they had shown improvement over the course of the semester as well as areas where they felt growth was still needed. Both teacher candidates reported improvement in the area of classroom management, "Classroom management has been a big growth." For the MPTC, showing growth in an area that was previously a refinement made her feel better about herself. The MPTC felt that reflecting on her own performance was still difficult and valued direct feedback from her mentor teacher. She explained:

> if she was asking like 'how could you improve this better' kind of questions, I don't think it would help me because I don't know what it needs to look like…it

would be uncomfortable to me cuz I don't know what she expects. I need that immediate feedback, like, what do you expect for me.

The RTC also felt that he needed a better understanding of how much help to give students when they struggled and expressed concern that he had not had much practice in writing Individualized Education Programs for students with special needs.

Teacher candidates identified multiple sources of support. The number one source of support for both teacher candidates in this study was the mentor teacher, "it feels like half of everything I am learning and am going to use, I'm learning from RMT as a teacher." Other sources of support included the site coordinator, other cohort members, school administration, online websites like Wiki-teacher.com, and family members. The MPTC explained how she would go to family members who were teachers for support with lesson plans. The RTC included family members as a source of support in the form of room and board, "I live with my cousin. I don't pay rent. I don't buy food. She provides all that for me out of the goodness of her heart." For this teacher candidate, his family also served as a source of motivation, "I'll be the first person in my family to start college in four years and then finish. My mom went to college, never finished. My dad got a football scholarship, never finished. I'll be the first person on my dad's side of the family ever to get a degree, which will be cool."

Challenges. The theme of challenges was divided into three sub-codes. These included challenges with ASU's iTeachAZ program and a limited amount of time for mentors and teacher candidates to collaborate and engage in coaching conversations. Additional challenges were combined into a category called "other."

Teacher candidates reported several challenges related to the iTeachAZ program. Among these were complaints about the difficulty managing a full course load while student teaching. The MPTC described her challenge with balancing these two responsibilities:

> it's like you focus on the lesson planning and then you kind of leave the coursework go… I feel selfish if I'm not lesson planning. I feel like I'm not doing my job for my students. And if I'm not doing coursework I feel like I'm going to fail the courses so it's really hard to balance. Very hard.

Besides the reported intensity of the program, another challenge teacher candidates reported was a lack of alignment between their coursework and field placement. The RTC provided one example of a difference between how his ASU instructors taught him to write lesson objectives and what the principal in his school would call effective. Another challenge related to coursework was applied assignments that were not relevant to the teacher candidate's placement. "Sometimes it's just like, I don't know how I'm going to get this (assignment) into my student teaching, so I'm just going to do it about some random subject, turn it in, and then I'm done." Yet another challenge reported by the RTC was the difference between his mentor's expectations and the program expectations. He explained:

> I wrote a lesson plan, he was like 'wow, I've never even seen a lesson plan this good.' And then I turned it in and I got a 1 on it out of 5. And he thought it was awesome.

Teacher candidates also identified a limited amount of time as a challenge in working with their mentor teachers:

> We hardly every have time to sit down and do any talking or conversations on lesson planning or anything. It's mostly on the go all the time. You know even our morning prep is sometimes taken by doing (school mandated meetings).

Other challenges include family responsibilities. The MPTC had two young children, which made it difficult to get to school early. For the RTC, significant gaps in student learning presented another challenge, "they have so many holes in their education." The RTC also commented on the difficulty of preparing multiple lessons each day for students in more than one grade and subject area, "there's just so many lesson plans to do, it's hard to come up with ideas day after day after day."

Coaching conversation. The theme "coaching conversations" was divided into four sub-codes. These included the goal or purpose of coaching conversations as well as logistical information such as frequency, time, and duration. Sub-codes also described the format of the coaching conversation and the value of these conversations to teacher candidates.

According to teacher candidates, one goal of coaching conversations is to help improve the lesson before it was taught again. "Every time after we teach a lesson, we always look at what we can do better to improve the next lesson for the next block." Another goal was to identify teacher candidate strengths "so I can repeat it in the future" and areas for improvement "the ones you need to focus on more." Coaching conversations sometimes focused on an area that the teacher candidate had been struggling with, "he's been touching on that a lot just because it's something I continually need to work on."

In terms of format, the RTC reported his mentor always asks, "how do you think it went?" but admitted his typical response to this question was, "OK" because he felt he lacked the experience needed to accurately judge. According to the RTC, the RMT tended to be "a little more direct." The RMT typically took notes during a lesson and

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then met with the teacher candidate briefly between classes. Similarly, the MPMT would

occasionally script the teacher candidate's lessons and share her notes afterwards. The

RTC reported his mentor did not use the language of TAP when giving feedback, but felt

that he was able to make connections between his mentor's comments and the aligned

TAP indicator. The MPTC said that her mentor was very specific when giving feedback

and provided additional support through modeling. The MPTC described:

> She lists a refinement and the reinforcement for the week. She always starts with
> reinforcement first what you did good. And the refinement, she tells me, 'ok this
> is what you need to do better.' … She always models for me first what I need to
> do better.

Teacher candidates were asked to describe the timing, frequency, and duration of

coaching conversations. They both reported short conversations, "two minute check-

ins," several times a day between lessons and longer conversations after school usually

once a week. During the final interview with the MPTC, she gave a response that

differed from what she had shared in earlier interviews. On this day she admitted, "we

don't have them often… well actually the only time we have them is when you're here to

be honest."

Teacher candidates felt that the coaching conversations with mentors were

valuable. Mentors pointed out areas where improvement was needed and helped teacher

candidates develop a clear picture of "what it's supposed to look like" sometimes by

modeling for them. Both teacher candidates described how they kept mentor feedback in

mind and tried to apply it during future lessons, "I think about, ok, MPMT told me to do

this yesterday. I need to make sure I do it today and for now on." Both teacher

candidates described how their more experienced mentors were often able to point out

things that they did not notice on their own. The RTC explained, "Sometimes he'll say

stuff that I had no idea. Well wow, I didn't know I was doing that. Or he'll say stuff…

that I would never have known unless he would have told me." Teacher candidates also

felt affirmed when mentors pointed out things they were doing well. The MPTC

reflected:

> it kind of uplifts me because I feel like I'm doing something right when she does
> tell me, "ok, you are doing this" … I don't realize I'm doing it until she tells me,
> "you are doing it" and I see my improvement.

Site Coordinator Interview

Site coordinator interview results. The two themes identified from the site

coordinator interviews were mentor teacher and mentor professional development. Each

of these themes was further divided into sub-codes. Table 11 below explains each theme

and provides an example from the site coordinator interview.

Table 11

Site Coordinator Interview Codes, Explanations, and Examples

Code	Explanation	Examples from the data
01.MEN-Mentor Teacher		
01.MEN-CHL.01 = challenges	Challenges with mentor teachers	• "I've witnessed myself unprofessional behavior and it was a very challenging situation for the TC. She did not model best practices." • "And with (C. Mentor) I had to have several very difficult conversations with her that were needed because she was not establishing regular times to sit down with her teacher candidate."
01.MEN-COM.02 = compensation	Mentor teachers compensation	• "It's $22 an hour… It's for the welcome orientation time and then the mentor meetings that we have. And then the online PD." • "I think that, intrinsically, it's become a status in the district to be an iTeachAZ

		mentor… because of the way that all the principals are raving about hiring their grads and hearing from the teachers on campus, you know, these iTeachAZ teachers are first year teachers. They're rocking it. They're amazing."
01.MEN-RET.03 = retention	Factors which influence retention of mentor teachers	• "I look at: Did the mentors attend the mentor professional development meetings? Did the mentors have established times where they met regularly to debrief and to coach their teacher candidate? Did they respond to me and the teacher candidate in a timely manner with email communications?" • "just from the body language and demeanor and things that I see with the teacher candidates and the mentor from their interactions, I can tell if it's a positive, productive, collaborative relationship or not."
01.MEN-SEL.04 = selection	Description of mentor selection process, desired characteristics, challenges with selection	• "I had to actually go around and solicit more from principals, which quite honestly, isn't always the most reliable recommendation" • "Positive, productive, collaborative, and professional. To me those are non-negotiables for an iTeachAZ mentor
01.MEN-SUP.05 = support	Ways in which the mentor teacher provides support to the teacher candidate	• "She gives continuous specific feedback to the teacher candidates, written and verbally. And spends significant amount of time on a regular basis with the teacher candidates as well." • "She's (TC) an amazing, smart, talented teacher. She also has the potential to burn a lot of bridges from others around her when she goes to a school site because she jumps in as an equal in a PLC meeting and she's kind of offended and put back some of the other teachers, so (K. Mentor) has very skillfully and tactfully pointed out to her about interpersonal awareness."
02.MPD- Mentor Professional Development		
02. MPD-ASU.01 = ASU	Goals, topic, format of monthly	• "I've tried to really be much more intentional and purposeful about

professional development	professional development trainings which are part of the ASU iTeachAZ program	focusing on the coaching aspect." • "I also want to make sure that in the mentor PDs that I give them all more time to talk. You know, because they all have so many strengths and for them to be able to share with each other what they're going through with their TCs and to be able to coach each other and support each other with that as well."
02. MPD-CHL.02 = challenges	Challenges related to mentor professional development including logistical (dual cert program has different mentors each semester) and individual (mentor with poor attendance)	• "I've really been thinking about this a lot this last week, is how to continue to build that strong capacity in the mentor cohort when they don't have the same teacher candidate and they're not all going to be with me throughout the whole school year." • "I have a mentor who hasn't been here since welcome orientation."
02. MPD-INF.03 = influence	Influence of professional development on mentor teachers	• "I think showing them in mentor PDs how I use the data and then showing examples of what quality, specific feedback from a mentor looks like. Then they realized, well I really do need to step up my game with my feedback to the teacher candidates. Since then I've seen a really big improvement." • "He (MT) was going much, much further with those steps in backwards design and really pushing RTC to think about all those different pieces. That wasn't there before."
02. MPD-OTH.04 = other support for mentors	Site coordinator support for mentors outside of the scheduled monthly professional development meeting	• "I was very intentional about having ongoing planning conferences, not just for his second PA, but for his regular weekly planning where we had triad meetings and did planning conferences and went through those steps of backward design." • "we had a lot of triad discussion as we were planning (A. Teacher Candidate)'s PA one and also as she was working on her unit plan together."

02.MPD-SUP.05 = support for site coordinator	Individuals and groups with whom the site coordinator can collaborate for support in training mentor teachers	• "there's some site coordinators in the senior year residency that are sped that I want to talk to…. So to kind of brainstorm with the other site coordinators, you know, how do you address this challenge?" • "I talked to (the district administrator) about this. I'll probably go to a couple of principal's meetings as well so they all know. This is expected for them (mentors) to be there (at monthly trainings)."

The sections below describe the two major themes from the site coordinator interviews: mentor teacher and mentor professional development.

Mentor teacher. The theme mentor teacher was organized into five sub-codes. Three sub-codes addressed mentor selection, compensation, and retention. Two additional codes described ways that mentors supported teacher candidates and challenges with some mentor teachers.

During the interview, the site coordinator described the mentor selection process for this cohort and the challenges she faced. Although this district had been an iTeachAZ site for several years, this was the first year that teacher candidates were placed in special education classrooms. The site coordinator had to rely on recommendations from principals and district administrators to identify qualified mentors. In addition to the program criteria of three years experience and principal recommendation, this site coordinator felt that being "positive, productive, collaborative and professional" were "non-negotiables for an iTeachAZ mentor." The site coordinator identified two challenges with the selection process. The first was the creation of a new lead teacher position in the schools, which removed several of the top teachers from classrooms, thus making them unable to host a teacher candidate. The second challenge was with

principal recommendations which she found "isn't always the most reliable recommendation." An ASU teacher candidate almost had to be removed from the classroom of one mentor because "it was just so bad." The site coordinator described feeling as though she was "kind of at their mercy" this year, but remained hopeful when describing prospects for selection in future years. She described, "The other cool thing that's happening now that iTeachAZ is getting such a name is that I'm getting emails all the time from teachers in the district, what do I need to do to be a mentor?"

The site coordinator described mentor compensation in this district. Mentors in this cohort are paid $22 per hour for participating in the monthly training facilitated by the site coordinator. Mentors also receive a three-credit tuition voucher, which can be used to take courses at the college. Beyond these extrinsic motivators, the site coordinator described how, "intrinsically, it's become a status in the district to be an iTeachAZ mentor." According to the site coordinator, "mentors are also saying that they are gaining from being a mentor teacher." The site coordinator shared a feedback form from an earlier mentor professional development session. On it, one of the mentors had written, "I truly feel like being a mentor makes me a better teacher."

According to the site coordinator, all of the current mentors have expressed an interest in continuing with the program when a new cohort begins next fall. The site coordinator described factors that she will consider when making decisions about where to place future teacher candidates. These include attendance and engagement during mentor professional development meetings, frequency and regularity of coaching meetings with the teacher candidate, and consistency in referencing to the TAP rubric and indicators when giving feedback. The site coordinator also plans to consider things she

hears in conversations with teacher candidates. The site coordinator described how "just from body language and demeanor and things that I see with the teacher candidates and the mentor from their interactions, I can tell if it's a positive, productive, collaborative relationship or not." One piece of data that will not be considered is the teacher candidates' formal evaluation of their mentor, which is submitted to Tk20. The site coordinator complained, "It's not shared with me even though I've asked to have that shared with me because I think that it's important data for me to have as site coordinator."

In addition to discussing selection, compensation, and retention, the site coordinator also spent time during the interview describing the various ways in which mentor teachers in this district provide support to teacher candidates. She described several different strategies. The site coordinator described one mentor who gave her teacher candidate "a lot of liberty to be a risk taker and to try things that she wanted to try." The site coordinator identified another mentor as highly effective because "she gives continuous specific feedback to the teacher candidates, written and verbally, and spends significant amount of time on a regular basis with the teacher candidates." Another mentor supported her teacher candidate by modeling how to use data to inform her teaching. The site coordinator described how one mentor supported her teacher candidate by making her aware of her "potential to burn a lot of bridges" because the way she was behaving in team meetings was unintentionally offending other teachers. "(K. Mentor) has very skillfully and tactfully pointed out to her about interpersonal awareness."

In addition to sharing these examples of mentors supporting their teacher candidates, the site coordinator also described some of the challenges she has faced with mentor teachers. This includes mentors who behaved unprofessionally or who were not effective teachers themselves and therefore unable to serve as models for their teacher candidates. In some cases, issues with mentors got to the point where the site coordinator needed to intervene. The site coordinator described one particular mentor who wanted to leave the teacher candidate in charge of instruction while she left the classroom to take care of other business. The site coordinator had to meet with her to remind her, "the emphasis in our program is co-teaching." This same mentor was not making time to collaborate or coach her teacher candidate. Again, the site coordinator needed to intervene, "I had to have several very difficult conversations with her that were needed because she was not establishing regular times to sit down with her teacher candidate."

Mentor professional development. The theme mentor professional development was organized into five sub-codes. This included information about the online and face-to-face trainings, which are required by the iTeachAZ program, as well ways that the site coordinator supported mentors beyond this minimum requirement. A third sub-code describes the influence of this support on mentors. Also included in this theme of mentor professional development are challenges the site coordinator was dealing with and identified sources of support.

The iTeachAZ program requires mentors to participate in upfront online and ongoing face-to-face professional development. The site coordinator explained that her long-term goal with the trainings is for mentors to see how they can provide support "on an ongoing basis in an informal way that will really push their teacher candidate's

growth." She described her intent each month to use data to inform the meeting topics, focus on the coaching aspect, and provide time for mentors to interact and support each other. The site coordinator explained how she has also provided support to several mentors outside of the monthly group meetings. For example, with mentors who were not effective with lesson planning themselves, the site coordinator organized triad meetings where she provided support in developing weekly plans, unit plans, and performance assessment lesson plans. "I was very intentional about having ongoing planning conferences, not just for his second PA, but for his regular weekly planning where we had triad meetings and did planning conferences and went through those steps of backwards design."

The site coordinator shared evidence that the monthly training and other additional support were influencing mentor teachers. The site coordinator described how after "showing them in mentor PD how I use the data and then showing examples of what quality, specific feedback from a mentor looks like" she saw an improvement in the quality and timeliness of feedback on the bi-weekly progress reports. Another example was an improvement in coaching skills for the mentor for whom she had modeled multiple planning conferences, "he was going much, much further with those steps in backwards design and really pushing RTC to think about all those different pieces. That wasn't there before."

During the interview, the site coordinator also shared challenges that she was facing and identified her sources of support. One challenge with a few mentors was poor attendance at the monthly meetings. "I understand different things come up… but I have a mentor who hasn't been here since welcome orientation." For this matter, the site

coordinator planned to ask school and district administrators for support. Another challenge this site coordinator was grappling with was how to differentiate the training so that it was germane for all participants, those who were first time mentors as well as those with more experience. She had played with the idea of using an online format as a way to differentiate, but admitted, "I don't know anything about putting together a quality online module." She wondered if others in the college would be able to provide technical support. She also identified co-teaching with a program specialist as another way to provide differentiated support to mentors during their monthly meetings. The site coordinator planned to reach out to other site coordinators for suggestions on how to handle these and other challenges related to mentor professional development, "kind of brainstorm with the other site coordinators, you know, how do you address this challenge?"

Mentor Teacher Training Observation

Mentor teacher training observation data collection and analysis. This section will briefly review the process for observing and analyzing the mentor teacher trainings as described in chapter three. The researcher observed four mentor teacher profession development meetings over the course of one semester. Observation notes were taken according to the protocol described in chapter three. The researcher scored each mentor training with the Mentor Training Observation Rubric (see Appendix A). This rubric includes seven indicators: Purpose and Topic Selection (PTS), Standards and Objectives (SO), Presenting Instructional Content (PIC), Activities and Materials (AM), Academic Feedback (AF), Site Coordinator Content Knowledge (SCCK), and Site Coordinator Knowledge of Mentors (SCKM). Each indicator is defined by several

descriptors. Transcribed observation notes were read multiple times to identify evidence aligned with the descriptors for each rubric indicator. After documenting evidence for each indicator, a score was determined for each of seven indicators. A score of 1 (unsatisfactory) to 5 (exemplary) was possible for each of the seven indicators. The results of this analysis process are described in the next section.

Mentor teacher training observation results. This section describes the results of mentor teacher training observation analysis. Table 12 below presents a summary of scores for each indicator for all four observations.

Table 12

Mentor Training Observation Scores

	PTS	SO	PIC	AM	AF	SCCK	SCKM
Observation 1	4	3	4	3	2	3	2
Observation 2	4	3	3	4	3	3	2
Observation 3	2	2	2	3	3	3	2
Observation 4	2	2	2	2	2	3	2

Information from Table 12 above is explained in the sections that follow.

Purpose and topic selection. The indicator Purpose and Topic Selection examines the catalysis for and topic of the training. To earn a proficient score, coordinators must purposefully use data from sources such as performance assessments, classroom walkthroughs, or mentor teacher surveys when selecting the training topic. Proficient meetings must emphasize mentoring skills and mentors must leave with a clear action plan they can implement to increase teacher candidate effectiveness.

The first two observations were scored at a 4 because there was evidence that mentors left with two clear actions for increasing teacher candidate effectiveness, thus exceeding the proficient level. The third and fourth observations were scored at a 2.

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There was not evidence in either of these trainings that the coordinator had used evidence in selecting the meeting topic. The action plan given to mentors at the end of the third training was vague, "log-in and explore" and mentors did not leave with any action steps at the conclusion of the fourth mentor meeting, thus, the scores for the final two meetings were below proficient on the Purpose and Topic Selection indicator. There was some evidence that the meetings were focused on developing mentoring skills, and so the score was higher than a 1 (unsatisfactory).

Standards and objectives. The indicator Standards and Objectives measures the extent to which site coordinators explicitly communicate learning objectives, align sub-objectives to the major objective, and set clear expectations for mentor performance. The most important descriptor for this indicator is evidence that most mentors demonstrate mastery of the objective. Again, the first two meetings earned higher scores than the last two meetings.

Observations 1 and 2 earned a score of 3 (proficient) because the site coordinator explicitly communicated the overall objective by posting it on the board and reading it during the meeting. Clear directions were given for activities during both meetings. In this first training, this involved instructions for watching the video, "something I want you to keep in mind as you watch the planning conference- look for evidence of coaching conversations." In the second training, the directions for completing a coaching plan were also clear. The site coordinator said:

> You're each going to develop a coaching plan. You need to identify a content area for a lesson that the TC can deliver. Plan with the TC ahead of time. Make the objectives and refinement clear. Use a combination of coaching models: plan with, modeling, whisper coaching, side-by-side. Remember to also use the TAP coaching questions that are in your binder.

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While these directions were clear, they were not particularly demanding or high, thus scores of 4 or higher were not earned. Most importantly, in both of the first two meetings, there was evidence that most mentors met the objective.

This was a distinguishing factor for the third and fourth observations in which there was not evidence that most mentors had mastered the objective. The posted objective for the third training was "By the end of the session, MTs will learn steps to analyze TC data to develop next steps for coaching." During the training, mentors had the opportunity to look at cohort data on the data dashboard, but did not have the opportunity to develop any coaching steps, which was expected per the objective. The posted objective for the fourth training was "we can evaluate a lesson delivery by citing evidence on TAP indicators and identifying an area of reinforcement and refinement on evidence cited." While there was a discussion of what was observed during a lesson video, there was not evidence that mentors could connect their observations to the TAP indicators. Time ran out and the meeting ended before the discussion of reinforcement and refinement was complete. For these reasons, scores of 2 were assigned to the third and fourth observations for the Standards and Objectives indicator.

Presenting Instructional Content. The indicator Presenting Instructional Content looks at the frequency with which the site coordinator uses visuals to establish purpose/preview/summarize, provides examples/illustrations/analogies/labels for new ideas, and models performance expectations. In addition, this indicator seeks evidence of concise communication, logical information, all relevant information and no irrelevant or confusing information.

The first observation earned a score of 4. Evidence was found for the majority of the descriptors including a poster that described in words and images the performance assessment process. A video was used to model the performance expectations of mentors during a planning conference. The training focused specifically on the mentor teacher's role during the performance assessment and planning conference, evidence aligned to all essential and no irrelevant information. The site coordinator did not provide internal summaries, which was one piece of evidence needed to earn a score of 5.

The second observation earned a score of 3 because there was evidence to support most of the descriptors under the Presenting Instructional Content indicator. Again, an agenda was used to preview the lesson. Examples were provided and a logical sequence was followed to help mentors first define the characteristics of effective coaches, second examine different coaching models, and third develop a coaching action plan. There was no evidence of illustrations or analogies. Importantly, the site coordinator described how to create an action plan, but did not model or provide a think aloud of what this actually looks like in practice.

The final two observations both earned scores of 2. While there was evidence to support a few of the descriptors, there was not evidence for most of them. During observation three, there were several times when non-essential or off-topic questions were asked. For example, several questions were asked about notebook checks and how to fill out timesheets. These were not related to the training objective. During observation four, the site coordinator did not model how to identify evidence during a lesson and connect it to a specific indicator or descriptor. This led to a confusing discussion after mentors watched and scripted a lesson video. Mentors reported what

they observed and what they did not like about the lesson, but did not make connections between their observations and the TAP rubric. The site coordinator failed to provide internal summaries in either of the last two observations.

Activities and materials. The Activities and Materials indicator looks at the extent to which the content supports the objective, is challenging, elicits a variety of thinking, provides time for reflection, and is relevant to the mentor's current experience. This indicator also looks for evidence that the activities sustain the mentors' attention and provide opportunities for interaction. Exemplary lessons also incorporate activities that are game-like, involve simulations, require creating products, and demand self-monitoring.

The first observation earned a score of 3 (proficient). There was evidence to support most of the Activities and Materials descriptors. The session activities- an explanation of the PA process, planning conference overview with handout, video activity- were all aligned to the stated objectives. Because all but one of the mentors was new to iTeachAZ, the topic was appropriately challenging for most of the participants, though perhaps not for the one mentor with experience. The activities appeared to sustain the mentors' attention as evidenced by their active participation in table discussions and active note taking during the video. Because this training was held two weeks before the first round of performance assessments, it was relevant to their current experience.

The second observation earned a score of 4. Like the previous training, the activities seemed to be at an appropriate level of challenge. Four coaching models were introduced which was not too many to be overwhelming for new mentors, and yet enough

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to provide the participants with some choice when developing their plans. These action plans involved creating a product, a descriptor found in the exemplary column. In addition, the site coordinator led mentors through a review game after introducing the four different coaching strategies. She announced it was "game time!" during which she read a scenario and challenged mentors to signal with their hands which coaching strategy was being described. Mentors appeared to be on task throughout the meeting when talking with their tables, playing a quiz game, and creating a coaching plan.

The third meeting earned a score of 3 because there was evidence that most of the descriptors under Activities and Materials were met. The activity- watching an overview tour of the data dashboard- was not challenging. For the most part, mentors were on-task following along with the training, looking at the dashboard during the virtual tour, and talking with their table partners when directed to do so. While the dashboard tool is one that could be use useful to mentors, they did not have the opportunity to look at data for their own teacher candidate, thus making it less relevant. Mentors did have opportunities to interact with each other when discussing evidence aligned to the TAP indicators. When questions were posted to the group, multiple mentors were given the opportunity to answer and share their different perspectives.

The fourth meeting earned a score of 2 for Activities and Materials because there was not evidence to support most of the descriptors. The task of citing specific evidence aligned to TAP indicators proved to be too challenging for the participants. The site coordinator did not model performance expectations or provide time for reflection. The discussion of evidence began immediately after watching a video lesson. The mentors did not have the opportunity to organize their observation notes and were unprepared to

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participate in a discussion about evidence aligned to the different TAP indicators.

Mentors had little opportunity to interact with each other. During the discussion,

communication was mostly between the site coordinator and mentors, not between

mentors and other mentors.

    Academic feedback. The indicator Academic Feedback examines what the site

coordinator does during instructional activities to support participant learning. To earn a

score of proficient, the site coordinator must go beyond simply monitoring mentor

behavior to monitor mentor *work* and support engagement of the learners. This indicator

also looks for evidence that the site coordinator is using feedback from participants to

monitor and adjust.

    The first observation earned a score of 2 on the Academic Feedback indicator.

While mentors were talking in groups, the site coordinator circulated but did not engage

with the participants. During the video observation, the site coordinator sat at the

computer. There was not evidence that the site coordinator made adjustments to push

thinking further when mentors appeared to be on track to meeting the session objectives.

    The second observation earned a score of 3 for Academic Feedback. During this

meeting the site coordinator provided individual feedback to one mentor who asked for

support during the lesson and offered individualized follow-up support to another mentor

afterwards by making plans to conduct a three-way coaching conversation based on a

teacher candidate's identified area of need.

    The third observation also earned a score of 3. In this meeting, which was co-

taught be the site coordinator and another college employee, the facilitators monitored the

mentors as they worked in groups and supported engagement by participating in the

conversations by making connections to the TAP rubric or posing specific questions to the group. The facilitators sometimes adjusted their facilitation based on mentor comments. An example of this was when mentors described a teacher action and the facilitator paraphrased and made an explicit connection to a descriptor from the TAP rubric.

The fourth observation earned a score of 2. The site coordinator circulated while mentors were scripting the lesson and monitored their work by glancing at what they had written. The mentor posed a series of questions to mentors after the video and called on individuals to respond. After a mentor answered the question the site coordinator would respond "yes" or provide no feedback and just ask the next question. There was no evidence that the site coordinator adjusted instruction to probe for deeper understanding or push for higher level thinking when engaging the mentors with this question/answer activity.

Site coordinator content knowledge. This indicator examines the extent to which the site coordinator displayed knowledge of the subject she is teaching. To earn scores of proficient, there must be evidence of subject-specific instructional strategies that enhance mentor content knowledge. The site coordinator should also make connections between key ideas in the training and other powerful ideas.

All four observations were scored at a level of 3 (proficient) for Site Coordinator Content Knowledge. It was clear that the site coordinator possessed accurate knowledge of the content in each training, whether it was the performance assessment process, TAP rubric, or coaching strategies. An example of this was during the third meeting when the facilitator demonstrated deep knowledge of TAP by rephrasing mentor teacher comments

using the language from the TAP rubric. Another example of this occurred during the fourth observation when the site coordinator pointed out the distinctions between different proficiency levels on the TAP Academic Feedback indicator. She explained, "the significant difference between a 3 and a 5 is that in a 5, the students are giving feedback to each other."

The site coordinator used instructional strategies during the meetings to enhance mentor content knowledge. For example, in the first observation, the site coordinator used a large poster with pictures, labels, and directional arrows to help new mentors develop an understanding of the performance assessment process. In this same meeting she used a video of an exemplar coaching conversation to help mentors develop a clear picture of what an effective coaching conversation looks like and sounds like. During the second observation, the site coordinator provided multiple scenarios- both verbally and in written form- to help mentors develop an understanding of the four different coaching strategies. During the fourth training, a subject-specific strategy was presenting scripting tips before having the mentors engage in a lesson scripting activity.

The site coordinator sometimes made a point to highlight key ideas. The performance assessment poster in the first mentor training highlighted key ideas and steps in the process. There was evidence of this in the fourth meeting when the site coordinator repeatedly reminded mentors to focus on evidence, use the rubric, and stay focused. There was also sometimes evidence of the site coordinator making connections between the training topic and other powerful ideas. An example of this was during the third training when connections were made between the bi-weekly progress report and the importance of citing specific evidence for the TAP indicators.

Site coordinator knowledge of mentors. The final indicator included in the Mentor Training Observation Rubric is Site Coordinator Knowledge of Mentors. This indicator looks at whether the site coordinator communicates and incorporates data from various sources to meet the current needs of mentors and teacher candidates. This indicator also looks for evidence of differentiation of methods and content to ensure all mentors master the objective.

For this indicator, all observations earned a score of 2. The first training took place only two weeks into the semester. Data was not incorporated from classroom observations or mentor progress reports. The training was aligned to the current needs of most mentors since performance assessments, the topic of this training, were beginning in two weeks and most of the mentors were new to the process. The site coordinator communicated performance assessment results during the second training, but did not reference any other sources of data such as walkthroughs or progress reports, which might have helped create a more complete picture of teacher candidate performance and better inform the coaching plans. It was also not clear if the topic of the second training met a real mentor need. At one point the site coordinator commented that she wished she had done a pre-survey to determine what mentors teachers already know and are doing with respect to coaching. At least one mentor at this meeting was previously an instructional growth coach for her school and seemed very knowledgeable already. While a variety of data sources were presented during the data dashboard tour in meeting three, mentors did not have an opportunity to work with this data to address a need of their teacher candidate.

There was at least one mentor each month who had experience hosting an iTeachAZ teacher candidate as well as several who were hosting an iTeachAZ student for the first time. In several trainings there was one mentor who would not be hosting a teacher candidate until the following semester. During the fourth observation the site coordinator made note of this fact saying, "I want to be sure to really honor the different places that you're in." In the monthly trainings there were teachers in a variety of grade levels and settings. Approximately half the mentors in this cohort were general education teachers and half were special education teachers. If the site coordinator considered the needs of these different groups it was not explicitly communicated. Throughout the different meetings, the site coordinator did use a variety of strategies that addressed different learning styles. For example, information was presented both in print via the PowerPoint presentation, posters, and handouts as well as verbally communicated by the site coordinator. Participants had time for individual reflection as well as group discussions.

Descriptive statistics. These mentor training observation rubric scores were entered into an excel sheet. Descriptive statistics were used to calculate the mean and standard deviation for each indicator (see Table 13).

Table 13

Descriptive Statistics for Mentor Training Observation Scores

PTS		SO		PIC		AM		AF		SCCK		SCKM	
M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
3	1.16	2.5	0.58	2.75	0.96	3	0.82	2.5	0.58	3	0.00	2	0.00

The three indicators had an overall mean score that was proficient. These were Purpose and Topic Selection (M=3, SD=1.16), Activities and Materials (M=3, SD=0.82), and Site

Coordinator Content Knowledge (M=3, SD=0.00). Presenting Instructional Content (M=2.75, SD=0.96), Standards and Objectives (M=2.5, SD=0.58), Academic Feedback (M=2.5, SD=0.58), and Site Coordinator Knowledge of Mentors (M=2, SD=0.00) all had mean scores that were below proficient, but higher that unsatisfactory.

Teacher Candidate Lesson Observation

        Teacher candidate lesson observation data collection and analysis. This section will briefly review the process for observing and analyzing the teacher candidate lessons, which was described with greater detail in chapter three. The researcher observed four lessons for each teacher candidate over the course of one semester. The first observation was the teacher candidate's performance assessment. This lesson was recorded by another teacher candidate and transcribed by the researcher. The second, third, and fourth observations took place once a month for three months. Observation notes were taken according to the protocol described in chapter three. The researcher scored each lesson with the TAP rubric (see Appendix B). Seven indicators from the TAP rubric were used in this study including: Standards and Objectives (SO), Presenting Instructional Content (PIC), Activities and Materials (AM), Academic Feedback (AF), Teacher Content Knowledge (TCK), Teacher Knowledge of Students (TKS), and Managing Student Behavior (MSB). Each indicator is defined by several descriptors. Transcribed observation notes were read multiple times to identify evidence aligned with the descriptors for each rubric indicator. After documenting evidence for each indicator, a score was determined for each of seven indicators. A score of 1 (unsatisfactory) to 5 (exemplary) was possible for each of the indicators. The results of this analysis process are described in the next section.

Teacher candidate lesson observation results. This section describes the results of teacher candidate lesson observation analysis. Table 14 below presents TAP scores from four observations of each teacher candidate.

Table 14

Teacher Candidate TAP Scores

	SO	PIC	AM	AF	TCK	TKS	MSB
MPTC							
Observation 1 (Performance Assessment)	3	3	3	2	3	2	4
Observation 2	2	2	2	2	2	2	2
Observation 3	1	1	1	1	2	1	2
Observation 4	2	2	2	1	2	1	3
RTC							
Observation 1 (Performance Assessment)	2	2	2	2	2	1	3
Observation 2	1	1	1	2	1	2	3
Observation 3	1	1	2	2	2	2	3
Observation 4	1	1	1	2	1	1	2

Information from the table above is further described in the sections that follow.

Standards and objectives. The indicator Standards and Objectives measures the extent to which teacher candidates explicitly communicate learning objectives and align sub-objectives to the major objective. State standards for the lesson should be visible to students. To earn a proficient score, teachers must make connections to prior learning and set clear expectations for student performance. The most important descriptor for this indicator is evidence that most students demonstrate mastery of the objective.

The MPTC earned the highest score in this indicator during the first observation. This lesson, which earned a score of 3 (proficient), was the teacher candidate's first

performance assessment. Subsequent lessons earned scores of 2, 1, and 2. The performance assessment lesson was also the highest scored observation for the RTC. This lesson earned a score of 2. The second, third, and fourth lessons all earned scores of 1, unsatisfactory.

Presenting Instructional Content. The indicator Presenting Instructional Content looks at the frequency with which teacher candidate uses visuals to establish purpose/preview/summarize, provides examples/illustrations/analogies/labels for new ideas, and models performance expectations. In addition, this indicator seeks evidence of concise communication, logical information, all relevant information and no irrelevant or confusing information.

Again, the MPTC earned her highest scores on the first observation, which was the performance assessment. This lesson earned a score of 3 on the Presenting Instructional Content indicator. Subsequent lessons earned scores of 2, 1, and 2. Similarly, the RTC again earned a score of 2 on the performance assessment (first observation). The three other lessons earned scores of 1, unsatisfactory.

Activities and materials. The Activities and Materials indicator looks at the extent to which the content supports the objective, is challenging, elicits a variety of thinking, provides time for reflection, and is relevant to the students' lives. This indicator also looks for evidence that the activities sustain students' attention and provide opportunities for student-to-student interaction. In addition, activities should induce curiosity or suspense, provide students with choice, and incorporate multimedia and technology. Exemplary lessons also incorporate activities that are game-like, involve simulations, require students to create products, and demand self-direction or monitoring.

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For the MPTC, performance on the Activities and Materials indicator mirrored that of the previous two indicators. A score of 3 was earned for the performance assessment lesson. The other three lessons earned scores of 2, 1, and 2. The RTC earned scores of 2 on both the performance assessment (first observation) and the third observation. The second and fourth observations earned scores of 1.

Academic feedback. The indicator Academic Feedback examines what the teacher candidate does during instructional activities to support student learning. To earn a score of proficient, the teacher must give frequent, high quality oral and written feedback that is academically focused. This feedback should be given during guided practice and homework review. Teachers must go beyond simply monitoring student *behavior* to monitor student *work* and support engagement of the learners. This indicator also looks for evidence that the teacher is using feedback from students to monitor and adjust instruction.

The MPTC earned scores of 2 on the first two lesson observations and scores of 1 on the third and fourth lesson observations. The RTC earned scores of 2 on all four of the lesson observations.

Teacher content knowledge. This indicator examines the extent to which teacher candidate displayed accurate knowledge of the subject she/he is teaching. To earn scores of proficient, there must be evidence of subject-specific instructional strategies that enhance student content knowledge. The teacher should also make connections between key ideas in the lesson and other powerful ideas.

The MPTC earned a score of 3, proficient, on the first observation and scores of 2 on all subsequent observations. The RTC earned a score of 2 on the first and third lesson

observations. The second and fourth observations both earned scores of 1 for the Teacher Content Knowledge indicator.

Teacher knowledge of students. The Teacher Knowledge of Students indicator looks at whether the teacher displays an understanding of anticipated student learning difficulties. To earn a score of proficient, the teacher should sometimes incorporate student interests and cultural heritage into a lesson. In addition, the teacher should differentiate instructional methods and content to ensure all students are able to master the objective.

The MPTC earned scores of 2 for the first and second lessons. She earned scores of 1 on this indicator for the remaining two lessons. The RTC earned a TKS score of 1 for the first and fourth lesson. The second and third lessons were scored at a level 2.

Managing student behavior. The final indicator included in the TAP Rubric is Managing Student Behavior. This indicator looks at whether students are well behaved and on-task with minimal disruptions to the learning environment. To earn a score of proficient, there must be evidence that teachers have established rules and that the teacher uses techniques to maintain appropriate student behavior. Teachers must decide which behaviors to overlook and which must be addressed. When dealing with a student disruption, exemplary teachers will address the individual involved rather than the whole class. Issues will be dealt with quickly and firmly.

The MPTC earned a score of 4 for the performance assessment lesson. Subsequent lessons earned scores of 2, 2, and 3. The RTC earned a score of 3 for the first three observations. The final observation earned a score of 2.

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Visual representation. This data was entered into an excel spreadsheet and a graph was generated for each teacher candidate to visually represent performance on each indicator over time. Figures 8 and 9 below are graphical representation of these repeated measures for each teacher candidate over time. The x-axis represents the seven TAP rubric indicators: Standards and Objectives (SO), Presenting Instructional Content (PIC), Activities and Materials (AM), Academic Feedback (AF), Teacher Content Knowledge (TCK), Teacher Knowledge of Students (TKS), and Managing Student Behavior (MSB). The y-axis represents the scores earned by the teacher candidate during each observation. Scores of 1 (unsatisfactory) to 5 (exemplary) are possible.

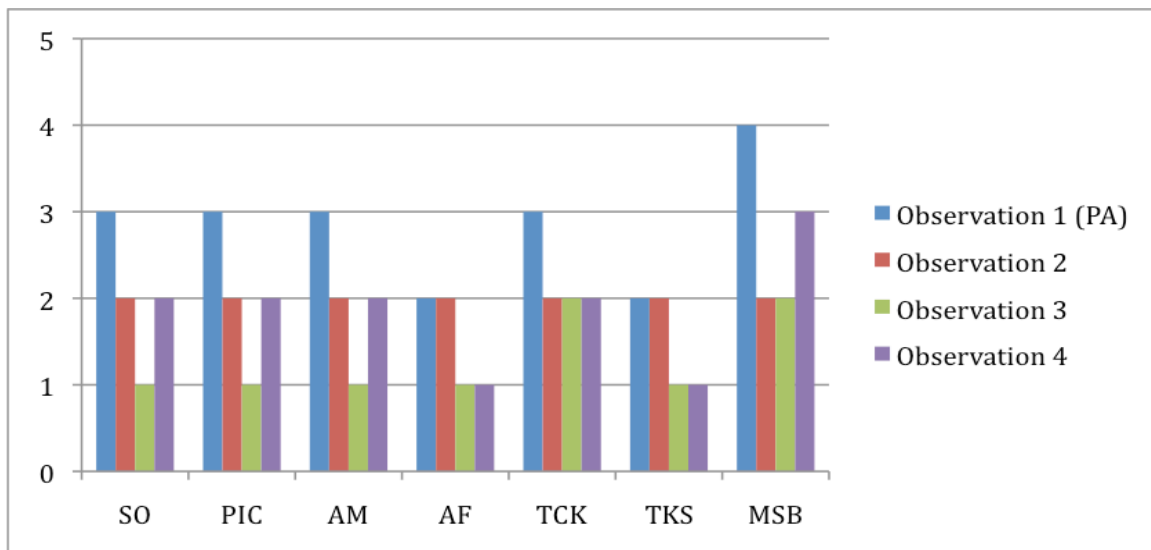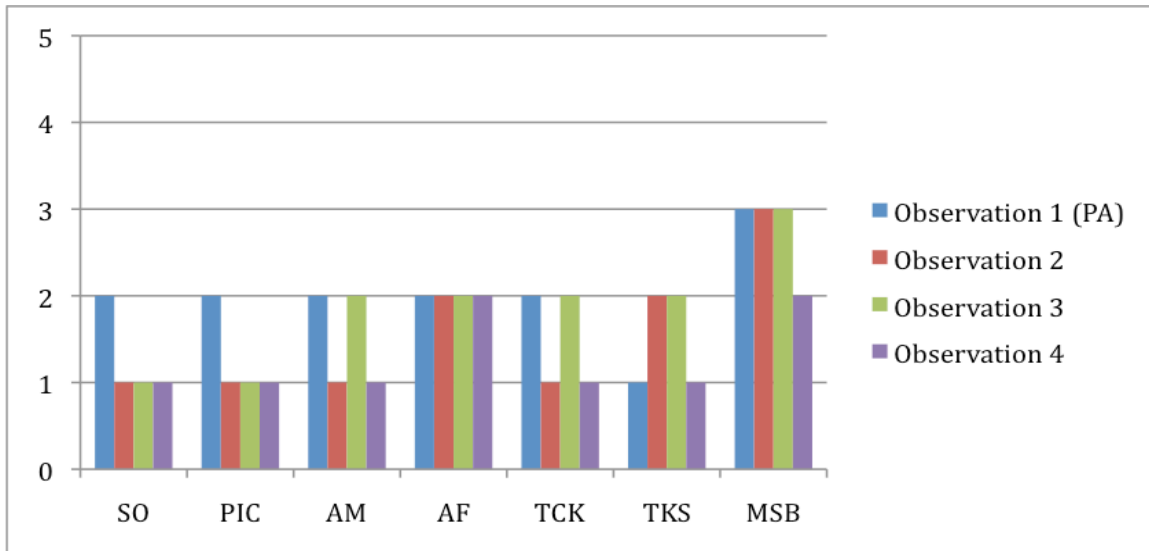Figure 8

MPTC TAP Scores Over Time

Figure 9

MPTC TAP Scores Over Time

Descriptive statistics. While the data was in an excel spreadsheet, descriptive statistics were used to calculate the mean and standard deviation of scores. This data is presented in the Table 15 below.

Table 15

Descriptive Statistics Teacher Candidate TAP Scores

	SO		PIC		AM		AF		TCK		TKS		MSB	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
MPTC	2	0.82	2	0.82	2	0.82	1.5	0.58	2.25	0.50	1.5	0.58	2.75	0.96
RTC	1.25	0.50	1.25	0.50	1.5	0.58	2	0.00	1.5	0.58	1.5	0.58	2.75	0.50

Both teacher candidates earned mean scores that were below proficient for all indicators. For the MPTC, Managing Student Behavior had the highest average score (M=2.75, SD=0.96). The next highest mean score was the indicator Teacher Content Knowledge (M=2.25, SD=0.50). Three indicators had an overall mean score of 2. These

were Standards and Objectives (M=2, SD=0.82), Presenting Instructional Content (M=2, SD=0.82), and Activities and Materials (M=2, SD=0.82). The remaining indicators both scored the same, Academic Feedback (M=1.5, SD=0.58) and Teacher Knowledge of Students (M=1.5, SD=0.58).

Like the MPTC, Managing Student Behavior was the highest scoring indicator for the RTC (M=2.75, SD=0.50). Academic Feedback was the next highest scoring indicator (M=2, SD=0.00). Three indicators earned scores of 1.5. These were Activities and Materials (M=1.5, SD=0.58), Teacher Content Knowledge (M=1.5, SD=0.58), and Teacher Knowledge of Students (M=1.5, SD=0.58). The RTC earned mean scores of 1.25 on the remaining two indicators, Standards and Objectives (M=1.25, SD=0.50) and Presenting Instructional Content (M=1.25, SD=0.50).

Chapter Summary

Chapter four briefly reviewed the process for analyzing qualitative and quantitative data. Qualitative data sources included coaching conversation observations and interviews with mentors, teacher candidates, and a site coordinator. The results of this analysis were organized into themes. These themes were explained and supported by examples from the data. Quantitative data included rubric scores from observations of mentor teacher trainings and teacher candidate lessons. The rubrics used to evaluate these two data sources were explained. Results of quantitative analysis were reported, presented in tables, and summarized. The next chapter will present conclusions from this study. This will include warranted assertions for each research question along with strengths and potential limitations of this study. Chapter five will also include a discussion of implications for both research and practice.

CHAPTER 5

DISCUSSION

Chapter five describes the conclusions made based on the results of data collected

during the course of this study. This chapter also describes the strengths and limitations

of this study. This is followed by implications for both research and practice.

Warranted Assertions

This exploratory, sequential mixed methods study was designed to answer the

following research questions: (1) How and to what extent do mentor teachers support pre-

service teacher candidates? (2) How and to what extent does mentor training contribute

to mentors' understanding of how to support pre-service teacher candidates? (3) How

and to what extent does mentor support impact teacher candidate performance? Based on

the results of this study, nine assertions are made. Assertions related to each research

question are summarized in the Table 16 below.

Table 16

Research Questions and Warranted Assertions

Research Question	Warranted Assertion
RQ1: How and to what extent do mentor teachers support pre-service teacher candidates?	A1: Mentors play a multifaceted role in supporting teacher candidates.
	A2: Mentors provide frequent, ongoing feedback.
	A3: Mentors employ various strategies during coaching conversations.
RQ2: How and to what extent does mentor training contribute to mentors' understanding of how to support pre-service teacher candidates?	A4: Mentor training may contribute to mentor understanding, but other factors matter too.
	A5: Current mentor training does not always lead effective mentor behaviors.
RQ3: How and to what extent does mentor support impact teacher candidate performance?	A6: Mentors help novice teacher candidates see their performance through the eyes of an experienced educator.

	A7: Mentors model and provide coaching support to help teacher candidates improve.
	A8: Teacher candidate characteristics facilitate learning from mentors.
	A9: Positive, professional relationships facilitate teacher candidate learning from mentors.

Assertions related to each question are explained below along with supporting data from multiple sources including mentor training observations, teacher candidate lesson observations, coaching conversation observations, and interviews with mentors, teacher candidates, and the site coordinator. Use of multiple different qualitative and quantitative methods allowed the researcher to answer a broader range of research questions than would have been possible in a study confined to a single approach (Johnson & Onwuegbuzie, 2004). In this case, the study used mixed methods for the purpose of complementarity. Use of mixed methods for the purpose of complementarity has been established in the literature for the purposes of studying complex, multifaceted phenomena (Greene, 2007). In this case, the phenomena involved the relationship between mentor training, mentor support for a teacher candidate, and impact of this support on teacher candidate performance. Results from one method were used to help clarify the results from another method (Greene et al., 1989; Johnson & Onwuegbuzie, 2004)

Research question 1: How and to what extent do mentor teachers support pre-service teacher candidates?

Based on the results of this study, three assertions can be made about the ways in which mentors support teacher candidates. First, findings from this study suggest that the

role of mentors is multifaceted. Second, mentors support teacher candidates by providing

frequent, ongoing feedback. Third, mentors in this study employed a variety of strategies

during coaching conversations to support teacher candidates. These assertions are

explained in the sections that follow.

> ***Assertion one: Mentors play a multifaceted role in supporting teacher***

candidates. Findings from this study support existing literature, which describes the role

of a mentor teacher as multifaceted. Previous research suggests mentors serve as models,

coaches, and professional colleagues for new teachers (Darling Hammond & Baratz-

Snowden, 2007; Feiman-Nemser & Parker, 1993; Kiraz & Yildirim, 2007; Rowley,

1999). Likewise, comments made during interviews provide examples of the mentors in

this study wearing many different hats.

> *Improving teacher candidate's performance in planning and delivering*

instruction. Perhaps not surprising, mentors saw it as their role to help teacher candidates

increase effectiveness at planning and delivery of instruction. One way that mentors did

so was by providing teacher candidates with lesson plan guidance and resources. The

MPMT described how she helped her teacher candidate by giving her lesson plans and

access to her teaching resources. In addition to providing resources to help with lesson

planning, mentors offered their feedback. The MPTC described, "She mentors me a lot

as far as lesson planning. Like I wasn't doing very descriptive lesson planning and she

made sure to point that out and said, 'ok, this is what a lesson plan needs to look like." In

addition, the MPTC would submit lesson plans to her mentor on Sunday nights and the

mentor would provide feedback on what needed to be improved.

Another way mentors helped teacher candidates grow was by providing a safe and supportive environment. The MPTC explained how she was "making sure she has room to grow and a safe environment to ask questions and make mistakes." When it came to providing feedback, at times, mentors would sit back and allow the teacher candidate to take risks and fail in the name of learning. The MPMT described how she would avoid "interrupting when (the teacher candidate) is up there trying something for the first time." At other times, the mentors would give feedback, but were mindful of how that feedback was delivered. The MPMT explained, "I present it in a manner that doesn't make her feel like I'm attacking." Both the mentors and teacher candidates noted support from mentors meant gradually allowing teacher candidates to stand on their own and assume more responsibility. The MPTC described the scaffolded support from her mentor:

> She's starting to let go a little bit. Like in the beginning it was like constant feedback, constant, like she was carrying me… where now she's like "ok, you're on your own. Go do what you have to do." And she provides me with feedback after I do it, not throughout like she used to do…. She used to jump in during lessons a lot. Like if I was stuck, I was sinking, then she would rescue me. Whereas now, she makes me go through those struggles so I can realize what I can do better.

Another way that mentors supported teacher candidates at increasing their effectiveness was by modeling different practices while teacher candidates observed. The MP dyad taught three sections of math each day to three different groups of students. The MPMT described, "usually what I do is I teach the first period and she gets to observe." This period of observation was meant to prepare the teacher candidate to take on an increasing amount of responsibility during the second and third periods. The MPMT explained that the observation was purposeful, "she watches a lot of what I do. She takes notes, too, oftentimes, while I'm up there. She'll take notes of what she wants

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to make sure she does and things that I said." Similarly, the RMT described how he

modeled for his teacher candidate:

> RTC is… the type of person who learns from seeing a model, or like a visual
> learner… I feel like I do it so that he can see it so he can copy the same way.
> Like how to get the kids' attention or how to get them… if they're being too
> noisy, what to do, stuff like that. So I feel like that helps with the modeling.

By giving lesson plan support, providing coaching feedback, and serving as a model,

mentors tried to help teacher candidates increase their proficiency at planning and

delivering instruction.

Teacher candidate support beyond pedagogy. During interviews for this study,

mentors described their responsibility in preparing teacher candidates for their futures as

classroom teachers in ways that extended beyond effective planning and teaching. The

MPMT described the ways that she was preparing her teacher candidate for aspects of the

teaching profession which might not be covered in coursework, "showing all facets of

what you're about to see I mean, the management part, the clerical part, you know that

it's a lot of book keeping and record keeping." The RMT felt it was important to provide

his teacher candidate with real-world experiences during student teaching to prepare him

to handle these once on his own:

> I wanted to give opportunities that I didn't really get to experience until I started
> teaching. And especially in the area of special education… to prepare them.
> Because I did not write an IEP while I student taught, I did not attend meetings, I
> did not have to keep progress notes. I did not have to do any of that stuff so that
> made for a rough transition that first year. So that's what I feel like a mentor
> should do. Prepare them.

The MPMT felt that another way she could prepare her teacher candidate for her future

career was by instilling a passion for teaching. The MPMT felt that this was necessary if

educators wanted to sustain themselves in a challenging profession, "I hope that I'm

giving her that enthusiasm to stay with teaching, to stay with the career that she's

chosen." At the same time the MPMT wanted to instill this passion for teaching, she also

wanted her teacher candidate to know how to balance her personal life with a career in

teaching. She explained:

> My role for her is showing her what real life is about when it comes to teaching, but to let her know that when she leaves- I've got girls in soccer, she's got two daughters- you have to be able to shut it off also. I'm just trying to show her what it's like, real life everyday, what it could be like. And that you just need to turn it off sometimes, too.

Emotional support for teacher candidates during times of stress. In addition to

helping new educators develop the technical skills needed to be effective in the

classroom, mentors saw it as their role to address the emotional side of teaching by

demonstrating understanding and providing encouragement when it was needed. This

supports previous research that suggests mentors support the emotional and psychological

needs of new teachers by being supportive, approachable, non-judgmental, and

empathetic (Hobson et al., 2009). Mentors demonstrated understanding of the demands

placed on teacher candidates who were balancing student teaching with a full load of

courses. During an interview, the RMT said he was "just trying to be supportive… I

don't like to think of him as only here. I understand that he has school to do too."

Midway through the semester, the RMT said that he saw his role as "just being a

supporter because I know iTeach is rough." When his teacher candidate was exhibiting

signs of stress, the RTC explained how he offered words of encouragement:

> I've told him, I'm like, it gets better. Like you're stressed out now cuz not only are you teaching, but you're doing homework. You are doing all sorts of stuff. Next year will be rough, but you won't have to worry about school. You won't have to worry about your test. You won't have to worry about all this extra stuff. You can focus on teaching.

Mentors noticed the pressure that teacher candidates felt when it came to their formal performance assessments. When these lessons did not go well, mentors sometimes provided some additional emotional support. The RMT described the way he helped to reframe the situation for this teacher candidate after he earned failing scores on a performance assessment, "I've tried to tell him don't take a bad performance assessment to mean that you're bad at it. Just like an evaluation for a teacher. It's meant to give you what you need to work on." The MPMT described how her teacher candidate was also very upset after her performance assessment didn't go the way she wanted. She made herself available to the MPTC that night after she was home. Through discussion and by offering the perspective of a veteran educator, she was able to support her teacher candidate, "She as actually very upset. So I talked to her. And we looked at it. And it wasn't as bad as she thought."

These examples show how mentors played a multifaceted role in supporting teacher candidates. This includes providing support to improve teacher candidate planning and instructional abilities, preparing new teachers for aspects of the profession that extend beyond designing and teaching lessons, and providing emotional support as needed.

Assertion two: Mentors provide frequent, ongoing feedback. Results of this study found some commonalities with respect to coaching practices which provided opportunities for mentors to give teacher candidates feedback on a frequent, ongoing basis. This feedback was both written (observation notes or lesson transcripts) and oral (verbal feedback after lessons). The coaching conversations observed were brief (4-8

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minutes) opportunities to reflect on a previous lesson and identify changes for future

lessons. In addition to these short debriefs during the day in between lessons, participants

reported having longer conversations after school at least once a week.

According to interviews and comments made during mentor training meetings,

coaching also took place via email and text, after school and over weekends. During

monthly trainings, the site coordinator stressed the importance of protecting time for

these coaching conversations. At the second monthly meeting one mentor expressed,

"It's challenging to set up a sacred time, but if you don't plan for it, it won't happen."

The site coordinator affirmed this response stating:

> I know how busy you are. Carve out 20-30 minutes each week. Tell your
> colleagues that it is protected time so you'll be uninterrupted. Your TC will really
> benefit from this. I know it's a lot, but if you plan for it, it'll become part of your
> routine.

The two mentors in this study seemed to grasp the importance of this message and did

allocate time for coaching conversations on a regular basis. During interviews, the

MPMT explained her practice of giving quick feedback "after every lesson." Similarly,

the RMT shared how he made use of the five minutes between classes to give his teacher

candidate feedback. The fact that both dyads made time for coaching conversations on a

regular basis is particularly noteworthy since complaints about the limited amount of time

available was a common theme in interviews with both mentors and teacher candidates.

The MPMT said, "It just doesn't feel like we have the time. We're so rushed. All of the

time."

It should be noted, that while both the MPMT and MPTC frequently described

between-class debriefs and after school weekly meetings, there was one piece of data that

was potentially disconfirming. When asked about the frequency of coaching conversations during our final interview, the MPMT stated, "well actually the only time we have them is when you're here, to be honest." This comment was made after a lesson in which the mentor scripted for 64 minutes and then reviewed the script with the teacher candidate afterwards. After making this comment, the MPTC went on to clarify, "normally, it's like a quick little, 'OK I think you should do this better' or 'good job on this' but never a sit down, full-on conversation." One possible interpretation of her comment that coaching conversations only take place when the researcher is present is that the teacher candidate viewed feedback based on scripted evidence as a more valid type of coaching conversation than those that lacked scripted evidence of teacher and student actions.

Assertion three: Mentors employ various strategies during coaching conversations. Mentors in this study used multiple coaching strategies including direct feedback, asking questions to prompt reflection, and mentor modeling. These strategies are described below.

Mentors provide direct feedback. During coaching conversations, mentors frequently relied on a direct approach for giving feedback to teacher candidates. When doing so, mentors told teacher candidates areas of where their performance was strong as well as areas where they needed to improve. This was observed during coaching conversations with both dyads. During one coaching conversation, the MPMT was direct in pointing out the way the teacher candidate consistently enforced student behavior expectations. "(you said) bring it back in 3, 2, 1, 0. (C. student) kept talking. And you said, 'oh, I said bring it back, no talking.' So you're following through with what you're

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saying." On another occasion, the MPMT was being directive when pointing out a refinement area. She said, "You have to model. They need to see what you are asking them to do so they know what to do."

Mentors encourage teacher candidate reflection. While the majority of time mentors gave teachers direct feedback, there were times when they employed cognitive coaching strategies. In these instances, mentors asked questions in order to guide the teacher candidate through a process of self-reflection. Previous research recommends post-lesson conferences provide mentees an opportunity to participate in a reflective dialogue (Hobson et al., 2009). When interviewed, the MPMT said that she always starts coaching conversations by asking her teacher candidate, "how she thought she did and then we go from there." In fact, this was only true for on one of the three coaching conversations observed during this study. The RMT, on the other hand, consistently began coaching conversations by asking the teacher candidate for his thoughts on the lesson. While the MPMT did prompt her teacher candidate to reflect during all three coaching conversations, it was not always the starting point. Questions from mentors were typically some variation of "how did you think the lesson went?"

Whether prompted to do so at the beginning of coaching conversations or at the end, teacher candidate reflections were very short and non-specific. Responses from the RTC included "I think it went good" and "pretty crazy." Responses from the MPTC included "You're right, maybe a little too much back and forth" and "good." Mentors rarely probed for additional explanation. There was one occasion when the MPMT did ask follow-up questions to push her teacher candidate to reflect further.

MPMT: How do you think it went?

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MPTC: Good.
MPMT: Come on, you have to say more than that.
MPTC: (laughs) Um
MPMT: What would you have done differently?
MPTC: Um, it's all a big blur to me right now.
MPMT: Really? I just went over it with you.
MPTC: I know, I know. I realize what I did when you're telling me. Um, I would probably have them talk more. I don't feel like they talked enough.

Despite observed evidence to the contrary, the MPMT described her teacher candidate as "very self-reflective" and believed that if given the opportunity her teacher candidate would be able to reflect and identify her own areas of strength and weakness, "she'd probably pick up on most of 'em cuz we've had enough conversations about it."

Mentors model for teacher candidates. In addition to giving direct feedback and prompting reflection, a third strategy employed by mentors in this study was modeling. Existing literature suggests that new teachers benefit from observing mentors who model good teaching practices (Darling Hammond & Baratz-Snowden, 2007). Examples of this were observed during coaching conversations. The RMT frequently provided examples of what to do or say in different classroom situations. For example, when giving suggestions for increasing student-to-student interaction, the RMT said, "Next time, instead, before you explain the picture, say, "What do you see in the picture? Talk to your partner and tell them what you see?" On another occasion, the RMT modeled how to use proximity to manage student behavior more effectively, "what you could have done is moved this chair and slid yourself down to the center so that way now you are closer to (S. student) (MT models by sliding to center of table)"

Research question 2: How and to what extent does mentor training contribute to mentors' understanding of how to support pre-service teacher candidates?

This study intended to look at how and to what extent the online training and monthly mentor professional development meetings contribute to mentor understanding. With respect to this question, two assertions can be made. For one, while training provided by ASU may have been a relevant factor, there is evidence that previous experiences also contributed to mentors' understanding of how to support pre-service teacher candidates. In addition, the findings from this study suggest that current mentor training may not always be effective in ensuring mentors employ effective coaching practices.

Assertion four: Mentor training may contribute to mentor understanding, but other factors matter too. There was evidence that some concepts addressed in the online and face-to-face trainings was understood by mentors and reflected in their behaviors. Examples of this include: mentors recognizing the multifaceted nature of their role (addressed in online training module one), mentors co-teaching during lesson observations (addressed in online training module two), mentors using direct feedback and reflection questions when coaching a teacher candidate (addressed in online training module four), mentors identifying areas of reinforcement and areas of refinement from a lesson (addressed in online training module four and monthly professional development), and mentors supporting feedback with specific evidence from the lesson (addressed in online training module three and monthly professional development). However is not

possible to conclude that it was the training itself, and not some other factor, which contributed to mentor understanding or observed behaviors.

While these observed behaviors are aligned with information shared during the ASU training for mentors, it is not possible to conclude that the training actually contributed to the behaviors. For one reason, mentor participation in the training was not consistent. The MPMT completed the online training modules, but did not attend any of the monthly, in-person meetings that followed. She cited family responsibilities "it's on Wednesdays when I have to drive my daughter to soccer" and also the fact that the topics were not ones that would be beneficial to her. The RMT was an active participant in all face-to-face meetings facilitated by the site coordinator, but he did not complete the online training. These factors make it difficult to draw valid conclusions about how and to what extent training contributed to mentor understanding.

In addition, there is evidence from interviews that previous experiences influenced mentor understanding and behaviors. The MPMT had hosted three student teachers prior to this semester and also had two years of experience working as a reading coach for her district. The MPMT had completed "tons of training as a coach-scripting…coaching training, how to provide positives and negatives in a way that doesn't sound threatening or anything like that. So with my student teacher I'm able to apply a lot of those things to her experience." The MPMT felt that most of the online training was not very helpful to her, "a lot of it was really re-teach from my coaching experience." She cited her previous coaching experience as the reason she did not think she would have benefitted from attending the monthly meetings facilitated by the site coordinator. For the RMT, his own experience as a student teacher shaped some of the

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actions he took with his own teacher candidate. For example, he remembered how he benefitted from modeling by his mentor teacher, "I like to model it… I mimicked how my teacher was doing it. That's what made it easy for me." Because the strategy was an effective one for him, he replicated the experience for his teacher candidate. The RMT also referenced shortcomings in his own student teaching experience as rationale for providing the RTC with certain experiences. He explained:

> I wanted to give opportunities that I didn't really get to experience until I started teaching… I did not write an IEP while I student taught. I did not attend meetings. I did not have to keep progress notes. I did not have to do any of that stuff so that made for a rough transition that first year.

It would be impossible for mentors to separate their previous experience from the current one. Thus, these past experiences as mentors, coaches, and student teachers themselves, likely contributed to current understanding of the mentors in this study with respect to supporting a teacher candidate.

Although it is difficult to make conclusions about the ways in which training contributed to some of the observed behaviors, mentors themselves identified a few ways in which the training was beneficial. For the MPMT, learning about the TAP rubric in module three of the online training was helpful. She explained, "I think the TAP rubric helped. You know, getting familiar with that. Knowing what was expected." For the RMT, the most valuable part of the mentor trainings was not any specific content learned, but rather hearing affirmation for the work he was doing and the having the opportunity to compare his own experience as a mentor with that of other mentors in the cohort. He explained:

> I think things are going well, but then I'm like, no, I needed to let him take charge more. But then it also makes me feel a little bit better, too, because I hear some

people are about the same level as me…. I'm still really new to this whole teaching thing as well; so part of me is like, well should I let him go full force? Should I not?

Likewise, the site coordinator acknowledged the importance of this mentor collaboration time saying:

I also want to make sure that in the mentor PDs that I give them all more time to talk, you know, because they all have so many strengths. And for them to be able to share with each other what they're going through with their TCs. And to be able to coach each other and support each other with that as well.

Although this study was intended to focus on the formal online and monthly mentor meetings that are part of the iTeachAZ program model, interviews revealed additional ways in which the site coordinator provided support to mentors in this cohort. The MPMT described how the site coordinator would send her resources via email once and a while. Support for the RMT was more intensive. The RMT explained, "(The site coordinator) has been the best support. I email her a question and she emails ridiculously fast." The site coordinator also provided support to the R dyad by modeling planning conferences for both performance assessment lessons and weekly planning purposes. The RMT described:

I kind of follow (the site coordinator)'s lead and see what she's doing and then that kind of leads me in the right direction and helps me better plan with RTC… it's kind of nice to see how (the site coordinator) does it and then I just copy what she does.

The site coordinator also acknowledged these planning conferences as a contributing factor in helping the RMT to grow in his role as a coach. She described that after modeling several planning conferences for him, the RMT "was going much, much further with those steps in backwards design and really pushing RTC to think about all those different pieces that wasn't there before."

Assertion five: Current mentor training does not always lead to effective mentor behaviors. There was some evidence that mentor training was not effective in influencing mentor behaviors. Some examples of this can be found in contradictions between what mentors said and what mentors actually did. Other examples include differences between what is communicated via mentor trainings and what is observed in practice.

Failure to use the TAP framework as a coaching tool. A portion of the online training is dedicated to helping mentor teachers develop an understanding of the TAP framework. The training provides examples to explain the different proficiency levels and includes coaching questions and coaching conversation templates to support mentors in using the TAP framework as a coaching tool. When asked how, if at all, the online training contributed to her knowledge or skill as a mentor teacher, the MPMT identified the TAP module as most beneficial. When asked if her mentor used the TAP rubric as a coaching tool, the MPTC responded, "Yes, Yes" and on another occasion said, "She's telling me exactly out of the TAP rubric what a teacher should do." Observations of three coaching conversations seemed to contradict this. Despite what the teacher candidate reported, there was no evidence of the MPMT referencing the TAP rubric or language during any of the three observed coaching conversations. A similar finding emerged when looking at behaviors of the other mentor, RMT. Although the TAP rubric was referenced in the context of coaching during all four mentor professional development meetings which the RMT attended, he did not make any references to the TAP rubric or indicators during coaching conversations observed as part of this study.

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Failure to focus on one or two areas at a time. Another area in which training fell short of its goal relates to the amount of feedback mentors gave to teacher candidates during a single coaching session. The online training describes for mentors how to identify and prioritize just one area for improvement in order to avoid overwhelming a novice teacher. This idea was reinforced during monthly mentor meetings when the site coordinator guided mentors to identify a single area for reinforcement and refinement. During interviews, both mentors reported that they followed this recommendation. The MPMT said, "we're trying to do one strategy at a time. Give her the tools, (see) improvement, then we start the next thing." Similarly, the RMT said:

> I try to give him little things…. Cuz when you give a big thing and then a million little things it feels like "oh my gosh it's gonna take forever." But with RTC I've been giving OK like this is one area you need to work on and then he works on it. And then I give him another area that he needs to work on and then he works on that.

While both mentors *said* that they focused feedback on one area at a time, this is not what actually occurred during any of the six coaching conversations observed as part of this study. During these conversations, mentors addressed multiple topics and gave feedback aligned to many different aspects of the teacher candidate's practice. In a single four-minute coaching conversation, the MPMT addressed at least seven different areas including: effective modeling, strategies for engaging all students, use of academic vocabulary, lesson pacing, questioning strategies, teacher enthusiasm, and use of proximity to monitor student behavior. During one interview, the RMT made a comment that contradicted his earlier statement about keeping a narrow focus stating, "I write notes like do this, do this, do that. And usually there's like a page and a half of notes." This is not in line with the message shared during training to identify one area of refinement that

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will have a significant impact on student learning and broad applicability to different content areas or contexts.

Missed opportunities during coaching conferences. Previous studies have found that mentors need training in order to conduct effective post-lesson conferences (Browne, 1992). Findings from this study suggest additional or more effective training may be needed to support mentors in conducting more valuable coaching conversations. For example, when using directive coaching, an important step that was always missing was that of rehearsal. The online training suggests that as a last step of the coaching conversation, the teacher candidate be given the opportunity to review the new concept. Ideally, the mentor provides both verbal support (asking teacher candidates to explain how they will apply new learning to a future lesson) and written support (making written notes of how the teacher candidate plans to implement new learning). The purpose of this step is to help the teacher candidate solidify and apply new learning. Ideally, after getting specific feedback from a mentor, teacher candidates would go through a rehearsal exercise and articulate how they would implement the new strategy or skill in an upcoming lesson. Although mentors were introduced to this concept as part of the online training prior to the start of the semester, they did not have the opportunity to practice this skill once they were actually working with a teacher candidate. Further training and opportunities for mentors to practice this step could result in more rapid improvement in teacher candidate performance.

Similarly, mentor skill at facilitating learning through a cognitive coaching conversation could be refined. During coaching conversations observed this semester, mentor questions were very general, almost always some variation of "how do you think

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the lesson went?" Responses from teacher candidates were typically brief and showed very little depth of reflection. Mentors can learn how to ask more targeted reflection questions and thoughtful follow-up questions to push teacher candidate thinking beyond their initial response. Mentors can also ask questions that prompt teacher candidates to make connections between student outcomes and teacher actions or between teacher actions and the language of the TAP rubric. The online training provides lists of questions that mentors can ask before and after lessons. In addition, the site coordinator provided mentors with a list of coaching questions aligned to TAP indicators during their first mentor meeting. Training could give mentors an opportunity to practice using these resources in order to make it part of their normal routine when working with a teacher candidate.

Research question 3: How and to what extent does mentor support impact teacher candidate performance?

Both teacher candidates in this study identified their mentors as their biggest source of support. Teacher candidates recognized that this support comes in several forms including modeling and frequent feedback. Two factors that seemed to mediate the impact of mentor support for teacher candidate performance include teacher candidate characteristics and the relationship between mentors and teacher candidates. Each of these topics is described in the sections below.

Assertion six: Mentors help novice teacher candidates see their performance through the eyes of an experienced educator. Support from mentors allowed teacher candidates to recognize areas or refinement that they may not have noticed on their own. As novices, teacher candidates are not always effective at reflecting on a lesson and

identifying areas to improve. Previous studies suggest that the teacher candidate's perceptions of a mentor's knowledge and experience influence the potential benefits of a mentoring relationship (Abell et al., 1995). Interns who lacked professional respect for their mentor find the support less useful while interns who viewed their mentor as possessing relevant knowledge and experience found the relationship beneficial. The teacher candidates in this study acknowledged and appreciated the experience mentors have and which they currently lacked. The RTC explained, "I'm a student teacher so it's like I don't really know necessarily what's best or the worst from my lack of experience." Similarly, the MPTC said that she needed direct feedback from her mentor in order to identify what she was doing wrong and improve.

The RTC explained how his mentor helped identify "things I probably wouldn't catch on my own…having that second pair of eyes is a big deal." The RTC also said, "sometimes he'll say stuff that I had no idea. Well wow, I didn't know I was doing that wrong. Or he'll say stuff like, you know, that I would never have known unless he would have told me." In addition to pointing out areas for improvement, mentors helped teacher candidates identify areas were they were doing well.

The MPTC described how her mentor helped by identifying areas where she has improved. She explained, "it kind of uplifts me because I feel like I'm doing something right when she does tell me, 'ok you are doing this.' Cuz I don't realize I'm doing that…. I don't realize I'm doing it until she tells me you are doing it and I see my improvement." The MPTC explained how feedback from her mentor helped her to understand "what a teacher needed to do," made her "more aware" of what she needed to improve, and gave her things to keep in mind for future lessons.

Assertion seven: Mentors model and provide coaching support to help teacher candidates improve. Support from mentors goes beyond just pointing out areas of strength and areas for improvement. The mentors in this study helped their teacher candidates to grow through modeling and coaching support.

The MPTC described how observing her mentor modeling classroom management helped her to grow in this area. "Her modeling the classroom management from the beginning. Telling the kids, OK this is your warning, stop talking, and then giving out those infractions, made me see OK, I need to just give one warning and do an infraction because I need to do what she does." The MPTC also recognized how direct feedback from her mentor helped her to become more consistent with enforcing her expectations for student behavior. The MPTC described, "she really told me like, 'hey you need to follow through when you say hey stop talking.'" The teacher candidate recognized the change in her own performance once she implemented this feedback. She described:

> Before I met her I would say, "stop talking, ok stop talking, ok I'm waiting." And I would sit there and wait for them to stop. And she told me, "You can't do that. You need to say stop talking. The first time is a warning and the second time is an infraction. You just have to follow through and be really firm with your expectations." And now that I look at it I'm like wow, I wish I would have done that sooner.

The teacher candidate admitted that sometimes she needed to be reminded several times before a practice became part of her natural routine. She described how her mentor just kept pushing her to follow through. The MPTC described how she appreciated getting frequent feedback from her mentor, "I need that immediate feedback. Like what do you expect from me?"

The RTC identified support from his mentor as a contributing factor to his improved skill at writing lesson plans. "He's really good at helping me break down lesson plans, making them shorter, but still effective for resource." The RMT also helped by suggesting resources, "he helped me pick out some graphic organizers that were great…. He's found some cool lesson pans that I'm gonna tweak. He let me borrow a… book on reading and there's a couple of cool little plans they have in there."

The teacher candidates saw this type of support from mentors- modeling, providing resources, and giving feedback on performance- as valuable. The RTC felt that "half of everything I am learning and am going to use, I'm learning from RMT." Similarly, the MPTC declared, "She's really shaped me into what I am now." The MPTC further described the ways she has learned from her mentor, "I think being with her all day everyday has impacted (me). I see what she does and I'm like, ok, I need to do it like that."

Assertion eight: Teacher candidate characteristics facilitate learning from mentors. After several months of co-teaching together, mentors were having a noticeable impact on teacher candidate performance. This could be seen in the way the RTC was getting to know his students better and the way the MPTC was being more consistent in her use of academic vocabulary. This may be attributed, at least in part, to the openness to feedback and willingness to learn of the teacher candidates in this study. When speaking about his teacher candidate, the RTC said, "He's always really open to help." Similarly, the MPMT described how her TC would seek feedback, "She will ask me, how did it go? What did I improve upon?" And when given feedback, the teacher candidates internalize and try to apply new learning to future lessons. The MPTC explained, "I

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think about, ok MPMT told me to do this yesterday; I need to make sure I do it today and for now on." The MPMT explained, "I would say that she takes (feedback) to heart. She does want to be the best she can so she does fix what I give her feedback on." The MPMT noticed that her teacher candidate was growing in some areas even without receiving specific feedback. She described, "she is picking up on a lot of things I do and I'm seeing that when she does her PA's like she's doing things that I do, heaven help her (laughing)."

Assertion nine: Positive, professional relationships facilitate teacher candidate learning from mentors. Participants in this study all recognized the value of a positive relationship between mentor and teacher candidate. This tone appears to have been established by the site coordinator. During her interview, the site coordinator described the importance of having a "positive, productive, collaborative relationship." She made time for community building activities at the start of the semester. These provided an opportunity for mentors and teacher candidates to get to know each other and identify how unique personality characteristics might influence their interactions. When describing the relationship with her mentor, the MPTC said, "We're very comfortable with each other. I see her now more as a friend than anything. We've grown really close." She attributed some credit for this positive relationship to the community building activities facilitated by the site coordinator at the start of the semester.

Another factor that contributed to the positive mentor-teacher candidate relationship was the way mentors treated teacher candidates in front of students. Previous studies suggest mentors must be willing to release some control and provide

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teacher candidates with opportunities to teach (Hobson et al., 2009). The MPMT described some of the ways she gave her teacher candidate authority in the classroom:

> I would say just letting her have control. Letting the kids know that she is a valuable asset. That she's another teacher in the room. And it's all about how you approach it with the kids. And how you treat the candidate in front of others.

For the participants in this study, a positive relationship created an environment conducive to teacher candidate learning. The RTC explained:

> I'm not afraid of asking questions. I've had mentor teachers in the past where it's like, I kind of feel stupid asking this question. Should I ask it? Should I try to figure it out on my own? But RMT, I can ask a stupid question and… he's not going to be critical of me.

In these positive relationships, not only did teacher candidates feel comfortable asking for help, mentors also felt comfortable giving feedback. This supports previous research which found that relationships established to help, rather than evaluate, support the development of trust where struggling novices feel safe seeking the support they need (Abell et al., 1995). The MPMT explained, "We eat lunch with the whole team everyday. She's really fit in well… everything's very comfortable with us. So I can give her feedback and she doesn't take it personal…. I just think our whole rapport is helpful."

Insight from the RTC suggests that while a positive relationship is important, mentors should be careful to keep the relationship professional. He explained that he and his teacher candidate started the semester in a very friendly way. While this would seem to be a good thing, it presented a challenge for the RTC who was "a little uncomfortable (during coaching conversations) cuz I was afraid to hurt his feelings." He explained that at first he was afraid to address teacher candidate performance issues, but that by the end

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of the semester they reached a "professional comfort level" which meant he was "not afraid to hold anything back cuz I know that it will help him in the long run." Upon reflection, the RTC shared, "me and RTC were like super close from the beginning. We were chatting it up and talking, but I wish I would have had that professional comfort with him where I realized that it's not hurting his feelings. It's really just kind of helping him be a better teacher."

Strengths and Limitations

 Strengths. The researcher-practitioner acknowledges several potential threats to the internal and external validity of this study. The study design used multiple strategies to control for these threats. This included use of data from multiple perspectives (mentor teacher, teacher candidate, site coordinator, researcher as observer) and use of multiple methods for data collection (observation, interviews). The study included both qualitative and quantitative sources of data. The use of a mixed-methods approach allowed the researcher to gain a richer understanding of this phenomenon than could be gained by using a single methodology. The study included a small number of participants, 2 dyads and 1 site coordinator. This allowed the researcher to spend more time with the study participants and develop a more detailed and richer understanding of their experiences than would have been possible with a larger sample size.

 The researcher-practitioner enlisted the support of another doctoral candidate and a more experienced researcher for a peer review of qualitative data analysis. Transcripts from interviews and coaching conversation observations were randomly chosen for review at multiple points during the data analysis process including memoing, defining

codes, and applying codes. In each case, the results from individual analysis were compared in order to validate the findings.

Inter-rater reliability testing was also conducted with the quantitative data sources. For teacher candidate lesson observations, the site coordinator provided expertise to ensure accurate scoring with the TAP rubric. The site coordinator is a certified evaluator who has several years of experience scoring teacher candidate lessons. To ensure accurate scoring of the mentor teacher professional development meetings, the researcher enlisted the support of a colleague from the Mary Lou Fulton Teachers College who has training and experience in using the Mentor Training Observation Rubric. This individual reviewed the transcripts from two of the four mentor trainings and scored them with the rubric. The researcher met with this expert to discuss evidence and come to consensus on scores.

Limitations. Despite these efforts to control for threats, they could not be eliminated completely. These threats are described below.

History. One threat to internal validity is previous history of mentor teachers. The MPMT had hosted student teachers in the past and had completed extensive training during the years she worked as an instructional coach for her school district. These earlier experiences, by her own report, appear to have impacted her current knowledge and behaviors. While the MPMT participated in the online training, she did not attend any of the monthly face-to-face trainings. The mentor's previous experiences with mentoring and coaching may have been responsible for the outcomes observed in this study. The researcher-practitioner cannot be certain that observed behaviors are solely

the result of participation in the mentor training innovation described in this particular study.

Experimenter effect. This study also contains a threat in the form of experimenter effects. The presence of the researcher-practitioner during the coaching conversation may have unintentionally influenced the behaviors of the teacher candidates and mentor teachers. Passive attributes, such as the observer's affiliation with ASU, may have affected participant behaviors during the observation. In addition, an experimenter effect may have impacted mentor and teacher candidate responses to interview questions. The researcher-practitioner acknowledges some amount of bias in the interview questions. The questions used in the semi-structured interviews were written in advance and informed by what existing literature tells us about effective mentoring. Consequently, it is possible that questions about the mentor-teacher candidate relationship and mentoring behaviors were unintentionally leading. It is also possible that participants responded in ways that they felt were the desired or "right" answers. It is possible that participants were not honest in their responses. Participants may have been uncomfortable with sharing information with the ASU staff member conducting the research. Social desirability bias is the tendency of respondents to answer questions in ways that will be perceived as favorable by others. Mentors may have felt pressure to provide what they perceived as the "right" answer to questions rather than answering with complete honesty. Teacher candidates may not have felt comfortable sharing information about their mentors that could be perceived as critical.

Selection treatment interaction. Selection treatment interaction is another risk to the external validity of this study. Simply asking the mentors questions about their

coaching behaviors may have caused them to make changes with respect to how they supported their teacher candidate.

Small, non-representative. This study included only two mentor-teacher candidate dyads and one site coordinator from a single cohort. It is possible that significant differences exist between individuals who agreed to participate in this study and those who did not. Thus, results cannot be generalized to the larger population of iTeachAZ participants or even to other members of this particular district cohort.

Misalignment of training and data collection plan. A limitation of this study was the lack of alignment between the face-to-face mentor training topics and the data collected and analyzed. Whereas, the first mentor training focused on facilitating an effective planning conference, the research design did not include observation of planning conferences, only post-lesson conferences. Thus, it was not possible to directly observe how and to what extent mentors applied what they learned from this first face-to-face training. Another example is a monthly mentor professional development meeting that focused on using the data dashboard. Again, there were not opportunities during my coaching conversation observations to see this tool being utilized, and therefore it was not possible to see how that particular training impacted mentor behaviors. It was not possible to know the focus for each of the trainings in advance; rather the site coordinator chose topics each month based on her assessment of what mentors needed most. The data collection plan for this study was designed at the start of the semester and included post-lesson coaching conversations as the only opportunity to observe mentoring first-hand.

Future studies could address this limitation by using a more flexible design. After each professional development meeting, the researcher could identify an appropriate opportunity for observing and assessing mentor learning and application of skills. For example, if the training focused on planning conferences, arrangements would be made to observe a planning conference. A less rigid plan for data collection would make it possible to adapt as needed to collect data in the most appropriate setting in order to make stronger assertions related to the research questions.

Implications for Research

A limitation of this study was the small sample size. Because the RMT did not complete the online training and the MPMT did not attend monthly mentor meetings, it was particularly difficult to answer questions about the extent to which mentor training contributes to mentor teacher knowledge of how to support pre-service teachers. Future cycles of research can expand the number of participants so that assertions can be more confidently made regarding the impact of the online and face-to-face trainings on mentor teacher knowledge and behaviors.

Future studies should consider potential barriers to participation. One mentor in this study spoke with me after declining participation, stating that her teacher candidate had "too much going on" with helping out the family business, raising her own children, ASU coursework, and student teaching. A limited amount of time was a common theme in interviews with mentors and teacher candidates in this study. Thus, future studies should be designed in a way that minimizes any additional time demands for participants, perhaps by focusing on practices already in place or by ensuring that there are benefits to the participants for any activities that go beyond normal practice.

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Researchers who conduct future studies should approach the task with a mindset towards flexibility. There were several occasions during data collection when visits to schools were canceled at the last minute. This reflects the reality of teachers today whose routines are interrupted by district training, guest speakers, workshops, and unexpected absences.

Other areas of research can also examine a mentor teacher's proficiency and experience with coaching as possible criteria for selection as an iTeachAZ mentor. Arizona State University already collects data, via a survey, from teacher candidates at the end of each semester related to their experience working with a mentor teacher. This data may also be used to inform future studies related to mentor teacher effectiveness, selection, and training.

Future studies related to mentors and teacher candidates should carefully consider the role of the researcher. In this study, the researcher was an outsider, non-participant during observations of coaching conversations. In order to protect participant confidentiality no information from the coaching conversations or interviews was shared with the site coordinator. Similarly, the researcher acted as a non-participant in mentor trainings. In order to avoid influencing site coordinator behavior during future mentor trainings, the researcher did not give the site coordinator feedback, even when it was asked for. This presented an ethical dilemma because sharing information about what was observed could have been helpful in informing and potentially improving the mentor training and thus the support for teacher candidates. Future studies might avoid this by defining the researcher role differently as more of a participant. Additionally, if future studies include a larger number of participants, it might be possible to share information

about mentors and teacher candidates with the site coordinator in a way that still protects the identity of individuals.

Implications for Practice

The results of this study have immediate implications for how the college engages with mentors who support teacher candidates in our program. These suggestions hold relevance beyond the iTeachAZ program at Arizona State University, with significance to other teacher preparation programs that use a mentor teacher as part of their model. Implications from this study include implementing additional criteria for mentor selection, creating opportunities to build and maintain positive mentor-teacher candidate relationships, providing differentiated training to address mentor needs, and providing early intervention when teacher candidates are not in effective student teaching placements.

Mentor selection. Colleges of education must think differently about the selection process to ensure mentors are able to model effective practice. The fact that mentors have a significant influence on the development of novice teachers is supported by both existing literature and the findings of this study. Research by Darling-Hammond and Baratz-Snowden (2007) found that new teachers develop their own teaching skills by observing mentors who model good practice. Participants in this study described their mentors as "role models" during interviews. While this study did not evaluate the proficiency of mentors, information revealed during the site coordinator interview suggests that not all mentors who currently host teacher candidates are effective teachers themselves.

According to Darling-Hammond (2010) new teachers do not learn how to be effective by watching ineffective teaching. There are potentially negative implications to teacher candidates who spend a significant amount of time, between 15-30 weeks observing less than effective teaching practices. Teacher candidates who observe poor teaching may go on to perpetuate these same ineffective practices in their own classrooms (Cochran-Smith, 1991). "No amount of coursework can, by itself, counteract the powerful experiential lessons that shape what teachers actually do" (Darling-Hammond, 2010, p. 216) Because of the significant role mentors play in influencing the practices and beliefs of a novice educator, teacher preparation programs must carefully and deliberately select mentors who have demonstrated the ability to model good practices.

At a minimum, mentor teachers must demonstrate proficiency in the areas included in our teacher candidate performance assessment rubric. College and district staff can work together to develop a common definition of what proficient teaching looks like and identify teachers who meet these criteria. In schools with a valid teacher evaluation system, first-time mentors should provide documentation from their formal performance assessments to the college to ensure proficiency in critical domains of practice. Potential mentors should be required to secure the endorsement of a school administrator, who has the opportunity to observe teachers on a regular basis. University staff in charge of placing student teachers should make classroom visits to observe the mentor teacher and ensure the placement is suitable. This up-front investment of time is necessary to ensure student teachers have the opportunity to observe effective models

which we know, from previous research, is necessary (Allen, 2003; Darling Hammond &

Baratz-Snowden, 2007; Gardner, 2005; Levine, 2006).

In sum, the Office of Clinical Experience should not place teacher candidates in

classrooms with ineffective teachers. Admittedly, it can sometimes be challenging to

find a sufficient number of high-quality placements. Nonetheless, the bar cannot be

lowered. In situations where there are not enough qualified mentors, dual placements

may be an option with two teacher candidates placed with a single qualified mentor.

Alternatively, placements may be explored in other schools or districts. Another

possibility would be to reward or incentivize more excellent teachers to take on the role

of mentor. In true partnership, the university can also look for ways to support the

district's professional development efforts in order to cultivate more qualified mentors.

This could take a variety of forms such as having expert faculty work with district

personnel to develop training or creating pathways for in-service teachers to enroll in

continuing education coursework provided by the college. This type of collaboration

aimed at increasing the knowledge and skill of in-service teachers can be mutually

beneficial to the district and the teacher preparation program.

Site coordinator role in supporting mentors. As was stated earlier in this

report, being an effective teacher is necessary, but not sufficient. Mentors must develop

additional skills to effectively coach a novice educator. This was the rationale behind the

online and face-to-face trainings currently provided. This study suggests additional

attention be given to ensure these trainings fulfill their intended purpose. Designing

high-quality professional development that meets the diverse needs of mentors requires

significant planning and preparation. In addition, differentiated follow-up may be needed

to support mentors in applying what they learned after the training has ended. Currently the task of recruiting, training, and ensuring the effectiveness of mentor teachers falls on the shoulders of the site coordinator in each district cohort. This is a huge task itself, but one that competes for time with teaching and supervising up to 30 teacher candidates, planning and facilitating up to three upper-division courses, and serving as the district/university liaison. In addition, site coordinators are often called upon to host site visits from donors or visiting scholars, participate in research projects, and serve on college committees. The site coordinators have a truly monumental task for which they are only modestly compensated. With so many competing demands for a limited amount of time, it is easy to see how some areas of performance, like mentor training and support, may suffer.

Given the very important role that site coordinators play, it is the responsibility of our college leadership to ensure that these individuals are set up for success. This may require rethinking and restructuring the workload and scope of job responsibilities for the site coordinator position to ensure it is possible to complete all duties at a high level. This study supports existing literature, which finds mentors play a significant role in the development of new teachers. Given this, consideration should be made for the amount of time site coordinators need to spend preparing and supporting mentor teachers. Table 17 below identifies specific tasks for which time must be allocated.

The tasks and times in the table below are suggestions based on the experience of this researcher. Focus groups and time studies, which involve multiple site coordinators, can be used to ensure the task list is comprehensive and time estimates are realistic. Information learned through such efforts can be used to

help redefine the site coordinator job description. Creating a manageable workload

should support the recruitment and retention of excellent site coordinators, thus

strengthening our teacher preparation program.

Table 17

Site Coordinator Support for Mentors

Task	Description	Suggested time
Mentor recruitment and selection	• Create informational materials for recruitment • Meet with school leaders to identify appropriate recruitment strategy • Present information at staff meetings • Answer questions from applicants • Collaborate with school/district leaders to select mentors	8 hours
Online mentor training	• Assist and confirm mentors registration and completion of online training • Complete training and plan for ways to build on this foundation in future face-to-face trainings	3 hours
Mentor orientation	• Plan and prepare for orientation, differentiate for new and returning mentors • Facilitate mentor orientation • Review evaluations/exit tickets to inform training for future years and identify need for individual follow-up support	6 hours at start of first semester of student teaching 3 additional hours in dual certification programs if new mentors join at second semester
Face to face mentor training	• Review multiple data sources to identify appropriate topic(s) • Plan and prepare for meeting • Facilitate meeting • Review exit tickets to inform future professional development meetings and identify need for individual follow-up support	7 hours per month

Mentor support	• Participate in planning meetings to observe and model planning conferences • Participate in post-lesson conferences to observe and model coaching conversations • Meet with individual mentors as needed to provide additional support, address concerns with teacher candidate	5 hours per month
Mentor celebration	• Plan ways to celebrate and appreciate mentors to create positive cohort climate and support retention of strong mentors	2 hours per semester

Actual time needed may vary depending on the experience level of the site coordinator. For example, veteran site coordinators may need less time to plan and prepare for monthly meetings if performance trends are similar from year to year. New site coordinators may benefit from having collaboration time to co-plan with these more experienced colleagues. Actual time needed may also vary depending on the amount of institutional support provided. For example, if site coordinators must create their own materials for mentor recruitment, they will need more time than if a customizable template is provided. The total demand on a site coordinator's time may also vary based on context-specific factors. For example, in some districts, mentors may be located at multiple schools geographically far apart. This would require additional travel time for the site coordinator. Some schools may have more mentors with limited coaching experience. These new mentors may require additional support from the site coordinator between monthly meetings.

Site coordinators must have time in their schedules to accomplish the important tasks identified in the table above. Some possibilities to explore include reducing the course load or supervision load. With fewer classes to prepare, teach, and grade or fewer students to observe and coach, site coordinators would have more time to allocate for

mentor training and support. The additional time could be used to co-plan, observe, and

debrief monthly mentor meetings with another site coordinator to ensure the face-to-face

professional development is both rigorous and relevant. Site coordinators could also

spend time going into classrooms and modeling for mentors who are developing their

coaching skills. Teacher candidates in this and previous studies report that mentors play

a significant role in their development. Thus, creating time for site coordinators to focus

on developing the skills of mentors is a wise investment for the university.

Opportunities to build and maintain mentor-teacher candidate relationships.

Results from this study suggest that a positive relationship between mentors and teacher

candidates is conducive to teacher candidate learning. According to the RTC, the

positive relationship with his mentor made him feel safe asking questions. The MPMT

explained that the comfortable relationship allowed her give they kind of feedback her

teacher candidate needed. While the relationships in this study were characterized by a

friendly tone and mutual respect, this was not the case for all members of this cohort.

The RTC described how his some of his classmates struggled in less productive

relationships, "some of the girls in my cohort, they have some very rough relationships

with their mentor teachers. I'm blessed to not have that." Site coordinators should

consider creating opportunities for relationship building at the start of the semester. The

MPTC identified this as valuable to her and her mentor. Additional opportunities should

be provided to purposefully focus on this important relationship throughout the semester,

both to maintain the relationship for those in a good place, but also repair and rebuild for

those who need it. For programs, like the one in this study, where teacher candidates

change placements between their first and second semesters, time should be allocated to

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ensure this new relationship also gets off on a positive note. The relationship appears to be too important to leave to chance.

Differentiated mentor training. The results of this study found that mentors have different needs and suggests consideration be given to how ASU provides differentiated support to mentors. Some mentors may need additional training in how to effectively use cognitive or directive coaching strategies. Others may need support in how to give specific feedback so that teacher candidates have a better understanding of what they are doing well and where they need to grow. The college may consider input from mentor teachers, teacher candidate performance data, or observation of mentor practices in order to identify focus areas for mentor training.

It is not enough to identify the need for differentiated training. Based on interview data from one site coordinator in this study, it seems that creating and facilitating differentiated training would be a challenging task to place on the site coordinators. The college can allocate resources to design high-quality training to address a variety of topics and also look for innovative ways to deliver this differentiated training to participants. Providing targeted training on specific skills will make the professional development more relevant to mentors and prepare them to better support teacher candidates. This aligns with one if the tenets of adult learning theory which states that adults are satisfied by learning that meets their needs and interests (Knowles, 1978).

Early intervention for ineffective placements. Although participants in this study described their experience as positive, mentors, teacher candidates, and site coordinators all described situations where teacher candidates were in less positive student teaching placements. In some of these situations, mentors were not willing to

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give teacher candidates the opportunity to play a significant role in teaching and managing students. In other situations, mentors revealed themselves as poor models for effective practice and professional behaviors. Some unfortunate teacher candidates were placed with mentors who took advantage of the extra help and frequently left the classroom to take care of other business. One mentor failed to make time to meet with her teacher candidate on a regular basis to provide feedback on her performance. There should be a way to identify these instances early in order to provide intervention- either support to change practice or removal of the teacher candidate from the ineffective environment. One way to do this would be to administer a short mid-semester survey to mentors and teacher candidates. This information would be timelier than the survey that is currently completed at the conclusion of student teaching. When collected at the end, information can help future teacher candidates avoid a poor placement, but it's too late to benefit the current student teacher. Additionally, unlike end of semester survey data, this mid-semester data should be shared with the site coordinator who is able to analyze the data, understand contextual influencers, and provide intervention as needed.

Bridging the gap between ASU and the classroom. Findings from this study indicate that there is sometimes conflict between ASU course requirements and mentor teacher expectations in the classroom. Multiple situations arose in which some aspect of the ASU program or coursework did not seem to align with expectations in the student teaching classroom. Examples of this included the level of detail included in lesson plans, the relevance of ASU course assignments in the field placement, and the significant amount of time that coursework and assignments require of teacher candidates. During one interview, the MPMT described her criticism with the way ASU

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expects teacher candidates to write out lesson plans, "I told her, in real life when you're out in your own classroom, you're not gonna have time to make four and five page lesson plans. It's not a reality." These types of tension for mentors and teacher candidates should be avoided, addressed, and resolved to the extent possible.

The online training currently provides two examples of the lesson plans required by the iTeachAZ program. One suggestion for future practice is to revise the online training so that it provides rationale for requiring such detailed planning. Site coordinators can provide further support by helping mentors see the commonalities between the ASU template and whatever the school or district requires. The purpose of sharing this information is not to attempt to change the practice of a mentor teacher, but to equip mentors with the knowledge needed to support the instruction students receive through their coursework. It is important for mentor teachers to be on the same page, or at least be flexible in their thinking in order to avoid creating dissonance for the teacher candidate. If a teacher candidate receives conflicting messages from ASU instructors and mentor teachers, they may choose to dismiss one or the other in order to resolve internal tension. Failure to resolve this tension may result in teacher candidates complying with ASU requirements, but not viewing them as relevant for practitioners. Examples of this were seen during observations of coaching conversations when teacher candidates described submitting lesson plans for their ASU classes that they never intended to use in their placement classroom.

The results of this study also indicate that mentors are not fully invested in the use of the TAP rubric. For the iTeachAZ program, the TAP rubric is meant to be a tool for coaching and supporting teacher candidates. Although both mentors completed some

level of training on the TAP rubric through the online or face-to-face meetings, mentors were not observed using the language from the TAP framework when giving the teacher candidates feedback. There seemed to be a gap between mentor knowledge and skill. This study suggests that it may be beneficial to provide opportunities for mentors to practice using the TAP framework as a coaching tool during their monthly professional development trainings. Training which includes practice opportunities might help mentors develop more comfort and competence with using the TAP rubric as a coaching tool. Increasing the knowledge and skills of mentor teachers, with respect to relevant aspects of the teacher preparation program, would allow them to provide better support to our teacher candidates.

Conclusion

This study provides valuable insight for Mary Lou Fulton Teachers College at Arizona State University and the broader field of teacher preparation. As a college, we depend on mentors to help teacher candidates become effective, reflective practitioners. The online and face-to-face training provided is a start and presents content to build a strong foundation. However, this study suggests that not all mentors take full-advantage of these learning opportunities and, based on this small sample, it appears the current training model may not ensure all mentors are fully prepared for their role.

The research is clear with respect to the important role mentors play in the development of novice teachers. Despite the recommendations of many education experts that cooperating teachers be well-trained and understand their roles and expectations (Allen, 2003), our field has paid little attention to what this training should look like and how it effects teacher candidate performance. This study offers some

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suggestions about what works and what does not. Colleges can use this information to refine programs in an effort to more effectively leverage mentor teachers in the process of preparing excellent teachers. Specifically, colleges can take steps to ensure mentors are proficient models of effective teaching practices. In addition, colleges can provide high quality training to help mentors develop the skills they need to support the development of a novice educator. These two changes alone have the potential to significantly improve the quality of clinical experiences for pre-service teachers.

  With increased accountability on the horizon, teacher preparation programs cannot afford to ignore the role that mentors play. Moreover, we have a responsibility to do a better job- for the mentors who make a significant commitment of time, for our ASU students who come to our college to learn the craft of teaching, and for the children whom they will serve during their pre-service placements and throughout their careers.

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APPENDIX A

MENTOR TRAINING OBSERVATION RUBRIC

Indicator	(5) Exemplary	(3) Proficient	(1) Unsatisfactory
Purpose and Topic Selection	• Coordinator selects a topic based on cohort-specific evidence such as PAs, walkthroughs, or mentor surveys **and shares evidence with mentors as catalyst for the training** • Selected meeting topic emphasizes **mentoring** skills • Mentors leave the training with **at least 2** clear actions they can take to **immediately** increase TC effectiveness	• Coordinator selects a topic based on evidence such as PAs, walkthroughs, or mentor surveys • Selected meeting topic emphasizes mentoring skills • Mentors leave the training with **at least 1** clear action they can take to increase TC effectiveness	• Coordinator **does not** select a topic based on evidence • Selected meeting topic **does not** emphasize mentoring skills • Mentors **do not** leave the training with clear actions they can take to increase TC effectiveness
Standards & Objectives	• **All** learning objectives are explicitly communicated. • Sub-objectives are: **(a) consistently connected to what mentors have previously learned and (b) know from mentoring experiences** • Expectations for mentor performance are clear, **demanding, and high.** • There is evidence that **most** mentors demonstrate mastery of the objective.	• **Most** learning objectives are explicitly communicated. • Sub-objectives are **mostly** aligned to the lesson's major objective. • Expectations for mentor performance are **clear.** • There is evidence that **most** mentors demonstrate mastery of the objective.	• **Few** learning objectives are explicitly communicated. • Sub-objectives are **inconsistently** aligned to the lesson's major objective. • Expectations for mentor performance are **vague.** • There is evidence that **few** mentors demonstrate mastery of the objective.

Presenting Instructional Content	• Presentation of content **always** includes: • Visuals that establish: the purpose of the lesson, preview of the organization of the lesson, and include internal summaries of the lesson. • Examples, illustrations, analogies, and labels for new concepts and ideas. • Modeling by the site coordinator to demonstrate his or her performance expectations. • Concise communication. • Logical sequencing and segmenting all essential information. • No irrelevant, confusing, or non-essential information.	• Presentation of content **most of the time** includes: • Visuals that establish: the purpose of the lesson, preview of the organization of the lesson, and include internal summaries of the lesson. • Examples, illustrations, analogies, and labels for new concepts and ideas. • Modeling by the site coordinator to demonstrate his or her performance expectations. • Concise communication. • Logical sequencing and segmenting all essential information. • No irrelevant, confusing, or non-essential information.	• Presentation of content **rarely** includes: • Visuals that establish: the purpose of the lesson, preview of the organization of the lesson, and include internal summaries of the lesson. • Examples, illustrations, analogies, and labels for new concepts and ideas. • Modeling by the site coordinator to demonstrate his or her performance expectations. • Concise communication. • Logical sequencing and segmenting all essential information. • No irrelevant, confusing or non-essential information.
Activities & Materials	Activities and Materials include **all** of the following: • Support the lesson objectives • are challenging • sustain mentors' attention • elicit a variety of thinking • provide time for reflection • are relevant to	Activities and Materials include **most of the following:** • Support the lesson objectives • are challenging • sustain mentors' attention • elicit a variety of thinking • provide time for reflection • are relevant to	Activities and Materials include **few of the following:** • Support the lesson objectives • are challenging • sustain mentors' attention • elicit a variety of thinking • provide time for reflection • are relevant to

	mentors' current experience • provide opportunities mentor to mentor interaction • **In addition, sometimes activities are game-like, involve simulations, require creating products, and demand self-direction and self-monitoring.**	mentors' current experience • provide opportunities for mentor to mentor interaction	mentors' current experience • provide opportunities for mentor to mentor interaction
Academic Feedback	• The site coordinator circulates **to prompt mentor thinking, assess each mentor's progress, and provide individual feedback.** • Feedback from mentors is **regularly** used to monitor and adjust instruction.	• The site coordinator circulates during instructional activities **to support engagement and monitor mentor work.** • Feedback from mentors is **sometimes** used to monitor and adjust instruction.	• The site coordinator circulates during instructional activities, **but monitors mostly behavior.** • Feedback from mentors is **rarely** used to monitor or adjust instruction.
Site Coordina tor Content Knowled ge	• Site Coordinator displays **extensive** content knowledge of all the subjects he or she teaches. • Site Coordinator **regularly** implements **a variety** of subject-specific instructional strategies to enhance mentor content knowledge. • The Site	• Site Coordinator displays **accurate** content knowledge **of all the subjects he or she teaches.** • Site Coordinator **sometimes** implements subject-specific instructional strategies to enhance mentor content knowledge. • The Site	• Site Coordinator displays **under-developed** content knowledge **in several subject areas.** • Teacher **rarely** implements subject-specific instructional strategies to enhance mentor content knowledge. • Site Coordinator

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	Coordinator **regularly** highlights key concepts and ideas and uses them as bases to connect other powerful ideas. • **Limited content is taught in sufficient depth to allow for development of understanding.**	Coordinator **sometimes highlights** key concepts and ideas **and uses them as bases to connect other powerful ideas.**	**does not understand** key concepts and ideas **in the discipline and therefore presents content in an unconnected way.**
Site Coordinator Knowledge of Mentors	• Site Coordinator **explicitly** communicates and incorporates data from various sources to meet the current needs of mentors and their teacher candidates. • Site Coordinator **regularly** provides differentiated instructional methods and content to ensure mentors have the opportunity to master what is being taught.	• Site Coordinator **briefly** communicates and incorporates data from various sources to meet the current needs of mentors and their teacher candidates. • Site Coordinator **sometimes provides differentiated instructional methods and content to ensure mentors have the opportunity to master what is being taught.**	• Site Coordinator **does not** communicate or incorporate data from various sources to meet the current needs of mentors and their teacher candidates. • Site Coordinator practices demonstrate **little differentiation of instructional methods or content.**

APPENDIX B

TAP RUBRIC

Standards and Objectives		
Exemplary (5)	**Proficient (3)**	**Unsatisfactory (1)**
• All learning objectives and state content standards are explicitly communicated.	• Most learning objectives and state content standards are communicated.	• Few learning objectives and state content standards are communicated.
• Sub-objectives are aligned and logically sequenced to the lesson's major objective.	• Sub-objectives are mostly aligned to the lesson's major objective.	• Sub-objectives are inconsistently aligned to the lesson's major objective.
• Learning objectives are: (a) consistently connected to what students have previously learned, (b) know from life experiences, and (c) integrated with other disciplines.	• Learning objectives are connected to what students have previously learned.	• Learning objectives are rarely connected to what students have previously learned.
• Expectations for student performance are clear, demanding, and high.	• Expectations for student performance are clear.	• Expectations for student performance are vague.
• State standards are displayed and referenced throughout the lesson.	• State standards are displayed.	• State standards are displayed.
• There is evidence that most students demonstrate mastery of the objective.	• There is evidence that most students demonstrate mastery of the objective.	• There is evidence that few students demonstrate mastery of the objective.

Presenting Instructional Content		
Exemplary (5)	**Proficient (3)**	**Unsatisfactory (1)**
Presentation of content always includes:	Presentation of content most of the time includes:	Presentation of content rarely includes:
• visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson;	• visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson;	• visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson;
• examples, illustrations, analogies, and labels for new concepts and ideas;	• examples, illustrations, analogies, and labels for new concepts and ideas;	• examples, illustrations, analogies, and labels for new concepts and ideas;
• modeling by the teacher to demonstrate his or her performance expectations;	• modeling by the teacher to demonstrate his or her performance expectations;	• modeling by the teacher to demonstrate his or her performance expectations;
• concise communication;	• concise communication;	• concise communication;
• logical sequencing and segmenting;	• logical sequencing and segmenting;	• logical sequencing and segmenting;
• all essential information and;	• all essential information and;	• all essential information and;
• no irrelevant, confusing, or nonessential information.	• no irrelevant, confusing, or nonessential information.	• no irrelevant, confusing, or nonessential information.

Activities and Materials		
Exemplary (5)	**Proficient (3)**	**Unsatisfactory (1)**
Activities and materials include all of the following: • support the lesson objectives; • are challenging; • sustain students' attention; • elicit a variety of thinking; • provide time for reflection; • are relevant to students' lives; • provide opportunities for student-to-student interaction; • induce student curiosity and suspense; • provide students with choices; • incorporate multimedia and technology and; • incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums, cultural centers, etc.). • In addition, sometimes activities are game-like, involve simulations, require creating products, and demand self-direction and self-monitoring.	Activities and materials include most of the following: • support the lesson objectives; • are challenging; • sustain students' attention; • elicit a variety of thinking; • provide time for reflection; • are relevant to students' lives; • provide opportunities for student-to-student interaction; • induce student curiosity and suspense; • provide students with choices; • incorporate multimedia and technology and; • incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums, cultural centers, etc.).	Activities and materials include few of the following: • support the lesson objectives; • are challenging; • sustain students' attention; • elicit a variety of thinking; • provide time for reflection; • are relevant to students' lives; • provide opportunities for student-to-student interaction; • induce student curiosity and suspense; • provide students with choices; • incorporate multimedia and technology and; • incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums, etc.).

Academic Feedback		
Exemplary (5)	**Proficient (3)**	**Unsatisfactory (1)**
• Oral and written feedback is consistently academically focused, frequent, and high quality. • Feedback is frequently given during guided practice and homework review. • The teacher circulates to prompt student thinking, assess each student's progress, and provide individual feedback. • Feedback from students is regularly used to monitor and adjust instruction. • Teacher engages students in giving specific and high-quality feedback to one another.	• Oral and written feedback is mostly academically focused, frequent, and mostly high quality. • Feedback is sometimes given during guided practice and homework review. • The teacher circulates during instructional activities to support engagement and monitor student work. • Feedback from students is sometimes used to monitor and adjust instruction.	• The quality and timeliness of feedback is inconsistent. • Feedback is rarely given during guided practice and homework review. • The teacher circulates during instructional activities, but monitors mostly behavior. • Feedback from students is rarely used to monitor or adjust instruction.

Teacher Content Knowledge		
Exemplary (5)	**Proficient (3)**	**Unsatisfactory (1)**
• Teacher displays extensive content knowledge of all the subjects she or he teaches. • Teacher regularly implements a variety of subject specific instructional strategies to enhance student content knowledge. • The teacher regularly highlights key concepts and ideas and uses them as bases to connect other powerful ideas. • Limited content is taught in sufficient depth to allow for the development of understanding.	• Teacher displays accurate content knowledge of all the subjects he or she teaches. • Teacher sometimes implements subject-specific instructional strategies to enhance student content knowledge. • The teacher sometimes highlights key concepts and ideas and uses them as bases to connect other powerful ideas.	• Teacher displays under-developed content knowledge in several subject areas. • Teacher rarely implements subject-specific instructional strategies to enhance student content knowledge. • Teacher does not understand key concepts and ideas in the discipline and therefore presents content in an unconnected way.

Teacher Knowledge of Students		
Exemplary (5)	**Proficient (3)**	**Unsatisfactory (1)**
• Teacher practices display understanding of each student's anticipated learning difficulties. • Teacher practices regularly incorporate student interests and cultural heritage. • Teacher regularly provides differentiated instructional methods and content to ensure children have the opportunity to master what is being taught.	• Teacher practices display understanding of some students' anticipated learning difficulties. • Teacher practices sometimes incorporate student interests and cultural heritage. • Teacher sometimes provides differentiated instructional methods and content to ensure children have the opportunity to master what is being taught.	• Teacher practices demonstrate minimal knowledge of students' anticipated learning difficulties. • Teacher practices rarely incorporate student interests or cultural heritage. • Teacher practices demonstrate little differentiation of instructional methods or content.

Managing Student Behavior		
Exemplary (5)	**Proficient (3)**	**Unsatisfactory (1)**
• Students are consistently well-behaved and on task.	• Students are mostly well-behaved and on task, some minor learning disruptions may occur.	• Students are not well-behaved and are often off task.
• Teacher and students establish clear rules for learning and behavior.	• Teacher establishes rules for learning and behavior.	• Teacher establishes few rules for learning and behavior.
• The teacher uses several techniques, such as social approval, contingent activities, and consequences to maintain appropriate student behavior.	• The teacher uses some techniques, such as social approval, contingent activities, and consequences to maintain appropriate student behavior.	• The teacher uses few techniques to maintain appropriate student behavior.
• The teacher overlooks inconsequential behavior.	• The teacher overlooks some inconsequential behavior, but other times addresses it, stopping the lesson.	• The teacher cannot distinguish between inconsequential behavior and inappropriate behavior.
• The teacher deals with students who have caused disruptions rather than the entire class. • The teacher attends to disruptions quickly and firmly.	• The teacher deals with students who have caused disruptions, yet sometimes he or she addresses the entire class.	• Disruptions frequently interrupt instruction.

APPENDIX C

COACHING CONVERSATION OBSERVATION PROTOCOL

Purpose of the Observation:

The purpose of this observation is to collect data during a coaching conversation between a mentor and teacher candidate. Observation data will be used to inform a follow-up interview.

Procedures:

1. At the very beginning, communicate researcher role as an observer, not a participant in the discussion.

2. Explain that observer will take notes and record the conversation to ensure accuracy.

3. Record notes on the "Observation Recording Sheet." Document the time on each page of the Observation Recording Sheet.

4. Record mentor words/actions in column one. Record teacher candidate words/actions in column two. Record any observer reflections or follow-up questions in column three.

5. Observation should focus on verbal and non-verbal behavior. The following questions should guide the observation.

   a. What is the topic(s) of discussion (debriefing lesson, discussing area of refinement or reinforcement)?

   b. What elements from the mentor training (online and/or face-to-face) are reflected in this coaching conversation?

   c. What evidence is there of teacher candidate learning?

   d. What coaching strategies are used (direct feedback, asking questions)?

   e. What language is being used (consistent with TAP rubric)?

   f. What non-verbal behaviors are observed (body language, facial expression)?

6. Immediately after the conversation, the observer will record the end time and fill-in notes.

7. (For inter-rater reliability only) Debrief with co-observer: What are some topics of discussion that you wrote down? What elements from previous mentor training did you see? What did you notice about the coaching strategy used? What role the teacher candidate play? What did you notice about their language? What are some non-verbal behaviors you noticed?

Coaching Conversation Observation Recording Sheet

Observer Name:

Date:

Location (use code, not school name):

Grade Level:

Program (EED/SPE/ECS):

Mentor Teacher (use code, not name):

Teacher Candidate (use code, not name):

Setting (ie- classroom/teacher's lounge, students present/not present, sitting side-by-side/in front of computer):

Start Time:

Stop Time:

APPENDIX D

MENTOR TEACHER INTERVIEW PROTOCOL

Purpose of the Interview:

The purpose of this semi-structured interview is to collect data about (1) how and to what extent mentor teachers support pre-service teacher candidates? (2) How and to what extent mentor training contributes to mentors' understanding of how to support pre-service teacher candidates? And (3) how and to what extent does mentor support impact teacher candidate performance?

Procedures:

1. Interviews will take place after observation of a coaching conference.

2. The researcher practitioner will interview each mentor teacher individually, when neither the teacher candidate nor students are present.

3. At the very beginning, the researcher will share the purpose of this interview and ask permission to record the conversation and take notes to ensure accuracy. Mentor teachers will be reminded of their right to not answer questions or to stop the interview at any time without consequence.

4. The interviewer will ask the questions listed below. Based on mentor responses, follow-up questions may be asked for clarification or to elicit further explanation.

5. The interviewer will record notes on the "Interview Recording Sheet."

6. The interviewer will record mentor words/actions in column one and any interviewer reactions in column two.

7. Immediately after the interview, the interviewer will record the end time and fill-in notes.

Mentor Teacher Interview Recording Sheet

Interviewer Name:

Date:

Mentor Teacher Name: (use code, not name):

Location (use code, not school name):

Grade Level:

Program (EED/SPE/ECS):

Setting:

Start Time:

Stop Time:

Mentor Teacher Interview Questions

Visit #1	Visit #2	Visit #3
Role of Mentor		
How would you describe the role of a mentor teacher?	The last time we met, you said that mentors play many roles. (Insert quote from last interview here.) Which role seems to be the one you currently play most often and why?	In what way- if any- has your definition of what it means to be a mentor changed since the beginning of the semester?
Questions related to coaching conversation		
What was the goal of the coaching conversation I just observed?	What was the goal of the coaching conversation I just observed?	What was the goal of the coaching conversation I just observed?
To what extent do you think you met that goal? (Follow up: Why do you think so?)	To what extent do you think you met that goal? (Follow up: How will you know?)	How important are these coaching conversations in the development of pre-service teachers?
The focus of your coaching was (…) How did you choose that focus? Is that the way you typically determine the coaching focus?	The focus of your coaching was (…) How did you choose that focus? (Follow-up: how do a TCs area of reinforcement/refinement influence your choice of a coaching focus)	Besides these coaching conversations, what are other ways you support your teacher candidate? (Follow-up, how do you ensure that these strategies are effective in helping your TC improve)
I noticed you (were directive in telling the teacher candidate what to do OR asked reflective questions). Why did you take that approach? Is that the coaching strategy you typically use? Why?	I noticed you (were directive in telling the teacher candidate what to do OR asked reflective questions). Why did you take that approach? Is that the coaching strategy you typically use? Why?	Has the way that you support your TC evolved since the beginning of the semester? If yes, how? (Follow-up: Are you more/less/the same in terms of how directive you are when coaching your TC?)
How often to you and your teacher candidate engage in coaching conversations?	Have your coaching conversations with your TC changed at all since my last visit in terms of how often you meet, what you discuss, the role you each play?	In what ways has your support impacted the teacher candidate's performance?
To what extent are your coaching conversations helping the teacher	What was your TCs biggest area for improvement at the start of	In what ways have you helped prepare your TC to continue to increase his/her

candidate improve? (On a scale of 1- not effective to 4- very effective)	the year? In what ways have you been able to help him/her improve in this area? (Ask for specific example.)	effectiveness after student teaching is over and s/he starts his/her career?
What factors contribute to a successful coaching conversation?		
Questions Related to Mentor Training		
What experience have you had mentoring pre-service teachers prior to this semester? (Only ask in first interview.)	Did you happen to have had the opportunity to complete the online training at the start of the semester? (If yes) How did the online training contribute to your knowledge or skill as a mentor?	In what ways, if any, did the online and face-to-face trainings prepare you to better support your teacher candidate?
	Did you happen to have had the opportunity to attend the monthly face-to-face meeting with the site coordinator? (If yes) How did the recent training prepare you to better support your teacher candidate?	In what others ways, if any, did you receive support as a mentor teacher? (Follow up: from site coordinator, from other mentors, seek it out on your own, previous training)
	What additional training or support would be helpful to you?	If you were designing training for a teacher who had never been a mentor before, what would be critical for them to know?
		In what ways could the iTeachAZ program support mentor teachers who have previous experience coaching and mentoring?
		What format of training would be most attractive to you (ie- f2f vs. online, synchronous vs. asynchronous, individual vs. meeting w/ other mentors, self-directed vs. same for fall)
		In what ways did

		participating in this study impact you or your experience as a mentor?
Questions Related to Relationship		
What are the characteristics of an effective mentor/teacher candidate relationship?	What are three words you would use to describe the relationship between you and your teacher candidate?	How has your relationship with your TC evolved over the semester? (follow-up: In what ways has that impacted his/her performance?)
How do you create such a relationship?	How does the quality of the relationship contribute to or interfere with your ability to help your teacher candidate improve?	
Is there anything else you would like to share?	Is there anything else you would like to share?	Is there anything else you w would like to share?

APPENDIX E

TEACHER CANDIDATE INTERVIEW PROTOCOL

Purpose of the Interview:

The purpose of this semi-structured interview is to collect data about (1) how and to what extent mentor teachers support pre-service teacher candidates? (2) How and to what extent mentor training contributes to mentors' understanding of how to support pre-service teacher candidates? And (3) how and to what extent does mentor support impact teacher candidate performance?

Procedures:

1. Interviews will take place after observation of a coaching conference.

2. The researcher practitioner will interview the teacher candidate individually, when neither the mentor teacher nor students are present.

3. At the very beginning, the researcher will share the purpose of this interview and ask permission to record the conversation and take notes to ensure accuracy. Teacher candidates will be reminded of their right to not answer questions or to stop the interview at any time without consequence.

4. The interviewer will ask the questions listed below. Based on teacher candidate responses, follow-up questions may be asked for clarification or to elicit further explanation.

5. The interviewer will record notes on the "Interview Recording Sheet."

6. The interviewer will record teacher candidate words/actions in column one and any interviewer reactions in column two.

7. Immediately after the interview, the interviewer will record the end time and fill-in notes.

Teacher Candidate Interview Recording Sheet

Interviewer Name:

Date:

Teacher Candidate Name: (use code, not name):

Location (use code, not school name):

Grade Level:

Program (EED/SPE/ECS):

Setting:

Start Time:

Stop Time:

Teacher Candidate Interview Questions

Visit #1	Visit #2	Visit #3
Role of Mentor		
How would you describe the role of a mentor teacher?	The last time we met, you said that mentors play many roles. (insert quote from last interview here). Which role does your mentor currently play most often and why?	In what way- if any- has your definition of a mentor teacher changed since the beginning of the semester?
Questions related to coaching conversation		
What was the goal of the coaching conversation I just observed?	What was the goal of the coaching conversation I just observed?	What was the goal of the coaching conversation I just observed?
To what extent do you think you met that goal? (Follow up: Why do you think so?)	To what extent do you think you met that goal? (Follow up: How will you know?)	How important are these coaching conversations in the development of pre-service teachers?
The focus of your mentor's coaching was (…) How did the two of you determine what to focus on for these conversations?	The focus of your coaching was (…) Why do you think that was the focus?	
I noticed your mentor (was directive in telling you what to do OR asked reflective questions). Is that typically the approach s/he takes? How does that style of coaching support you as a developing teacher? In what situations is s/he more directive in giving feedback? In what situations does s/he ask questions to prompt you to reflect on your own performance?	I noticed your mentor (was directive in telling you what to do OR asked reflective questions). Why do you think s/he took that approach? Is that the coaching strategy s/he typically uses? How does that support you as a developing teacher?	Besides these coaching conversations, what are other ways your mentor supports you? (Follow-up: how effective are these different strategies in helping you improve?)
How often to you and your mentor teacher engage in coaching conversations?	Have your coaching conversations with your MT changed at all since my last visit in terms of how often you meet, what you discuss, the role you each play?	Has the way that your mentor supports you evolved since the beginning of the semester? If yes, how? (Follow-up: is your mentor more/less/the same in

		terms of how directive s/he is when coaching you?)
To what extent are your coaching conversations helping you improve? (On a scale of 1- not effective to 4- very effective)	What was your biggest area for improvement at the start of the year? In what ways has your mentor helped you improve in this area? (Ask for specific example)	In what ways has your mentor's support impacted your performance? (Ask for specific example)
What factors contribute to a successful coaching conversation?	As you work to become a highly effective teacher, what are the three biggest sources of support for you this semester? (Ie- Site coordinator, fellow TCs, other instructors, other teachers at school) Follow up: Where does your mentor fall on this list?	I asked you this question in a previous visit, but am wondering if your response has changed at all. What would you say are your top 3 sources of support as a developing teacher?
		In what ways, if any, has your mentor prepared you to continue increasing your own effectiveness after your student teaching experience has ended?
Questions Related to Mentor Training		
		If you were designing training for a teacher who had never been a mentor before, what would be critical for them to know?
Questions Related to Relationship		
What are the characteristics of an effective mentor/teacher candidate relationship?	What are three words you would use to describe the relationship between you and your mentor teacher?	How has your relationship with your TC evolved over the semester? (Follow-up: In what ways has that impacted his/her performance?)
How do you create such a relationship?	How does the quality of the relationship contribute to or interfere with your ability to maximize learning opportunities from your mentor?	
Is there anything else you	Is there anything else you	Is there anything else you

would like to share?	would like to share?	would like to share?

APPENDIX F

SITE COORDINATOR INTERVIEW PROTOCOL

Interviewer Name:

Date:

Site Coordinator Name: (use code, not name):

Location (use code, not district name):

Program (EED/SPE/ECS):

Setting:

Start Time:

Stop Time:

Questions:

1. How were mentors recruited? (Follow up: Did they learn about the opportunity from

    you? From the district? From other mentors?)

2. What motivated mentors to apply? (Follow up: Internal motivations voiced by

    mentors? External motivations provided- payment, release time, tuition voucher?)

3. How were mentors selected? (Follow up: District choice or Site coordinator choice?

    Principal approval? Experience? Demonstrated proficiency? Characteristics?)

4. In your mind, what is the role of a mentor teacher?

5. If you were designing training for new mentor teachers, what would you want them to

    know?

6. What support/training did you provide to mentors? (Follow-up: additional up-front

    training? Ongoing? Monthly trainings? Triad meetings?)

7. How have the mentors changed as a result of the support/training you provided?

    (Follow-up: evidence that they are applying the things you address in training?)

8. To what extent are mentors helping to improve the performance of teacher candidates? (On a scale of 1- not effective to 4- very effective) (Follow up: what evidence do you have for this?)

9. Switching gears slightly and thinking about the support that YOU provided to teacher candidates. In what ways was the support you provided to teacher candidates compatible with or in conflict with the support provided by the MT?

10. Is there anything else you would like to share?

APPENDIX G

COACHING CONVERSATION CODEBOOK

Theme	Code	Explanation
Logistics	01.LOG	
Duration	01.LOG-DUR.01	Length of coaching conversation
Interruptions	01.LOG-INT.02	Interruptions to the coaching conversation
Setting	01.LOG-SET.03	Physical location of coaching conversation
Topic	02.Topic	
Challenges	02.TOP-CHL.01	External factors which create challenges for the teachers
Students	02.TOP-STU.02	Discussions of student behavior, individual student needs, student mastery of lesson objective
Teachers	02.TOP-TCH.03	Description of teacher actions during lesson, discussion of MT/TC roles, coordination with other teachers
Goal	03.GOL	
Changes for future lesson	03.GOL-CHG.01	Changes that the teachers will make for the next lesson
Reflect on previous lesson	03.GOL-REF.02	Reflection on previous lesson
Opportunity for teacher candidate to ask questions	03.GOL-TCQ.03	Mentor teacher provides opportunity for teacher candidate to ask questions
Coaching Strategy	04.COA	
Direct feedback	04.COA-DIR.01	Mentor teacher identifies reinforcement or refinement from previous lesson
Mentor teacher models	04.COA-MOD.02	Mentor teacher models what to do or what to say
Teacher candidate to reflection	04.COA-REF.03	Mentor teacher prompts teacher candidate to reflect and evaluate his/her own performance.

APPENDIX H

MENTOR TEACHER INTERVIEW CODEBOOK

Theme	Code	Brief Description
Mentor Teacher	01.MEN	
Previous experiences	01.MEN-PRE.01	Mentor teacher references his/her own previous experiences as mentor, coach, student teacher
Relationship with teacher candidate	01.MEN-REL.02	Description of the mentor-teacher candidate relationship, factors which contribute to a successful relationship
Role	01.MEN-ROL.03	Definitions of the mentor's role including: prepare TC for future as a classroom teacher, help TC improve, provide encouragement, provide resources, instill a passion for teaching, serve as a model, provide lesson plan support
Selection	01.MEN-SEL.04	Suggestions for ensuring selection of effective mentors
Training and support	01.MEN-TRN.05	Ways in which the online and monthly trainings have/have not been helpful, suggestions for training that would be helpful, other sources support for mentor teachers
Teacher candidate	02.TCA	
Identity	02.TCA-IDT.01	Teacher candidates discover teaching preferences
Areas for improvement	02.TCA-IMP.02	Mentor teacher identifies areas where the teacher candidate needs to improve and areas where the teacher candidate has shown improvement.
Responsibility	02.TCA-RES.03	Statements which describe the teacher candidate's responsibility
Strengths	02.TCA-STR.04	Mentor teacher identifies teacher candidate strengths including specific pedagogical areas as well as a willingness to learn/accept feedback
Challenges	03.CHL	
ASU related challenges	03.CHL-ASU.01	ASU related challenges include difficulty balancing coursework with student teaching, the high expectations of a rigorous program, unrealistic expectations around lesson planning, disconnect between iTeachAZ program expectations and teaching after college.
Other challenges	03.CHL-OTH.02	Challenges that do not fit into other sub-codes including family responsibilities, lack of opportunity to apply feedback immediately, financial burden, mentor with limited experience
Limited time	03.CHL-TIM.03	Limited amount of time was a challenge
Coaching	04.COC-	

Conversations		
Format	04.COC-FOR.01	Format or structure of coaching conversation
Goal	04.COC-GOL.02	Goal or purpose of the coaching conversation
Logistics	04.COC-LOG.03	Frequency, duration, time when coaching conversations take place
Topic	04.COC-TOP.04	Specific focus of the coaching conversation. This includes specific teacher actions or pedagogy. Mentor comments related to limiting the number of refinements and breaking areas of improvement into manageable pieces.

APPENDIX I

TEACHER CANDIDATE INTERVIEW CODEBOOK

Theme	Code	Brief Description
Mentor Teacher	01.MEN	
Support during and after a lesson	01.MEN-DAS.01	Mentor teacher provides support to the teacher candidate during and after lessons
Planning support	01.MEN-PSU.02	Mentor teacher provides planning support to the teacher in preparation for lessons
Relationship	01.MEN-REL.03	Mentor-teacher candidate relationship, factors which help establish an effective relationship, impact of relationship quality on teacher candidate
Role	01.MEN-ROL.04	Mentor's role includes: advocate, critic, teacher, role model, mentor
Training	01.MEN-TRN.05	Suggested topics for mentor teacher training
Teacher Candidate	02.TCA	
Identity	02.TCA-IDT.01	Teacher candidates influencers and experiences that shaped identity, teacher candidates compare self to others
Improvement	02.TCA-IMP.02	Areas where teacher candidates have improved and areas where they still need to grow
Sources of support	02.TCA-SUP.03	Teacher candidate sources of support
Challenges	03.CHL	
ASU related challenges	03.CHL-ASU.01	ASU related challenges include difficulty balancing coursework with student teaching, intensity of the iTeach program, different expectations from iTeach and school/mentor, difficulty applying course content in field placement
Other challenges	03.CHL-OTH.02	Challenges that do not fit into other sub-codes including family responsibilities, addressing gaps in student learning, teaching multiple grades and lessons each day
Limited time	03.CHL-TIM.03	Limited amount of time for collaboration and coaching
Coaching Conversations	04.COC	
Format	04.COC-FOR.01	Format or structure of coaching conversation
Goal	04.COC-GOL.02	Goal or purpose of the coaching conversation

Logistics	04.COC-LOG.03	Frequency, duration, time when coaching conversations take place
Value	04.COC-VAL.04=	Benefit of the coaching conversation to the teacher candidate; learning or insight gained from coaching conversation

APPENDIX J

SITE COORDINATOR INTERVIEW CODEBOOK

Theme	Code	Brief Description
Mentor Teacher	01.MEN	
Challenges	01.MEN-CHL.01	Challenges with mentor teachers
Compensation	01.MEN-COM.02	Mentor teachers are compensation
Retention	01.MEN-RET.03	Factors which influence retention of mentor teachers
Selection	01.MEN-SEL.01	Description of mentor selection process, desired characteristics, challenges with selection
Support	01.MEN-SUP.04	Ways in which the mentor teacher provides support to the teacher candidate
Mentor Professional Development	02.MPD	
ASU professional development	02. MPD-ASU.01	Goals, topic, format of monthly PD trainings which are part of the ASU iTeachAZ program
Challenges	02. MPD-CHL.04	Challenges related to mentor professional development including logistical (dual cert program has different mentors each semester) and individual (mentor with poor attendance)
Influence	02. MPD-INF.03	Influence of professional development on mentor teachers
Other support for mentors	02. MPD-OTH.02	Site coordinator support for mentors outside of the scheduled monthly professional development meeting
Support for site coordinator	02.MPD-SUP.05	Individuals and groups with whom site coordinator can collaborate for support in training mentor teachers

APPENDIX K

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

To:	David Carlson
	FACULTY/AD
From:	Mark Roosa, Chair
	Soc Beh IRB
Date:	05/31/2013
Committee Action:	Exemption Granted
IRB Action Date:	05/31/2013
IRB Protocol #:	1305009181
Study Title:	Increasing Mentoring Skills of Cooperating Teachers to Enhance Support for
	Pre-service Teacher Candidates

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(1) (2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.