A Case Study of the Development of an eCoach

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Internship is a critical feature of teacher preparation programs and can be one of the most influential experiences for teacher candidates. New technologies, such as eCoaching, demonstrate promising results in providing richer experiences to teacher candidates during internship. eCoaching allows university supervisors to provide real-time feedback on instruction and has proven effective at improving teacher change. However, eCoaching is different from traditional university supervision. In this case study, we describe the evolution of a traditional university supervisor using eCoaching for the first time and the support she needs to be effective. Implications are discussed.

Keywords: internship, bug-in-ear coaching, coaching, supervision, technology, ecoaching

Internships have a powerful impact on teacher candidates in traditional preparation programs (Goldhaber, Krieg, & Theobald, 2017). Typically, internships are culminating experiences in which a candidate is full-time in a school and takes over the instructional and professional duties of the mentor teacher after a period of observation (Nagro et al., 2016). The candidate collaboratively plans with the mentor teacher, implements those lessons, and then receives feedback from the mentor teacher. A university supervisor observes the candidate's instruction and evaluates candidate mastery of specific skills identified by the university program. In a national survey of novice teachers, one in every four did not feel that internship experiences prepared them well enough for the responsibility of managing their own classrooms (Meister & Melnick, 2003). Factors critical to the relevance and effectiveness of the internship are (a) alignment between coursework and internship experiences (Leko & Brownell, 2011), (b) collaboration and relationships that allow for risk-taking and feedback (Cook, 2007), and (c) opportunities for practice (Recchia & Puig, 2011).

In recent years, the use of coaching as a means of scaffolding support and providing feedback for teacher behavior change has become more commonplace within teacher preparation (Knight, 2007). Coaching has grown out of the realization that isolated coursework and disconnected field experiences do not change practice, and that candidates connect coursework to the classroom through practice with deliberate and specific feedback (Leko, Brownell, Sindelar, & Kiely, 2015). Coaching can take many forms such as specific types of questioning during debriefing, sitting beside a teacher candidate to suggest

actions or language during instruction, or providing specific feedback through written reflections (Marzano & Simms, 2013); however, most follow a similar pattern of observation, development of goals, additional observations, and reflection/feedback (Marzano & Simms, 2013). Opportunities to improve candidates' teaching through coaching directly address the challenge of providing more authentic practice opportunities (Grossman et al., 2005). However, frequent coaching from university supervisors requires that they be in schools and classrooms more often than in traditional supervision, which can be difficult due to travel, time demands, and scheduling.

eCoaching

With the advent of new technologies such as video conferencing, Bluetooth devices, and high quality cameras in phones, it is possible to conduct coaching without being physically present in the classroom. Bug-in-ear (BIE) coaching, or eCoaching with BIE technology (eCoaching), is a form of coaching that allows a candidate to receive immediate, real-time feedback or coaching during instruction (Rock et al., 2009). In eCoaching, the coach uses video conferencing software (e.g., Skype, Zoom) to virtually observe a lesson and provide short feedback prompts or narrative coaching to a candidate through a Bluetooth headset. Feedback is aligned to goals agreed to ahead of time by the coach and the candidate. Research indicates that eCoaching is an effective and efficient strategy for changing teacher behavior (Coogle, Ottley, Rahn, & Storie, 2018; Rock et al., 2012; Scheeler, McKinnon, & Stout, 2012).

eCoaching varies from other forms of coaching in that feedback is immediate, rather than delayed, and can be provided during the lesson without interruption. The immediacy of the feedback allows a candidate to change instructional practice in the act of teaching (Scheeler et al., 2012). One benefit to eCoaching is that the coach has the flexibility of being located somewhere other than the classroom, which can mitigate travel limitations and disruptions (Rock, Zigmond, Gregg, & Gable, 2011). As a result, eCoaching sessions can occur more frequently and/or involve those who may not typically have the ability to be present in person (Rock et al., 2009; Scheeler, et al., 2012). These characteristics make it attractive for use in teacher preparation programs.

Rich, meaningful clinical field experiences in tandem with timely, constructive feedback from faculty and other experienced, school-based personnel can be a major factor in increasing candidates' correct use of evidence-based practices (Kretlow & Bartholomew, 2010). A review of research by Joyce and Showers (2002) showed that when coaching is combined with theory, demonstration, and practice, large gains in transfer are exhibited. Multiple studies (e.g., Rock et al., 2014; Schaefer & Ottley, 2018; Scheeler et al., 2012) verify that immediate feedback provided through eCoaching in either running narrative or short feedback prompt form can improve teachers' use of evidence-based practices. The bulk of this research focuses on behavior outcomes of teachers or candidates during special education internships, on implementing evidence-based practices in special education, or on the planning and teaching that occurs in a co-taught special education inclusion classroom (e.g., Coogle, Rahn, Ottley, & Storie, 2016; Goodman, Brady, Duffy, Scott, & Pollard, 2008; McKinney & Vasquez, 2014; Ploessl & Rock, 2014; Rock

et al., 2009). Few studies provide detailed descriptions of coaches.

Coach

Critical to the efficacy of any coaching program is the expertise of the coach (Knight, 2007). To be effective, coaches need to establish a relationship of trust that values personal discretion in goal-setting and provide effective feedback that encourages reflection, not evaluation (Marzano & Simms, 2013). This is quite different from the traditional model of university supervision. Few studies have examined the evolution of a university supervisor into a coach, specifically a coach using the eCoaching process. In this study, we describe this evolution in an experienced university supervisor using eCoaching for the first time. The purpose of this study is to address how a university supervisor, experienced in a traditional clinical supervision approach, develops as an eCoach and what supports and training may be necessary to assist in this development.

Conceptual Framework

According to Experiental Learning Theory (ELT), learning is the process of transforming experience (Kolb & Kolb, 2009). Grasping and transforming experience takes place in a recursive spiral that begins with a concrete experience. The learner applies previous knowledge and understanding to this new experience. As the experience concludes, the learner reflects on it, developing abstract concepts and ideas related to the experience, and then tests these with future actions. The process repeats itself (experience, previous knowledge, reflection, new ideas, test) as new information and new results are assimilated into previous understandings (Kolb & Kolb, 2009).

Taylor and Hamdy (2013) elaborate on each of these phases. First, a learner has a concrete experience. Once reflection begins, the learner may experience a dissonance between the experience and previous understanding, which then forces a process of refinement and organization. In refinement, the learner seeks out possible solutions to the disconnect by completing tasks, conducting research, reflecting, and/or discussing the situation with others. As these ideas are collected, the learner organizes them into a specific structure or schemata from which future actions will be derived. The learner then moves into the testing or active experimentation phase where he/she consolidates new knowledge, tests it against what others believe and receives feedback on these ideas (Taylor & Hamdy, 2013). Finally, the learner consolidates or organizes this new knowledge for application to the next experience. All of these phases of learning occur within a situated learning space—a space nested within a social system. Learning occurs within an interaction between person and social environment (Lave & Wenger, 1991). Given this conceptual framework, our study sought to examine how a university supervisor's eCoaching understanding and role evolved as a new experience that creates dissonance with previous supervision experiences.

Method

The purpose of this single case study was to understand how a university supervisor, experienced in the traditional clinical supervision model of making in-person classroom observation visits and debrief sessions, evolves with eCoaching. Case study design was selected because of its capacity to investigate a phenomenon (the case) in depth in a real-world context

(Yin, 2018). The eCoach (Katherine) was the case, the phenomenon under study was her development from a traditional university supervisor into an eCoach, and the real-world context was the semester-long internship supervision experience.

Participants

Katherine is a white female between 25 and 35 years of age. During the study, she was completing her second semester of internship supervision in a teacher education program in the mid-Atlantic region. Katherine obtained her Ph. D. six months before the study began. In her doctoral program, she served as both a university supervisor and as an adjunct instructor for undergraduate students. Katherine received training in eCoaching according to a standard protocol (see Table 1). This included an overview of eCoaching as a process, introduction to the equipment, modeling, role playing, and practice sessions. In addition, she participated in individual training sessions with the first author that included review of video and coaching prompts, question and answer sessions, and follow-ups during her eCoaching experience.

Table 1
Training Sequence and eCoaching Tasks

Activity	Individual(s) Involved	Description
Orientation and training for coaches	Authors Coach	Coach viewed orientation video; authors described and modeled process, familiarized coaches with eCoaching process, equipment, and specific coaching statements; Coaches given handbook*
Orientation and training for Teacher Candidates (TC)s and coaches	Authors Coach TCs	TCs viewed orientation video; authors and coaches described and modeled process; TCs and coaches practiced with equipment and coaching statements; TCs and coach set initial goals
Initial observation and conference	Coach TCs	Coach conducted initial, in-person observation; conferenced with TCs to revise goals
eCoaching sessions conducted	Coach TCs	Coach observed TCs via web-based conferencing software and provided immediate coaching during instruction; follow-up included email exchanges, phone conversations, or other means of collaborative discussion. This was repeated as many as six times throughout an internship program.
Final seminar and focus group	Authors Coach	Authors, coach, and TCs met to discuss eCoaching program, benefits and

	TCs		challenges, and needed revisions. Individually, TCs provided testimonials about their eCoaching experience.

* Weiss et al., 2017

She supervised six teacher candidates (TC) who were between 20 and 35 years old and employed by a local school district on provisional licenses. Each candidate had completed university coursework toward special education licensure requirements and was participating in a 12-week internship. See Table 2 for TC demographics and teaching assignments.

Table 2
Teacher Candidate Characteristics and Teaching Placements

Teacher Candidate	Demographics	Teaching Level	eCoached Classroom
Beth	White female	Elementary	Social Skills self-contained classroom (adapted curriculum) Math and reading individual student (general curriculum)
Debbie	White female	Elementary (general curriculum)	Elementary math and reading self-contained classroom
Emily	White female	Elementary (general curriculum)	Whole group general education classroom Reading small group (in general education classroom) Math and reading individual students
Jill	White female	Elementary	Language arts self-contained classroom
Shantal	African American female	Elementary	Language arts self-contained classroom
Terry	White female	Elementary	Language arts self-contained classroom Science self-contained classroom

Procedures

After Institutional Review Board approval was obtained, Katherine completed all of the training and observation activities with the authors and TCs as outlined in Table 1. The orientation and training for Katherine occurred in one two-hour session with the first two authors. Following this session, the first author and Katherine met two additional times during the internship semester to debrief and discuss coaching topics, such as how to practice pausing for comments with teachers and how to phrase specific target cues. In addition, Katherine met with the first author on two additional occasions for approximately one hour each to reflect and debrief on how she was feeling as a coach, ideas that she had, and questions that had arisen in the course of coaching. Katherine completed individual meetings and observations with all TCs across the 12-week internship period in their assigned schools (see Table 3). Once TC consent was obtained, data was collected across the internship semester.

Table 3
Instructional setting of eCoaching sessions by Teacher Candidate

Teacher Candidate	# of sessions	Grade level(s) *(session #)*	Grouping(s) *(session #)*	Content area(s) *(session #)*
Beth	5	Multiple - adjusted curriculum *(#1,3)*, 6th *(#2-5)*	Small *(#1,3)*, individual *(#2,4,5)*	Social skills *(#1,3)*, math *(#2,5)*, language arts *(#4)*
Debbie	6	3rd *(all)*	Small *(all)*	Math *(#1-3)*, language arts *(#4-6)*
Emily	4	PreK *(#1)*, PreK/K *(#2)*, K *(#3,4)*	Whole *(#1)*, small *(#2)*, individual *(#3,4)*	Morning meeting *(#1)*, language arts *(#2,4)*, math *(#3,4)*
Jill	2	3rd *(all)*	Small *(all)*	Language arts *(all)*
Shantal	3	3rd *(all)*	Small *(all)*	Language arts *(all)*
Terry	5	5th *(all)*	Small *(all)*	Language arts *(#1)*, science *(#2-5)*

Note: "Small" group instruction defined as instruction with 6 or less students.

Data Sources

Yin (2018) recommends collecting multiple sources of converging evidence. For this study, we collected data from four sources: (a) interviews/focus groups, (b) archival records, (c) documents, and (d) direct observations.

Interviews/focus groups. The third author conducted a semi-structured interview of Katherine at the conclusion of

data collection after internship was complete. The interview lasted approximately 1.5 hours and included open-ended questions about the process she used for eCoaching, the feedback she provided, and the impact eCoaching had on her professionally. The interview was transcribed and coded by all three authors. After the internship was complete, the third author conducted a semi-structured focus group with all six TCs. The focus group lasted approximately 30 minutes. Questions were open-ended and asked participants to describe the inclusion of eCoaching in their internship experience. The focus group was transcribed and coded by all three authors.

Archival records. Following each eCoaching session, Katherine completed a reflective memo with her thoughts and ideas about the session, items that were significant, and questions that she had for the next session. In addition, Katherine noted questions and ideas for how she could have been better prepared.

Documents. Researchers collected copies of all of the formal, face-to-face observation summaries. This included an initial, midpoint, and final observation summary. In addition, the researchers collected all email exchanges that occurred between Katherine and the candidates that included feedback or comments about the eCoaching sessions. This included candidate reflective memos and Katherine's emailed observation summaries. This also included notes from debrief phone conversations Katherine had with candidates to follow up after eCoaching sessions. Additionally, we kept researcher memos to document our discussions about Katherine's experience.

Direct observations. Katherine digitally recorded each coaching session she conducted using Camtasia software with the screen capture feature. The third author transcribed the coaching statements Katherine made in all of the videotaped eCoaching sessions, calculated statement frequency, and noted the timing of each statement within a given session. These statements were then coded by type (positive or directive) and analyzed for similarities and differences across TCs.

Analysis

According to Yin (2018), collecting multiple, converging sources of evidence "essentially provide[s] multiple measures of the same phenomenon" (p. 128). Analysis began by each author reviewing each of the data sources holistically in order to identify themes that emerged across all of the evidence. First, the team read all data sources to determine overarching themes, defined as concepts that were repeated across all data collected, using a constant comparative method (Samaras, 2011). Once this was done individually, all authors met and described their themes. Three similar themes emerged from the data for each author (i.e., development as coach, the feedback loop, differentiation for individuals). Together, the team further clarified the properties and dimensions of each theme (Yin, 2018). For example, development as a coach included concepts and ideas related to change over time of Katherine's initial understanding of eCoaching to her final ideas. Once this common understanding was completed, each researcher was assigned two data sources to code for evidence of each theme. Data sources were then compiled and each author examined one theme across all data sources. For example, the third author read through all data sources for evidence of Katherine's differentiation of coaching for individual candidates. To address trustworthiness and validity, the team read the results for each theme and

met to discuss how these results compared to the initial ideas and revised any discrepancies. Finally, Katherine read through the results and met with the team to verify and evaluate rival explanations. No changes were necessary following this member checking.

Findings

Three broad themes emerged in the analysis of the data: (a) who I am as an eCoach, (b) how the eCoaching relationship and feedback loop developed, and (c) how eCoaching can be differentiated for candidates.

Who I Am as an eCoach

Both Katherine's thinking and acting as an eCoach evolved throughout the term of the internship experience. Katherine struggled to match her experience with her original ideas about what eCoaching was supposed to be and her role in it. Several themes came through in her data including (a) defining the purpose of eCoaching as behavior *change*, not skill reinforcement; (b) explaining coaching behavior; and (c) developing a structure within which she felt comfortable to work.

Defining eCoaching. Katherine initially defined effective eCoaching as making corrective statements that would change teacher behavior. For example, in her reflective memo after an initial coaching session with Shantal, Katherine wrote, "Again, I found myself using mostly praise statements. In fact, all of them were praise." In her second coaching session with Debbie, Katherine wrote, "Again, I'm wondering why all of my statements are positive, though….Or maybe that's an OK thing for me as a supervisor to reinforce her use of effective practices." In her sixth session with Debbie, Katherine was still struggling with this idea as to whether it was okay to use largely positive statements.

This was a very effective lesson so most of the things I wanted to say were positive." She even made note of the struggle in her interview, stating that

> I used a lot of reinforcing statements, you know, things that they were doing well to kind of increase those behaviors that I saw that were good. And I really struggled with that for a while because I was like, uhh, I'm supposed to be picking out what's wrong. But then I realized they were doing those effective practices so much more so I found that that was actually really helpful, I think. (Interview, p. 4)

Towards the end of her interview, Katherine acknowledged the fact that she had expanded her initial view of eCoaching to also include the use of positive statements.

Explaining coaching behavior. Katherine repeatedly noted the high cognitive load she experienced in the initial eCoaching sessions and included an explanation of her coaching behavior in her written interactions with her candidates. Her reflective memos for the first few eCoaching sessions included statements about being overwhelmed. In her interview, Katherine said, "I remember the first time for everyone was just cognitively a lot because I'm watching the technology piece, I'm watching Skype, I'm making sure that I'm recording, I've got my notes set up, I'm taking notes, but I'm trying to think about what I'm saying…" (p. 7). This combination of high cognitive load and dissonance around the types of statements she was using resulted in Katherine judging her coaching behavior and feeling that she needed to explain it to her candidates. Reflective memos began with a statement related to her feelings about the session: "This session was tough for me," "This was definitely easier this time around," "This

session was better, but still a learning curve," or "I feel like I'm having an 'off day' as a coach."

Developing a structure. Katherine's internal struggle with her actions as a coach, how she was adjusting to different candidates, and what she was seeing in classrooms forced her to develop a structure for eCoaching that worked for her. Katherine's previous experience as a university supervisor included doing observations of classrooms that were more holistic and global. In eCoaching, Katherine was more focused on the specific goals she set up with her candidates. In her reflective memos, Katherine stated she "found myself focusing on other aspects of the lesson (mostly behavior management), but then I remembered to stay focused on direct instruction." She included the candidates' goals at the top of each of her notes pages as she was eCoaching to remind herself of the focus. As she became more familiar with the candidates' classrooms, she began to discuss "tweaking" the goals so that they better fit each candidates' instructional needs.

It was while she was focusing on refining candidates' goals that Katherine began to consider the need to distinguish between behaviors that can be coached with eCoaching and those that need to be coached otherwise. For example, in her interview, Katherine stated:

> ...I'd go to say it [coaching statement] and then they'd moved on or students, you know, something happened and I couldn't say my correction to be made. But that's where I think the debriefing actually was still really powerful. I know the beauty of bug-in-ear is it's on the spot and they can change it right there. But I think the debriefing was just

another way to hit those things that I couldn't in eCoaching. (Interview, p. 11)

It is also at this point that Katherine determined that developing a more concise cue with candidates related to goals was critical and figuring out how to use brief cues was complex. Reflecting on one session, Katherine's memo stated "One main issue is that with the behavior-specific praise goal, my statements I wanted to use would have taken too much time."

Development of eCoaching statements. Though Katherine's ideas about and understanding of eCoaching changed over the course of the semester internship, there was little variability in her eCoaching statements and their frequency. Of the 158 coaching statements made, 149 of the statements were positive reinforcers of behaviors and nine were directive statements. Positive reinforcers were specific such as "good modeling," "great praise and behavior specific feedback." Seven of the nine directive statements were given to two of the candidates. For Beth, the statements addressed behavior (e.g., "Give him a star as soon as he engages in reading"); for the other, the statement addressed specific instructional behaviors (e.g., "Model how to decide which column it goes in"). Katherine acknowledged in her interview that her frequent use of positive statements was due to her inexperience with coaching. Katherine described her thinking about her coaching statements with, "Am I teaching them something through my eCoaching? And the answer was yes. It may look a little different because it's coming more from this positive reinforcement side, still with some corrections in there, of course...." (Interview, p. 13). By the conclusion of this eCoaching experience, Katherine

acknowledged that positive statements could be just as powerful as directive ones.

eCoaching Relationship and Feedback Loop

Katherine carried the burden of initiating contact, establishing routines, and encouraging candidate participation throughout the internship. The eCoaching experience involved Katherine not only providing coaching statements in real time during teaching sessions, but providing feedback via email or phone debriefing sessions after every eCoaching session. Four candidates elected to conduct their debriefing sessions via email. Katherine's emails were multiple paragraphs with the majority over 400 words in length. A subsequent email reply from the candidate was either not sent or there were only one or two more exchanges of dialogue. Candidate email responses ranged from approximately 100 - 150 words, a greater number of words were found when Katherine asked questions in her emails.

Katherine's email debriefs were structured and followed a general pattern across all candidates. Specifically, she would first provide an explanation of her eCoaching behavior during the session and her role. Next, she provided extensive positive feedback for the candidate when describing what was observed. This positivity corresponded to Katherine's eCoaching statements. After recapping the sequence of the lesson, Katherine provided one to three suggestions for the candidate. While doing so, she would sometimes provide language and dialogue to model explicit instruction within the email and/or phone feedback. Katherine referenced this as a "think aloud" in her phone call recap write-up to Emily after her fourth session. Finally, Katherine would provide reminders to the candidates to send her their reflective memo and/or to schedule the next eCoaching/observation session.

Collaborative. Although Katherine had a structured pattern to her debriefs, the exchange was more like a dialogue and Katherine seemed to appreciate the opportunity to provide feedback and information in this format. She made requests in her email debriefs for the candidate to share insights and/or to collaborate together on developing a new goal for coaching. For example, she asked, "Any thoughts on the lesson or how it went?" When candidates did respond, the responses were about the lesson itself and not Katherine's eCoaching.

Katherine also sought feedback from the candidates by requesting an eCoaching reflective memo from them. This memo was a template with questions regarding the eCoaching session for the candidate to respond to in writing. The memo was meant to be completed and then sent to Katherine electronically. Candidates completed the template with only a few sentences for each question and these sentences lacked reflection about their teaching and/or eCoaching. Their reflective memos did describe the eCoaching feedback as helpful in providing an awareness of their teaching behaviors. For example, they referred to Katherine as she "reminded me..." or she "...let me know…", "…[she] helped me realize..", or "she…made me more aware." When comparing the feedback from Katherine with the feedback from the candidates, the data suggests that Katherine was more detailed and reflective.

Positive. The candidates did report positives for the eCoaching experience and for Katherine as their coach. In the focus group session, Debbie remarked:

> [eCoaching] really helped make the observations in person be more

meaningful because I felt that my coach knew me well from all the eCoaching sessions... and then there were different kinds of information. I felt...because of the eCoaching I felt more connected and felt that, yeah, that she knew me better as a teacher and knew my students and so like the longer, in-person observations, yeah. Just had more meaning and more depth because it, because of the personal connection that was there. (Focus group, p. 3)

Katherine allowed choice in completing the debriefs for the candidates. For example, Katherine wrote in her email to Debbie after session three – "Are these working for you in terms of how we debrief about the lesson, or would you prefer a different method (email, phone)?" Katherine completed phone call debriefs with Shantal and Emily. In her interview, Katherine stated she preferred the phone debriefing sessions because there was more of a dialogue with the candidate. After the first session's phone call debrief with Shantal, for example, Katherine wrote: "I loved this debriefing!" A sense of trust and a personal connection was apparent when the debriefing sessions were completed via phone rather than by email.

Differentiating eCoaching

Katherine differentiated the eCoaching experience across the candidates to make the experience match teacher need. Differentiation was primarily driven by variances in teaching background, candidates' setting, and personality. Katherine allowed teachers to choose the length, setting, and timing of their eCoaching sessions. In her interview, Katherine stated that "...it was honestly the logistics of what worked best for their schedules and their ability to set up the technology and those sorts of things."

eCoaching goals. From the outset, Katherine engaged her candidates in co-creating their eCoaching goals and determining the instruction she would observe. At the initial eCoaching orientation, Katherine met with each candidate to establish coaching goals, such as using behavior specific praise, obtaining and maintaining student engagement, and utilizing components of direct instruction effectively within a lesson. While Katherine attempted to provide student choice in this area, she also acknowledged in her interview that most candidates needed more guidance:

Because when we first met with them, you know, they had never done eCoaching, I'd never done eCoaching before, um they're telling me a little bit about their classrooms, a little bit about what they want feedback on, but they didn't really know and I didn't really know. So we had those initial goals…so it really took the first session to determine if the goals were even valuable, applicable, appropriate... (Interview, p. 9)

The teaching background of the candidate influenced whether the eCoaching goal(s) were developed solely by Katherine or by the candidate. As a candidate with prior teaching experience, Debbie, for example, was able to identify and request areas in which she would benefit from coaching. Candidates with little or no prior experience, such as Beth and Emily, relied on Katherine to modify goals.

I can't remember what Emily's original goals were but I remember very quickly we were like yeah that's not gonna work. So beyond that initial session it was um, it was mostly driven by me because like I said they just were

focused on their teaching…" (Interview, p. 9)

eCoaching statements. The setting for eCoaching varied between candidates, and sometimes even for each individual candidate. Table 3 shows the variability in grade level, instructional grouping, and content area for each eCoaching session and candidate.

Type and frequency. Katherine provided coaching feedback using positive reinforcing and directive statements. The eCoaching training handbook (Weiss et al., 2017) defined positive reinforcing statements as a statement that "reinforces a specific teaching action or behavior, and requires no action on the teacher's part other than maintenance of the behavior," while directive statements were those that "provide a specific direction on a predetermined goal behavior and require action to be taken by the teacher" (Weiss et al., 2017, p. 7). Table 4 shows the percentages of each type of statement of the total provided to each candidate during eCoaching.

Table 4
Types of Coaching Statements

Teacher Candidate	# statements given	Avg. # statements per session	% statements positive	% statements directive
Beth	27	5.4	81%	19%
Debbie	47	7.8	98%	2%
Emily	14	3.5	93%	7%
Jill	5	2.5	100%	0%
Shantal	12	4.0	100%	0%
Terry	29	5.8	93%	7%

Similarities and uniqueness. Sixty-seven percent of the 149 total positive reinforcing statements given were similar (e.g., good prompting, good feedback, good reminders), used with four or more of the six candidates, and 24% of the positive reinforcing statements were unique to one or two candidates (e.g., good use of timer, good choral responding, good scaffolding). Katherine made 31 different positive reinforcing statements, nine were given to four or more candidates and 20 were unique to one or two candidates. In the first three weeks of eCoaching, Katherine relied on similar statements across four or more candidates; however, in the last two weeks of coaching, she used unique statements 75% of the time.

Timing. Few discernible patterns emerged when examining statements provided during specific content area instruction, instructional groupings, or timing of statements. For example, the average number of eCoaching statements provided in each language arts and math session was identical, while the average number provided during group instruction versus small group instruction differed by

12% (5.0 versus 5.6, respectively). Likewise, differences in the frequency of statements made, expressed as a ratio of one statement per every number of minutes and seconds, were minimal: a difference of 4% between language arts and math, and a difference of 16% between individual group instruction and small group instruction. Given the small number of overall statements, caution should be used in considering percentage differences.

Discussion

This case study examined the evolution of a university supervisor as she experienced using eCoaching for the first time in internship supervision. eCoaching is different from the standard university supervision in that it allows for real-time feedback and coaching as a candidate is in the process of delivering instruction (Rock et al., 2011). The purpose is to support novice in-service and preservice TCs as they take on the role of teacher-in-charge.

As predicted by ELT (Kolb & Kolb, 2009) and Taylor and Hamdy (2013), Katherine experienced stages of learning in an iterative process throughout the experience, including dissonance, exploration, test, reflection, and repeat. Though she received training for eCoaching, it was not until she actually experienced it with candidates that she realized the level of cognitive load and attention necessary to make it work (reflective memos). This dissonance caused her to reflect on the purpose of eCoaching (positive reinforcement vs. directive statements) and how she was implementing it. Her reflective memos after each session showed evidence of this dissonance and how she felt compelled to find a solution and a structure to guide her future actions. Katherine's desire to be supportive and provide meaningful feedback *to* her candidates

guided her requests for feedback *from* the candidates – feedback which she then added to her own reflections in order to develop her thinking for the next session. Her continuous return to the goals established collaboratively with each candidate provided a thread of consistency throughout the experience. After she developed her new ideas, she put them into action and, again, reflected on the experience and sought feedback from her candidates.

Katherine's development of processes and coaching feedback was also situated in a social context with six candidates and their unique classroom situations (Lave & Wenger, 1991). She continually sought collaborative solutions and feedback from her candidates, allowing them to determine the best way to debrief and providing detailed and specific written reflections to each one. Her stated preference for debriefing over the phone in her interview developed out of the feedback given her by the candidates. For example, according to Katherine, the candidates with whom she debriefed by phone engaged in deeper reflection and included questions related to broader teaching ideas; whereas some of Katherine's debriefing emails were not even returned by candidates.

Fundamentally, this study shows that eCoaching is a unique skill that is not the same as standard university supervision. Katherine had several years of experience as a university supervisor and yet she found eCoaching to be different, requiring distinctive thinking. Her statements about having to be ready to comment immediately and to be able to communicate ideas in a few, meaningful terms indicated her initial awareness of how different eCoaching was. In addition, it

was clear throughout the study that Katherine was developing unique ideas as to what could be coached and what needed to be discussed more fully in another setting. Her reflective memos as well as her interview reinforced the concept that understanding what and how to eCoach occurred in a collaborative way with her candidates, citing the need to talk with candidates about specific topics (e.g., instructional activities, appropriate learning objectives) outside of the eCoaching situation. In addition, Katherine noted the need to develop a unique vocabulary for eCoaching, one that differed from standard supervision and allowed her to convey meaning in few words.

In training, Katherine was given a structure and format for eCoaching. However, it is clear that Katherine needed to individualize this process to fit her unique style and that of her candidates. Katherine developed strategies, such as keeping a document with her candidates' goal statement and class information and reviewing it both before and during eCoaching, to make sure she was focused and not coaching on everything she saw during the observation. As she became more familiar with the candidates, she was able to anticipate actions and even pre-correct. All candidates indicated that Katherine provided valuable and meaningful feedback in eCoaching and that it was individualized to their situation and need.

Conclusions and Limitations

As the team progressed through this study, it became obvious that the initial eCoaching experience is complex for the coach. Our new understanding of this experience provides implications for future implementation of the eCoaching model in teacher preparation programs and for areas of future research.

First, Katherine expressed that it is often difficult to insert a coaching statement when providing real-time feedback to a candidate. Recognizing that the transfer of verbal feedback is critical to the eCoaching process, we understand that when candidates are first building a comfort level with eCoaching, they should also practice intentional pauses in their instruction to receive feedback. Likewise, coaches need practice using those pauses for providing feedback statements. In order to improve teacher performance, finding this rhythm for when it is appropriate to deliver feedback while teaching is important. Relatedly, feedback statements must be brief and mutually understood between the coach and the candidate. For example, Katherine's statement to Beth in eCoaching session four of "Good and give another star when he's done with that" could be more concise: "Good reinforcement. Repeat." Future research is needed to develop a common language of eCoaching for particular teacher behaviors. Coaches may have varied background knowledge and/or experiences in providing feedback during real-time instruction. Ample practice opportunities are warranted.

Second, Katherine wanted more coaching for her coaching. The feedback she received from candidates was related to the process and was more general than specific. Discussions with the team were more reflective than real time and did not provide the in-the-moment direction she desired. It may be helpful to scaffold this learning more so by coaching a few times with an experienced coach close-by. The experienced coach can provide feedback before, during, and after the session and

assist in providing suggestions on what was observed to support the candidate. The study of Katherine illustrates the value of having the coach document and reflect on her own experiences with eCoaching. Just as we want teachers to reflect on how they can improve performance, we also want coaches to use it as a means to reflect on how their actions as coaches are affecting change in classrooms.

Finally, observing the eCoaching statements used by coaches is an area of future research. Although the analysis of eCoaching statements in this study is not conclusive given the small number of candidates, the data suggest that with more eCoaching sessions per candidate, there was more varied feedback with higher frequency. Additionally, the data suggest that a higher frequency of coaching sessions per candidate is associated with more

corrective feedback statements. Katherine established an initial comfort level in coaching by providing affirmative statements and then, in time, her comments evolved into more corrective feedback. Future research should examine this pattern of eCoaching behavior.

The use of eCoaching during the internship phase of a teacher preparation program in this study demonstrates promising professional learning outcomes for candidates and their university supervisor, though it is limited in its generalizability. More research is needed to understand the experience of the coach and the components of the training and support necessary to produce effective coaches. Examination of different forms of training and coaching of coaches would be helpful for the field.

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