The evolution of clinical experience: Moving from traditional student teaching to co-teaching

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Handbook of Research on Teacher Education and Professional Development

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Chapter 1
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ABSTRACT
In this chapter, the authors examine the implementation of the co-teaching model within the clinical experience of a post-baccalaureate teacher credential program, examining the different levels of understanding and buy-in to the co-teaching model. Implementing mixed methodologies, the authors look specifically at the co-teaching experiences of three science co-teaching pairs. Although pairs highlighted within this case study predominantly aligned more with a traditional model of student teaching, each pair had at least one moment of co-teaching, which either provided a better learning environment for the secondary students and/or professional development for both the pre-service and in-service teacher. In the discussion and implications section of the chapter, the authors explore why co-teaching occurred in these specific contexts and how a teacher education program might better support its co-teaching pairs in their understanding and implementation of co-teaching.

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INTRODUCTION

Reflecting on their experience of learning to teach, pre-service teachers often refer to their field experience as one of the most influential factors shaping their development as a beginning teacher, with policymakers and practitioners also echoing this belief (Cochran-Smith & Zeichner, 2005; Guyton & McIntyre, 1990; National Council for Accreditation of Teacher Education, 2010). Research has identified the influential nature of field experience as well as challenges associated with this experience (Borko & Mayfield, 1995; Darling-Hammond, Pacheco, Michelli, LePage, & Hammerness, 2005; Goodnough, Osmond, Dibbon, Glassman, & Stevens, 2009), with a current movement to reform and improve field experiences (Fraser & Watson, 2014; NCATE, 2010; Zeichner, 2002).

Traditional student teaching – a common approach to fieldwork during a credential program – typically involves a master teacher who gradually releases responsibility of classroom instruction to the student teacher, often with an extended period of “take-over” where the student teacher has full responsibility of the classroom with minimal master teacher involvement. This model is sometimes associated with a “sink or swim” method for learning to teach. Fraser and Watson (2014) in their article entitled “Why Clinical Experience and Mentoring Are Replacing Student Teaching on the Best Campuses” explain that traditional student teaching dates back 200 years – often serving as a culminating experience to a credential program “under the watchful eyes” of a master teacher and university supervisor (p. 2). Challenges associated with traditional student teaching include little training of the master teacher in the mentoring of a student teacher, often leading to the master teacher having the student teacher observe his/her teaching on a few occasions before handing over the classroom to the student teacher for solo-time (Hamman, Fives, & Olivarez, 2007; Heck & Bacharach, 2015). In addition, Heck and Bacharach (2015) posit that an additional drawback to traditional student teaching is that planning is often done in isolation and a clear power dynamic between novice and veteran teacher exists, reducing opportunities for the student teacher to learn from and with the master teacher. Recognizing that being an effective master teacher involves “active mentoring” more than just providing a student teacher with access to a classroom (Zeichner, 2002, p. 59), teacher educators and researchers recommend moving away from the “familiar routines of traditional student teaching,” and re-imagining how field experience can be an enriching learning experience for both teachers (Fraser & Watson, 2014, p. 11).

Co-teaching is one such reform effort that allows a pre-service teacher to co-teach alongside a cooperating teacher – collaborating in planning, instructing, and assessing. Although the clinical experience often focuses on the development of the pre-service teacher, co-teaching has the potential to positively impact the growth of cooperating teachers as they are faced with numerous educational reforms (e.g., Next Generation Science Standards, Common Core State Standards) and innovative instructional practices (e.g., project based learning). Drawing on the work of Badialiia and Titus (2010) and Bacharach, Heck, and Dahlberg (2010), the authors of this study define co-teaching as the following:

Both cooperating teacher and pre-service teacher are engaged in student learning at all times through daily co-planning, co-instructing, and co-assessing.

The qualitative research study described in this chapter occurred during the 2014/2015 school year of a yearlong post baccalaureate credential program. Pre-service teachers who enrolled in the credential program simultaneously completed three quarters of coursework and a yearlong clinical experience that gradually increased from a practicum experience (consisting mainly of observing, assisting, and tutoring in a secondary classroom) to a co-teaching placement (teaching side-by-side with a cooperating teacher, first part-time – half days – and then full-time – full days). For the research study, participants included
all single subject pre-service teachers for the 2014/2015 school year, and qualitative data was collected on eight of the 42 participants (four science and four English co-teaching pairs). For this chapter, the authors focus on a subset of the eight co-teaching pairs, presenting an in-depth case study of three science co-teaching pairs who encountered challenges when implementing co-teaching.

This chapter begins with a review of research on co-teaching and teacher change followed by a theoretical framework for learning and teaching that guided the experiences of the co-teaching pairs described in this chapter. A description of the context of the research study and the mixed methodologies employed in order to triangulate the data is also included. Through the analysis of the findings, the authors posit that although the three co-teaching pairs appeared to align more with a traditional model of student teaching, each pair had at least one moment of co-teaching, which either provided a better learning environment for the secondary students and/or professional development for both the pre-service and cooperating teacher. The discussion and implications section of the chapter includes an explanation of why co-teaching occurred in these specific contexts, identification of barriers to implementing co-teaching, and suggestions on how a teacher education program might better support its co-teaching pairs in their understanding and implementation of the co-teaching model.

The research study was guided by the following questions:

1. How did the three co-teaching pairs implement co-teaching (co-planning, co-instructing, co-assessing)?
2. What barriers existed that prevented the implementation of co-teaching?
3. When co-teaching did occur, what factors encouraged the implementation of co-teaching?

LITERATURE REVIEW

Research on Co-Teaching in the Clinical Experience

Although co-teaching has its origins in the field of special education with pioneers such as Friend and Cook, in the 1980s teacher education programs began to appropriate the practice of co-teaching as a model for the clinical experience (Darragh, Picano, Tully, & Henning, 2011). Since its implementation in the 1980s, numerous research studies have been conducted on what co-teaching is, what it looks like in clinical practice, the impact that it has on learning – the learning of K-12 students as well as the learning of pre-service teachers – and challenges associated with the co-teaching model.

Co-Teaching and the Impact on Students and Student Learning

In the four-year research study by Bacharach et al. (2010), the authors explored the differences in math and reading achievement of K-6 students in co-taught and non-co-taught settings. Using mixed methodologies, the authors concluded that co-teaching had a positive impact on learners in the classroom, using gains on high-stakes exams as one measure to show this positive impact. Similarly, Hang and Rabren (2009) analyzed the differences in reading and math scores for students with disabilities. Comparing their scores on the SAT National Curve Equivalents (NCEs) from the 2003/2004 school year when the class was not co-taught to the 2004/2005 school year when the class was co-taught, statistically significant differences in achievement were identified.
Additional benefits to students in co-taught classrooms include “enhanced instruction, rather than just a second set of hands” (Beninghof, 2015, p. 13). By drawing on the expertise of each member of the co-teaching pair and strategically using this expertise when planning, instructing, and assessing, co-teachers can better support struggling students, implement a variety of scaffolds, and differentiate instruction (Beninghof, 2015; Friend, 2015; Hartnett, McCoy, Weed, & Nickens, 2014; Heckert, Strieker, & Shaheen, 2013; Mandel & Eiserman, 2015; Murdock, Finneran, & Theve, 2015; Tomlinson, 2015). Additional benefits to student learning include a lower student-to-teacher ratio (Hartnett et al., 2014).

**Co-Teaching and the Impact on Teacher Learning**

Additional research on co-teaching has moved beyond the gains for students and has focused on the affordances and challenges for the development of the co-teachers. Research in this vein has focused on the notion of co-generative dialogue and how co-teaching pairs engage in reflective dialogue throughout their co-teaching experience. Scantlebury, Gallo-Fox, and Wassell (2008) define co-generative dialogue as “...when co-teachers discuss the issues that impact teaching and learning and collectively generate solutions to any problems” (p. 971). Research studies on co-teaching have found value in co-generative dialogue because this dialogue provides an opportunity to reflect on a shared experience (Badiali & Titus, 2010; Beers, 2008) and “examine their schema and practices in the presence of the other stakeholders in the classroom” (Beers, 2008, p. 447). Researchers also posit that co-teaching can help facilitate the development of reflection skills through “expanded opportunities for transformative action in learning and development through shared contribution, collective responsibility, expanded agency and the active promotion of each other’s agency and co-development” (Murphy & Carlisle, 2008, p. 505). Through this “co-development,” co-teachers engage “in the habit of seeking feedback and ideas from colleagues” (Haring & Kelner, 2015, p. 71), possibly fostering a teacher’s collaboration skills and willingness to take risks (Mandel & Eiserman, 2015).

Co-teaching may also serve as the catalyst for breaking the power differential associated with traditional student teaching. Honigsfeld and Dove (2015) in their article entitled “Co-Teaching ELLs: Riding a Tandem Bike” explain that trust between co-teachers is an important part of a successful co-teaching pairing. In order to create this trust, the power differential needs to be eliminated for the co-teachers to have “shared goal setting, shared decision making, joint risk taking, having high expectations of each other, relying on each other, and overcoming one’s fear of vulnerability” (p. 58). Heckeret et al. (2013) similarly argue that co-teaching can lead to a shift in the power dynamic between the pre-service and cooperating teacher.

**Challenges of Co-Teaching During the Clinical Experience**

Although research on co-teaching in the clinical experience has shown favorable results in terms of increasing student test scores (Bacharach et al., 2010; Hang & Raben, 2009) and providing opportunities for pre-service teachers to engage in reflective dialogue and develop collaboration skills (Badiali & Titus, 2010; Beers, 2008; Darragh et al., 2011; Scantlebury et al., 2008), the research has also captured a few downsides to co-teaching.

For example, the pre-service teachers surveyed by Darragh et al. (2011) wondered whether it was realistic to have two teachers in the room when hired as an in-service teacher and whether solo time was
needed in order to prepare pre-service teachers for their future career. Research has also shown the chal-
lenge of achieving cooperating teacher buy-in to the co-teaching model and ensuring that both teachers 
have a clear understanding of co-teaching and their role in the classroom (Heckert et al., 2013). Recom-
mendations for addressing these concerns include longer placements in order to build a positive relation-
ship, requiring cooperating teachers and pre-service teachers to attend co-teaching trainings together, 
and providing clear expectations of the clinical experience and how co-teaching progresses in order to 
allow “solo” time or more leadership responsibility as the placement progresses (Darragh et al., 2011).

RESEARCH ON TEACHER CHANGE

When implementing co-teaching as the model for the clinical experience, one challenge can be that this 
model may be different from the model the cooperating teacher experienced when he/she was complet-
ing his/her teacher education program. This can make it potentially difficult for the cooperating teacher 
to mentor a pre-service teacher in a way that is different from his/her own training (Dunne, Nave, & 
Lewis 2000; Hollingsworth, 1989; Knapp & Peterson, 1995). Seeking to address this potential challenge 
and support cooperating teachers to adopt a new model for teacher training, research on teacher change 
might prove helpful.

Although the body of research on teacher change predominately focuses on changing an in-service 
teacher’s practice to align with reform initiatives and “best practices,” this body of research can also 
provide insight into teacher resistance to change – whether the resistance to change is related to an in-
service teacher changing his/her own practice or changing his/her approach to mentoring a pre-service 
teacher. Numerous research studies on teacher change have concluded that not only do some teachers 
change more than others (Fennema et al., 1996; Franke, Carpenter, Levi, & Fennema, 2001; Knapp & 
Peterson, 1995), some elements of teachers’ knowledge and practice are more easily changed than others 
(Franke et al., 2001; Franke & Kazemi, 2001). For example, Kegan (1994) posits that the challenge of 
teacher change is “not merely asking them [teachers] to take on new skills…[but] asking them to change 
the whole way they understand themselves, their world, and the relationship between the two” (as cited in 
Blanchard, Southerland, & Granger, 2008, p. 325). Furthermore, teacher change takes time with studies 
showing “that teacher mastery of a new skill takes, on average, 20 separate instances of practice and that 
number may increase if the skill is exceptionally complex” (Joyce & Showers, 2002, p.12).

Professional development is also believed to be a catalyst for teacher change; however, studies have 
concluded that a lot of time and money is invested in teachers’ professional development, yet this profes-
sional development has little impact on teacher quality (Goodwin, 2015; The New Teacher Project, 2015). 
Professional development typically offered by districts are not geared toward the needs of the individual 
teachers – creating a disconnect between the professional development and individual teacher’s goals 
– and are often short-term and do not include follow-up after the professional development workshop 
additional insight into why professional development may be ineffective at supporting teacher change 
and posits that the theories about teacher learning and change that the teacher leaders adopt influence the 
professional development implemented. Examining nine school districts in Michigan over the course of 
five years, Spillane (2000) interviewed teacher leaders and identified that the majority of leaders aligned
themselves with behaviorist views of teacher change while two viewed teacher change as situated and one held a cognitive perspective on teacher learning and change. Spillane (2000) posits that in order for professional development to be effective, there needs to be a balance among the three perspectives of teacher learning and change, moving beyond only a behaviorist view.

Although research has shown the challenges associated with teacher change, this research has also isolated three primary attributes that overcome teacher resistance and lead to change: school culture, collaboration, and a focus on student thinking, learning, and success. If a teacher teaches within a professional community that is a productive place for teacher learning, that in-service teacher will be more prone to adopting and executing varying pedagogies within their own practice over a sustained amount of time (Clarke & Hollingsworth, 2002; Fennema et al., 1996; Franke et al., 2001; Knapp & Peterson, 1995; Sparks, 1988). Knapp & Peterson (1995) highlight that interacting with other teachers experiencing the same thing is vital to teacher growth. Therefore, it is shown that the cues to change actually come from the organizational environment of the school culture itself (Richardson, 1990).

In addition, opportunities for collaboration can help to foster teacher change. Franke et al. (2001) state, “Just as classrooms promote student learning by becoming communities of learners where students collaborate to investigate topics in-depth, engage in collective reflection, and challenge each other’s thinking, schools foster teacher learning when they become communities where teachers engage in challenging one another’s thinking” (p. 654-655). Sparks (1998) argues, “If we can help teachers believe in the importance of using research based practices, and if we can provide a support group for initial change and experimentation [through collaborative groups], teachers will likely grow and become more reflective” (p. 117). Furthermore, Penlington (2008) explains that through collaborative dialogue, teacher change is likely to occur.

The third crucial contributor to teacher change is having a teacher shift his/her practice from teacher-focused to student-focused. This change has been found to increase communication between student and teacher and requires teachers to analyze their students’ ways of thinking (Dunne et al., 2000; Fennema et al., 1996; Franke et al., 2001; Knapp & Peterson, 1995). Gaining a deeper understanding through reflection and analysis on the way a student is processing information also allows the instructor to more effectively assist students both on an individual and collective level (Fennema et al., 1996). Furthermore, teachers begin to change their beliefs about how to teach something only after they see success with their students (Guskey, 1985; Guskey, 2002).

Given this body of research on teacher change, supporting co-teaching pairs to implement a co-teaching model of clinical experience can be challenging, especially if the school culture is not supportive of this approach to training teachers. However, the co-teaching model naturally lends itself to collaboration and a focus on student learning, two important contributors to promoting teacher change. Therefore, to successfully support the implementation of co-teaching and potentially a change in the cooperating teacher’s approach to mentoring a pre-service teacher, “Rather than training teachers to implement given practices, the interest is in having teachers come to see themselves as ongoing learners, seeking classroom practices that are responsive to the needs of the students and continually evaluating and adapting classroom practice” (Franke et al., 2001, p. 658).
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THEORETICAL FRAMEWORK

A Social Constructivist View of Learning

Social constructivism and situated learning influenced this research and the pre-service teachers’ clinical experience and co-teaching trainings. Drawing on the work of Lev Vygotsky, this study aligns with social constructivist theory and emphasizes the interaction between learners and others – in the case of co-teaching, between the co-teaching pair. Furthermore, valued is placed on the importance of language and dialogue in the construction of understanding and co-teaching is viewed as the opportunity to engage in dialogue with a knowledgeable other.

Coupled with social constructivism, this research draws on situated learning (Lave & Wenger, 1991). The authors believe in the need for beginning teachers to be situated in the social and cultural setting of a school for an extended period of time. Referring to one’s engagement in a social practice that results in learning as “legitimate peripheral participation” (p. 29), Lave and Wenger (1991) posited that learners participate in communities of practice and gradually transition from being a newcomer in that community to a full participant. Participants in a community of practice have a common goal in regard to what the community of practice is about, how it functions, and what it is capable of producing (Wenger, 1998). This theory of learning “claims that learning, thinking, and knowing are relations among people in activity in, with, and arising from the socially and culturally structured world” (Lave & Wenger, 1991, p. 51). The authors believe that a co-teaching, yearlong clinical experience provides an opportunity for pre-service teachers to learn about teaching through active participation in this community of learners.

Related to the work on communities of practice by Lave and Wenger (1991), this research also draws on the work of Barab and Duffy (2012) in the conceptualization of communities of practice. In their book chapter entitled “From Practice Fields to Communities of Practice,” Barab and Duffy (2012) delineate four features of a community of practice:

1. The community has a shared history;
2. The community has shared beliefs, goals, and practices;
3. A member of the community is a member of the collective whole, and
4. The community is constantly evolving and being re-defined by its participants.

Barab and Duffy (2012) view communities of practice and the notion of “collaborative resonance” as an approach to preparing pre-service teachers, immersing pre-service teachers in a community focused on teaching and learning. Similarly, the authors believe that a community of practice is established throughout the co-teaching, yearlong clinical experience, and pre-service teachers become a more involved member of that community as the clinical experience progresses.
METHOD

Context of the Investigation

This research study occurred during the 2014/2015 school year of a yearlong post baccalaureate credential program at Kennedy University. Teacher candidates enrolled in the credential program simultaneously completed three quarters of coursework and a yearlong clinical experience that gradually increased from a practicum experience to a part- and full-time co-teaching experience. Three co-teaching trainings were provided to all co-teaching pairs (August, December, & March). The three trainings explored a variety of co-teaching topics, such as fostering the co-teaching relationship; defining and exploring co-planning, co-instructing, and co-assessing; planning a gradual release model of leadership while still emphasizing collaboration; and discussing co-teaching successes and challenges. Co-instructional strategies (e.g., team teaching) were also modeled at the three trainings.

Case Study Participants

This research study examined the implementation of co-teaching for eight co-teaching pairs (four English and four science pairs). Findings from this study revealed that the eight co-teaching pairs displayed different levels of understanding and buy-in to the co-teaching model, resulting in a continuum of implementation. On one end of the continuum were co-teaching pairs who aligned more with traditional student teaching, while the other end of the continuum showcased pairs who implemented co-planning, co-instructing, and co-assessing in an intentional, collaborative manner with both teachers’ voices being valued.

For the purpose of this chapter, the authors chose to focus on the three pairs who appeared to align more with a traditional approach to student teaching in order to explore what barriers prevented the successful implementation of co-teaching. The data revealed that these three co-teaching pairs did have at least one instance where co-teaching occurred, and the authors wanted to determine what factors facilitated this implementation in hopes of determining ways to change teacher practice and support the adoption of the co-teaching model. A description of each co-teaching pair is provided in the findings section of this chapter.

Data

Data for this research study consisted of:

1. Weekly reflections written by the pre-service teacher,
2. Bi-monthly university supervisor observations and observation materials (e.g., lesson plan), and
3. Three individual semi-structured interviews with the pre-service teacher, cooperating teacher, and university supervisor.

Weekly Reflections

Written reflections were electronically submitted by each pre-service teacher for each week of part- and full-time co-teaching, totaling approximately 20 reflections. The weekly reflection had three open-ended prompts (e.g., Please provide a specific example of how co-teaching was implemented in your classroom.
this past week. If co-teaching did not occur, what do you see as the barriers?). In addition to open-ended questions, if the pre-service teacher responded that he/she had co-taught that week, he/she would respond to a series of close-ended questions that asked for more details about the implementation of co-teaching. See Appendix 1 for the weekly reflection prompts.

Bi-Monthly University Supervisor Observations

Each co-teaching pair was assigned to a university supervisor who had the responsibility of observing his/her pair approximately ten times over the course of the 20 weeks. For each lesson observed, the university supervisor submitted an observation report, which included quantitative data (e.g., the ranking of the lesson plan quality, classroom management) as well as qualitative data (e.g., what worked and recommendations for improvement). In addition, specific co-teaching questions were included in this observation report, which asked the university supervisor to describe the implementation of co-teaching (e.g., the extent to which co-instructional strategies were delineated on the lesson plan, the extent to which the space seemed like a shared space between two co-teachers, etc.).

Semi-Structured Interviews

Each member of the co-teaching pair was interviewed individually by a member of the research team on three occasions during the yearlong placement: a month before the transition from practicum to part-time co-teaching, a month before the transition from part-time to full-time co-teaching, and at the conclusion of the clinical experience. Each interview was guided by an interview protocol and was digitally recorded and transcribed. Member checking occurred during interviews two and three based on the coding of the previous interview, which guided the creation of a few participant-specific interview questions (Athanes & Heath, 1995; Carspecken, 1996; Emerson, Fretz, & Shaw, 1995; Spradley, 1979). The main goal of these interviews was to obtain a more nuanced understanding of the implementation of co-teaching for each co-teaching pair – highlighting both successes and challenges related to co-teaching. See Appendix 2 for the non-participant-specific interview protocols that were used for interviews one, two, and three. Appendix 3 includes an interview protocol for the university supervisor, which was implemented at the conclusion of the clinical experience.

Coding and Interpretation

As in most interpretive and qualitative research, the analysis for this research study was ongoing and reiterative. First, the researchers separated the data into episodes – “a series of turns that all relate to the same topic or theme” (Lewis & Ketter, 2004, p. 123). Once these episodes were demarcated, open coding occurred to explore ideas and themes related to co-teaching (Emerson et al., 1995). A core set of codes were established based on this open coding, with focused coding occurring in order to identify patterns and sub-themes related to co-teaching (Emerson et al., 1995). For example, an episode from an interview was first coded for a broad theme of co-planning, co-instructing, or co-assessing to identify what aspect of co-teaching was being discussed in the interview. After coding this interview episode as co-instructing, a sub-code was identified for the type of co-instructional strategy that was being described (e.g., one teach/one observe). When coded as one teach/one observe, additional sub-codes were applied that identified how one teach/one observe was implemented (i.e., which co-teacher was observing, what
was the focus of the observation). Finally, this episode was also coded for additional themes related to teaching and co-teaching (e.g., student engagement, rapport with students).

All data was double coded and inter-rater reliability was found to be at 85% or above. The agreed-upon codes for the data set were then put into NVivo for additional analysis.

**FINDINGS**

In the sections that follow, the authors present a case study for each of the three co-teaching pairs, providing reflection and interview data in order to describe how the co-teaching pair aligned with a traditional approach to student teaching and what the implementation of co-teaching looked like when it did occur.

**Background on Elliot, Sarah, and School Site**

Prior to attending the single subject credential program in 2014, Elliot completed his undergraduate degree in biology in 2013 at Kennedy University. As an undergraduate, Elliot completed 45 hours of observation (a prerequisite to the program) at the same school site in which he would complete his yearlong clinical experience.

Sarah, Elliot’s co-teacher, was in her 25th year of teaching at the time of this study. Although Sarah was currently teaching middle school science, her initial training was in a multiple subject program and she later added her single subject credential. Elliot was the seventh pre-service teacher Sarah had hosted; however, all previous experience hosting occurred as a one-quarter clinical experience (ten weeks) and was prior to Kennedy University’s utilization of co-teaching.

Lakemont Middle School, the school site in which Elliot completed his yearlong placement, is a public middle school that serves grades seven and eight and consists of 678 students and 57 faculty members. At Lakemont, Elliot and Sarah taught two periods of college prep biology and two periods of life science, one section being an English Language Learning class.

**Elliot and Sarah’s Implementation of Co-Teaching**

**Elliot and Sarah’s Approach to Co-Planning**

For planning, Elliot always began with a lesson that Sarah had created and implemented during a previous school year, but he had an opportunity to ask questions about the lesson or make modifications to it. Elliot never created a lesson by himself, and there was only one week of the 21-week placement in which Elliot reported in his weekly reflection developing a lesson plan collaboratively with Sarah. In an interview with Elliot, he clarified that the selection of developing a lesson plan collaboratively with Sarah was an error, and he meant to select a different co-planning choice. See Table 1 for the quantitative data from Elliot’s weekly reflections – which were completed during part- and full-time co-teaching – regarding his approach to co-planning with Sarah.

The interview data from Elliot and Sarah confirmed this approach to planning, with Sarah taking the lead and collaborative planning rarely occurring. During Interview One, Elliot described their approach to planning: “She [Sarah] has these lesson plans that she’s done for twenty-five years or so….We don’t really deviate too much from those, but every so often…she’ll ask me if there is something that I want
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Table 1. Elliot and Sarah’s planning practices

<table>
<thead>
<tr>
<th>Planning Practices</th>
<th>Number of Weeks</th>
<th>% of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>You were given lesson(s) or page(s) to teach without discussion</td>
<td>2/21</td>
<td>10%</td>
</tr>
<tr>
<td>You were given lesson(s) to teach with discussion and/or clarifying questions asked and answered</td>
<td>21/21</td>
<td>100%</td>
</tr>
<tr>
<td>You were given lesson(s) and jointly modified with your cooperating teacher</td>
<td>17/21</td>
<td>81%</td>
</tr>
<tr>
<td>You were given lesson(s) and you modified on your own</td>
<td>6/21</td>
<td>29%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you and your cooperating teacher jointly developed a new lesson</td>
<td>1/21</td>
<td>5%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you developed your own lesson</td>
<td>0/21</td>
<td>0%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you provided your cooperating teacher with a lesson for him/her to teach</td>
<td>0/21</td>
<td>0%</td>
</tr>
</tbody>
</table>

to take on or something that maybe I can improve on, so that’s really how we co-plan.” Sarah confirmed Elliot’s description of their approach to planning and provided an explanation as to why she decided to approach planning in this way: “We actually have some really good units, so why reinvent the wheel at this point” (Interview 2). Sarah’s years of teaching experience seemed to influence her decision to implement the lessons that were “tried and true” rather than start from scratch or let Elliot take the lead in planning. In addition, Sarah’s decision to take the lead on planning stemmed from a concern she had about preparing her middle school students for a high-stakes exam, and once the exams had concluded, Sarah provided an opportunity for Elliot to take more of a lead in planning, but still began with her plans:

So at least this last unit- it’s after testing so he [Elliot] had a little more….This is what we have. You can pick this and come up with something new. So he kind of had a little bit of that opportunity. I wish it could have been more. Also when you’ve been doing it for so long, it’s what we have and it works. (Sarah, Interview 3)

Elliot and Sarah’s Approach to Co-Instruction

Instruction also resembled a traditional student teaching placement in that Elliot and Sarah primarily implemented one teach/one observe and one teach/one assist. These two co-instructional strategies can be less collaborative in nature since one teacher is in a clear leadership role. More collaborative strategies – such as team teaching – were never used throughout the 21-week placement. Elliot and Sarah did have one instance of parallel teaching – providing an example of co-teaching – which will be explored in more detail in a different section of this chapter. See Table 2 for the quantitative data from Elliot’s weekly reflections regarding the implementation of the six co-instructional strategies.

Table 2. Co-instructional strategies implemented by Elliot and Sarah

<table>
<thead>
<tr>
<th>One Teach/One Observe</th>
<th>One Teach/One Assist</th>
<th>Team Teaching</th>
<th>Station Teaching</th>
<th>Parallel Teaching</th>
<th>Differentiated Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>21/21 weeks</td>
<td>14/21 weeks</td>
<td>0/21 weeks</td>
<td>0/21 weeks</td>
<td>1/21 weeks</td>
<td>0/21 weeks</td>
</tr>
</tbody>
</table>
Reflecting on the yearlong experience during Interview Three, Sarah explained how they primarily implemented one teach/one observe and one teach/one assist as a means of keeping things “consistent” for her middle school students since Elliot was not involved in all class periods until full-time student teaching – the last two and half months of his clinical experience.

*In the beginning, he’s only here two days a week [during practicum], so this is what you’re going to do. Observe and then you teach it in the afternoon. Then as it moved on in the winter when he was here part-time, I’m still teaching in the mornings. So I’m going to do it my way. I told him you can change it if you want, but we need to do this lab this day because we have to keep consistent. He didn’t tend to want to change things much.* (Sarah, Interview 3)

During Interview Two, Elliot provided his own thoughts on why Sarah was reluctant to implement more of the co-instructional strategies. Elliot explained, “She [Sarah] doesn’t like it because her first two periods would have a different experience. If we did the co-teaching, her first two periods would be different than the ones I teach. So she doesn’t like that it’s not consistent across all classes” (Elliot, Interview 2).

**Elliot and Sarah’s Approach to Co-Assessing**

For co-assessing, the self-reported reflection data from Elliot made it seem like this one aspect of co-teaching was more collaborative, with all three types of co-assessing occurring throughout the experience. For example, during Interview Two, Elliot commented that “We’re really big on reflection, so we always do that afterwards….we always talk about how it went, what could have gone better.” Although reflection on teaching was a daily occurrence, interviews with Elliot revealed that these informal reflections on teaching were used as opportunities for Sarah to provide feedback on Elliot’s teaching and not necessarily an opportunity for co-generative dialogue (Scantlebury et al., 2008) in terms of an equal exchange of information and reflection on their teaching. During Interview Three, Elliot explained, “I mean sometimes, it’s a little much, but there’s a lot of feedback. If something didn’t go well, she’s gonna tell you about it.” Elliot elaborated and said, “The majority of time spent was her talking at me instead of with me.” See Table 3 for Elliot’s quantitative data from his weekly reflections regarding his approach to co-assessing.

**Table 3. Elliot and Sarah’s co-assessing practices**

<table>
<thead>
<tr>
<th>Co-Assessing Practices</th>
<th>Number of Weeks</th>
<th>Percentage of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal: You and your cooperating teacher collaboratively reflected on lesson(s), student learning, and engagement</td>
<td>19/21</td>
<td>90%</td>
</tr>
<tr>
<td>Informal: You and your cooperating teacher discussed possible changes that could have improved the lesson(s), student learning, and engagement</td>
<td>19/21</td>
<td>90%</td>
</tr>
<tr>
<td>Informal: You and your cooperating teacher discussed modifications to future lessons based on observations &amp; post-lesson reflections</td>
<td>14/21</td>
<td>67%</td>
</tr>
</tbody>
</table>
Meeting the Needs of Diverse Learners Encourages Co-Instructing

When examining the instances of co-teaching – one teach/one observe, one teach/one assist, and parallel instruction – most instances involved the teaching of diverse learners, specifically, a class that Sarah taught to English Language Learners that included a paraprofessional. During interviews, Sarah expressed the value she saw in implementing co-instructional strategies in this class as a means of lowering the student-to-teacher ratio and supporting students who had a variety of learning needs.

With my EL class, it was really nice having the extra body….We have about 14 [students] at that point, and I have an aid and him [Elliot], so there’s [sic] three adults….It was wonderful because we could basically each take a small group. One time my aid took the low-end kids and was working on reading and pulling out information….One of us had the high-end and someone had the middle so that we could ability group the kids and that was wonderful to have the extra body to do that. (Sarah, Interview 1)

In the above interview excerpt, Sarah seems to see the value in co-teaching and how it can provide better learning opportunities for secondary students.

During Interview Three, a member of the research team probed Elliot for more details as to why parallel instruction was used since this was an anomaly from one teach/one observe and one teach/one assist.

Elliot: Oh, it was because she teaches one class period a day where it’s an all EL class. Since we had three teachers that day and it was a single section, we each paired up – because it was only like 12 students in the class. So we each paired up with four kids, and we went over the dissection with my group, she went over it with her group, and the aid went over it with her group. That was how that worked.

Interviewer: And what was that like? Did that feel different?

Elliot: Yeah. Honestly, any time I got to do the co-teaching, I saw what the model was about, and I understood why it’s so cool.

Similar to Sarah, Elliot expressed the value he saw in implementing co-instructional strategies with the EL class. Elliot also reflected on the parallel instruction lesson in his weekly reflection and explained, “It [co-teaching] was a welcome change from the previous flow of the classes…It showed me the intent of the [Kennedy University] program and how co-teaching, when done right, aides both parties” (Elliot, Reflection, Week 18).

BACKGROUND ON GRACE, IGNACIO, AND SCHOOL SITE

Grace comes from a family of teachers and discovered her natural ability to teach by way of tutoring peers at Kennedy University. She enrolled in the credential program in 2014 after completing an undergraduate degree in biology at the same university.

Ignacio, Grace’s co-teacher, had been teaching biology and environmental science for 19 years, with the last 14 of those years teaching at Lewis High School. Prior to hosting Grace, Ignacio had hosted six pre-service teachers; however, this was the first year that Ignacio was hosting a Kennedy University
Lewis High School, the school site of Grace’s clinical experience, is a public high school that houses grades nine through twelve. The school consists of 216 faculty and approximately 2,750 students. 85% of the population is Hispanic with 48% of the population being English Language Learners. At the time of this study, Grace and Ignacio were teaching four periods of environmental science (one section specifically an English Language Learner course and another section containing six students in special education) as well as two additional AP biology class sections.

Grace and Ignacio’s Implementation of Co-Teaching

Grace and Ignacio’s Approach to Co-Planning

Grace and Ignacio also appeared to implement more of a traditional model of student teaching than co-teaching; however, they did implement more co-instructional strategies than Elliot and Sarah. For planning, the weekly reflection data from Grace shows that planning primarily included beginning with what Ignacio had previously developed and then moving into Grace developing her own plans. Although Grace did have an opportunity to develop her own plans – providing her with freedom in the planning process – there were few instances of planning in which Grace and Ignacio sat down to develop a lesson from scratch collaboratively. See Table 4 for the planning practices that Grace implemented throughout the 21 weeks.

During Interview One, Grace described what her planning process with Ignacio looked like early in the clinical experience: “Most of it’s just his plans and he’ll tell me what he wants to do and I’ll get to look at it, and if I don’t really like something, I can change it and he’s totally good with that. But mostly we’ve just been using his plans.” As the clinical experience progressed, Ignacio envisioned having Grace take on more planning responsibilities, which he described in Interview One:

*When she takes over all the classes – and we’ve already had this conversation – now she’s going to do the planning for the next unit after spring break. Cause after spring break she takes over all four bio classes – the two regular ones and the two remedial ones – and I’m just gonna teach the AP classes,*

Table 4. Grace and Ignacio’s planning practices

<table>
<thead>
<tr>
<th>Planning Practices</th>
<th>Number of Weeks</th>
<th>% of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>You were given lesson(s) or page(s) to teach without discussion</td>
<td>2/21</td>
<td>10%</td>
</tr>
<tr>
<td>You were given lesson(s) to teach with discussion and/or clarifying questions asked and answered</td>
<td>12/21</td>
<td>57%</td>
</tr>
<tr>
<td>You were given lesson(s) and jointly modified with your cooperating teacher</td>
<td>8/21</td>
<td>38%</td>
</tr>
<tr>
<td>You were given lesson(s) and you modified on your own</td>
<td>7/21</td>
<td>33%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you and your cooperating teacher jointly developed a new lesson</td>
<td>5/21</td>
<td>24%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you developed your own lesson</td>
<td>3/21</td>
<td>14%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you provided your cooperating teacher with a lesson for him/her to teach</td>
<td>1/21</td>
<td>5%</td>
</tr>
</tbody>
</table>
just to get the kids prepared for the exam. Now she’s going to make her own deal and I already told her, you’re doing it. You can give me a copy so I can see what it looks like.

Using language such as “takes over all the classes” and “make her own deal” communicate that planning was not collaborative but that Grace was in a lead planning role once this transition occurred. In addition, Grace and Ignacio appeared to divide up the classes (Grace taking four and Ignacio taking two) rather than co-teaching all six classes. This approach aligned itself more with a traditional model of student teaching. Grace attributed an inability to fully engage in authentic co-teaching on a daily basis due to inadequate time for planning. Grace and Ignacio only had one hour to plan each day. As a result, they relied heavily on pre-existing lesson plans already developed by Ignacio, and infrequently engaged in collaborative planning.

Grace and Ignacio’s Approach to Co-Instructing

Similar to the approach to planning, co-instructing also followed the model of one co-teacher being the lead in instruction while the other co-teacher served as an assistant. In the 21 weeks of reflections from Grace, one teach/one assist was the primary co-instructional strategy utilized with team teaching and one teach/one observe falling close behind. Team teaching – while potentially more collaborative in nature – was revealed in Interview Two with Grace to be representative of “we take turns” with one co-teacher taking the lead in a portion of the lesson while the other assists, and then switching roles for a different portion of the lesson. In addition, Grace and Ignacio attempted the other three co-instructional strategies (station, parallel, and differentiated), but these attempts were usually on one or two occasions (with the exception of differentiated teaching). See Table 5 for more information about the implementation of co-instructional strategies.

This pair aligned with the traditional student teaching model in terms of instruction with Grace observing for the first class period and then “mimicking” Ignacio’s model for the remaining time: “Ignacio usually teaches that one [second period], and I watch him and observe, just kind of figure out what questions he asks the students and what little stories he adds in and where. And then I’ll take over third and normally do third by myself. If I forget anything, Ignacio is always in the back doing some stuff and he’ll jump in” (Grace, Interview 2). This model was established based on Ignacio’s belief that this traditional method would give Grace the opportunity to “figure out what it was like to teach by [herself] within the classroom” (Grace, Interview 2). Ignacio confirmed this approach to co-instructing and stated in Interview Three: “I’m definitely a back-seat driver. I do very little. I do throw some things out there, but it’s her classroom, which is what it should be, because otherwise, I believe she would not be ready.” This quote from Ignacio reveals that his approach to mentoring Grace aligned with the traditional model to student teaching, stressing the importance that Grace was alone in the classroom in

Table 5. Co-instructional strategies implemented by Grace and Ignacio

<table>
<thead>
<tr>
<th></th>
<th>One Teach/One Observe</th>
<th>One Teach/One Assist</th>
<th>Team Teaching</th>
<th>Station Teaching</th>
<th>Parallel Teaching</th>
<th>Differentiated Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/21 weeks</td>
<td>13/21 weeks</td>
<td>12/21 weeks</td>
<td>2/21 weeks</td>
<td>2/21 weeks</td>
<td>7/21 weeks</td>
<td></td>
</tr>
<tr>
<td>48%</td>
<td>62%</td>
<td>57%</td>
<td>10%</td>
<td>10%</td>
<td>33%</td>
<td></td>
</tr>
</tbody>
</table>
order to prepare for next year when she would be an employed teacher instead of viewing the opportunity to co-teach as a way to help both co-teachers grow.

**Grace and Ignacio’s Approach to Co-Assessing**

In contrast to Elliot and Sarah, Grace reported in her weekly reflections limited opportunities to reflect on teaching with Ignacio. Table 6 reveals that over the course of the 21-week part-/full-time placement, co-assessing occurred less than 50% of the time. Although co-assessing occurred infrequently, when it did, co-assessing was less collaborative and consisted of Ignacio providing feedback on Grace’s teaching after observing. During Interview One, Grace reflected on the implementation of one teach/one observe (where Ignacio was observing her teach) and commented on what would happen after the lesson: “And when we’re done, he [Ignacio] always sits and tells me what he thinks and what I need to do next time.” See Table 6 for more information about Grace and Ignacio’s co-assessing practices.

**New Standards Require New Plans**

When co-planning did occur for Grace and Ignacio, it was around the need to create new lessons that aligned with the Next Generation Science Standards. It was not until the lessons stepped outside of Ignacio’s expertise and experience that co-planning occurred. For example, with recent changes to the ecology standards, the new standards required new plans that Ignacio had not previously developed or successfully executed. Pushing Ignacio into an area where he was not completely established opened the opportunity for Grace to contribute her own ideas. Grace explained how this required co-planning: “We then went through Ignacio’s lessons to determine which ones should stay, be modified, or be skipped. For two of the standards we had no lessons that would cover that material. From there, we brainstormed ideas for topics that would work well for that standard. Next week, we will begin to organize and detail some of these future lessons” (Grace, Reflection, Week 6). Teaching to new standards created an authentic opportunity for collaboration. Furthermore, these new standards disrupted the power dynamic of master teacher and beginning teacher and created a space for Grace to work side-by-side with Ignacio, developing something new.

**Meeting the Needs of Diverse Learners Encourages Co-Instruction**

Another instance in which co-teaching occurred was when teaching the class sections with a high population of English Language Learners. Although both co-teachers spoke some Spanish, Ignacio was

*Table 6. Grace and Ignacio’s co-assessing practices*

<table>
<thead>
<tr>
<th>Co-Assessing Practices</th>
<th>Number of Weeks</th>
<th>Percentage of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal: You and your cooperating teacher collaboratively reflected on lesson(s), student learning, and engagement</td>
<td>6/21</td>
<td>29%</td>
</tr>
<tr>
<td>Informal: You and your cooperating teacher discussed possible changes that could have improved the lesson(s), student learning, and engagement</td>
<td>9/21</td>
<td>43%</td>
</tr>
<tr>
<td>Informal: You and your cooperating discussed modifications to future lessons based on observations &amp; post-lesson reflections</td>
<td>5/21</td>
<td>24%</td>
</tr>
</tbody>
</table>
more confident. Grace explained, “He tries to do their lab in Spanish with them, which is hard because he doesn’t know that much, but he knows way more than I do. He’ll help them in Spanish, and I help everyone else” (Interview 1). With a desire to meet the needs of their diverse learners, in classes that held a greater dynamic of English Language Learners, the co-teachers became active participants within the classroom and diminished the power differential that one instructor was “in-charge” while the other took more of a subordinate role.

BACKGROUND ON STACEY, REBECCA, AND SCHOOL SITE

Stacey, originally a pre-med biology major, switched her focus to biology in education and earned her undergraduate degree at Kennedy University in 2014. Stacey completed 45 hours of observation at a middle and high school prior to beginning the credential program in 2014.

At the time of this study, Rebecca had been teaching science for approximately 32 years with 30 of those years at Patrick High School. Rebecca had previous experience mentoring pre-service teachers, hosting between 10-15 pre-service teachers. However, this was the first time that Rebecca was hosting a pre-service teacher from Kennedy University under the co-teaching model.

Patrick High School – the school site for Stacey’s clinical experience – is a public high school, housing grades nine through twelve. This school site is home to 2,442 students and 227 faculty members. Stacey and Rebecca’s teaching schedule consisted of teaching three different courses: biology (three sections), marine science, and forensic science.

Stacey and Rebecca’s Implementation of Co-Teaching

Stacey and Rebecca’s Approach to Co-Planning

Table 7 provides Stacey’s weekly reflection data in which she identified the co-planning practices that were in place for her 20-week placement. While Stacey did exhibit a traditional approach to planning, with 16 out of 20 weeks consisting of Stacey developing a lesson on her own and nine out of 20 weeks

Table 7. Stacey and Rebecca’s planning practices

<table>
<thead>
<tr>
<th>Planning Practices</th>
<th>Number of Weeks</th>
<th>% of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>You were given lesson(s) or page(s) to teach without discussion</td>
<td>0/20</td>
<td>0%</td>
</tr>
<tr>
<td>You were given lesson(s) to teach with discussion and/or clarifying questions asked and answered</td>
<td>9/20</td>
<td>45%</td>
</tr>
<tr>
<td>You were given lesson(s) and jointly modified with your cooperating teacher</td>
<td>9/20</td>
<td>45%</td>
</tr>
<tr>
<td>You were given lesson(s) and you modified on your own</td>
<td>2/20</td>
<td>10%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you and your cooperating teacher jointly developed a new lesson</td>
<td>6/20</td>
<td>30%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you developed your own lesson</td>
<td>16/20</td>
<td>80%</td>
</tr>
<tr>
<td>Beginning with a standard/objective, you provided your cooperating teacher with a lesson for him/her to teach</td>
<td>0/20</td>
<td>0%</td>
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</tbody>
</table>
being given a lesson to teach, she also experienced more collaborative planning with six instances of developing a lesson with her co-teacher.

Planning resembled traditional student teaching in that at the beginning of the placement, Rebecca took the lead and gradually the leadership in planning shifted to Stacey as the clinical experience progressed:

January to February, I would say that she [Rebecca] would present the activities that she would do and the course development that she would do, and then I would add in anything that I want to try...But for the most part, I think she presented her ideas and what she’s done but then was totally open to comments or questions or things I wanted to do. But now we’re getting to the course where I’m planning almost all of it, so it’s fun. (Stacey, Interview 2)

As the clinical experience progressed, Stacey and Rebecca divided the planning between her three different preps, and Stacey “solely took over the biology course” (Stacey, Interview 3). Stacey explained, “I am 100 percent on my own planning that course [biology], but then the other two, marine science and forensics, we kind of plan together. But she definitely takes a leading role in those classes because I’m not as familiar with these courses” (Interview 3). Based on the interview data, the number of different classes that Stacey and Rebecca were teaching and the content focus of those classes perhaps encouraged Stacey and Rebecca to implement more of a traditional approach to planning, dividing up the planning responsibilities rather than collaboratively planning.

**Stacey and Rebecca’s Approach to Co-Instruction**

Stacey’s instruction aligned primarily with a traditional approach to student teaching with one teach/one observe and one teach/one assist being used almost every week of the clinical experience. Stacey and Rebecca did experiment with team teaching, but based on the interview data, this team teaching was similar to Grace and Ignacio’s approach in that it consisted of dividing up portions of the lesson to teach rather than joint team teaching, revealing a lower level of collaboration during the lesson and approaching this team teaching in a more prescribed way. In addition, there were one or two weeks where Stacey and Rebecca attempted a more collaborative co-instructional strategy (e.g., differentiated teaching); however, these were not the typical co-instructional strategies implemented.

During the interviews, Stacey described her approach to co-instruction: “Co-instructing for the two classes that she [Rebecca] is involved with, she leads, and then I assist, so I’m in the classroom circulating and helping, but she is the main instructor in those two. But then when it comes to my class, biology, I’m the main instructor, and then we kind of reverse roles – she’ll help assist if there’s [sic] any labs” (Interview 3). When deviating from one teach/one assist and implementing team teaching, Stacey and Rebecca often divided the lesson into different segments. Stacey described this approach in her weekly reflection: “We both had a particular part of the lesson that we were responsible for and transitioned from

<table>
<thead>
<tr>
<th>One Teach/One Observe</th>
<th>One Teach/One Assist</th>
<th>Team Teaching</th>
<th>Station Teaching</th>
<th>Parallel Teaching</th>
<th>Differentiated Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/20 weeks</td>
<td>19/20 weeks</td>
<td>8/20 weeks</td>
<td>1/20 weeks</td>
<td>1/20 weeks</td>
<td>2/20 weeks</td>
</tr>
<tr>
<td>100%</td>
<td>95%</td>
<td>40%</td>
<td>5%</td>
<td>5%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table 8. Co-instructional strategies implemented by Stacey and Rebecca
The Evolution of Clinical Practice

one to the other. For example, Rebecca would open the class with reminders and collect homework. Then I would present the whiteboard activity. We would both circulate the room assisting students” (Stacey, Reflection, Week 5). Although Stacey identified this as team teaching, it seemed less collaborative in nature – dividing up the lesson rather than teaching the lesson together – and in some ways, resembled one teach/one assist.

Stacey and Rebecca’s Approach to Co-Assessing

One area in which Stacey and Rebecca implemented co-assessing was reflecting collaboratively after each lesson. Table 9 reveals that these informal conversations occurred 100% of the time, with 90% of the time these discussions resulting in changes to future lessons.

Teaching Outside of the Content Area Encourages Co-Planning

Although the quantitative weekly reflection data showed primarily one teacher in the lead for planning (either Stacey or Rebecca depending on the class being taught), the qualitative reflection and interview data revealed what appeared to be a more collaborative approach to planning, one that was prompted perhaps by the number of different courses and Stacey’s limited knowledge in marine biology and forensics. In Stacey’s weekly reflections, she described their approach to co-planning a protein identification lab in which they were beginning with what Rebecca had previously done and “determined what modifications were necessary and what materials we need to gather” (Reflection, Week 11). Stacey also described how they “bounced ideas off each other and came to a consensus” when planning for the marine sciences final (Reflection, Week 22) and how she “had an idea” and Rebecca “gave input on how to evolve that idea” (Reflection, Week 17).

During Interview Two, Rebecca commented on how the highlight of co-teaching was the ability to collaboratively plan:

*It’s validating when she [Stacey] takes one of my ideas, and she says, ‘Oh, I really like that!’ But then it’s also nice where I say, ‘Oh, I’m stealing that!’ It’s kind of this synergy. The feeling of it really takes two adults to do a good job in the classroom, and I know I’m not gonna have one forever, so I’m gonna take advantage of this. But I feel just having another adult to talk to, to bounce ideas off of [was the best part co-teaching].* (Interview 2)

<table>
<thead>
<tr>
<th>Co-Assessing Practices</th>
<th>Number of Weeks</th>
<th>Percentage of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal: You and your cooperating teacher collaboratively reflected on lesson(s), student learning, and engagement</td>
<td>20/20</td>
<td>100%</td>
</tr>
<tr>
<td>Informal: You and your cooperating teacher discussed possible changes that could have improved the lesson(s), student learning, and engagement</td>
<td>19/20</td>
<td>95%</td>
</tr>
<tr>
<td>Informal: You and your cooperating teacher discussed modifications to future lessons based on observations &amp; post-lesson reflections</td>
<td>18/20</td>
<td>90%</td>
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Rebecca found value in the ability to co-plan, and this perceived value would be one place to start if trying to encourage this pair to implement additional co-teaching. Rebecca further aligned herself with the intent of the co-teaching model when in Interview Two she described how she did not want Stacey to feel isolated and that she did not have the opportunity to collaborate with someone else. Even when transitioning to Stacey taking more of the lead in planning for the biology class, Rebecca described how she wanted Stacey to view her as a resource: “I think I’ll always be a resource where she throws ideas at me” (Interview 2).

**Supporting Student Participation in Labs Through Co-Instructing**

When Stacey and Rebecca did co-instruct, it typically was used in order to facilitate labs in class. Team and differentiated teaching were particularly useful when guiding students through an oil-eating bacteria lab. Stacey described how they implemented co-instruction during this lab: “One at a time, I led a group of students through the lab while Rebecca oversaw the rest of the students and led them through the other portion of the lab. We were able to get twice as much accomplished with two instructors! It was great!” (Reflection, Week 16).

Similarly, Stacey and Rebecca implemented differentiated teaching when some of the students were not prepared to complete the lab on the day when it was implemented. During Interview Two, Stacey explained that they had a portion of the class not complete the pre-lab for homework. Therefore, these students were not able to participate in the lab. Rather than not implementing the lab for the entire class, Stacey and Rebecca decided to differentiate their instruction by capitalizing on the two teachers in the classroom:

_Half the class was doing the lab and half the class was doing the pre-lab, and so she [Rebecca] helped lead the lab and I went and helped all the kids do the prior work that they should have done. And it was interesting because it turned out to be the kids that didn’t do it were more the struggling students and so they needed a lot more scaffolding, a lot more help and so…it ended up being pretty good. I mean, ultimately we would like for everyone to be on the same page and for them all to do the lab and everything, but it was neat to have two people in there where there was two sets of different students that needed certain learning strategies, so it was pretty cool. (Interview 2)_

**DISCUSSION AND IMPLICATIONS**

Co-teaching, a different approach to training teachers than the three cooperating teachers had experienced, can be challenging to understand and implement. Because of the learning curve associated with this new model of teacher training, it makes sense that a co-teaching pair might align with a traditional approach to student teaching. Although the three science pairs typically aligned with a more traditional approach to student teaching, there was evidence of the implementation of co-teaching, perhaps suggesting that with the proper training and support, more instances of co-teaching could occur. In the sections that follow, the authors identify common barriers to implementation as well as key factors that enabled co-teaching to be implemented. The authors also provide recommendations for teacher education programs on how to better support the understanding and implementation of the co-teaching model, grounding these recommendations in the research on teacher change.
Barriers to Implementation

For all three pairs, one barrier to implementation appears to be a cooperating teacher’s longevity in the profession combined with prior experiences exclusively with the traditional model of student teaching. The teaching experience of the three cooperating teachers in this study ranged from 19 – 32 years and each had hosted at least six previous candidates utilizing a traditional model of student teaching. Based on this data, the study suggests more explicit conversations and trainings may need to occur with such veteran cooperating teachers to ensure there is a clear understanding as to how co-teaching differs from what these cooperating teachers have experienced over the life of their career. For example, within co-teaching trainings, teacher education programs could provide breakout sessions to address implementation issues for various constituents (e.g., first time cooperating teachers, veteran cooperating teachers with past experience hosting under the traditional student teaching model, experienced implementers of co-teaching).

Another common barrier for the three co-teaching pairs was a lack of reflection on their teaching. Interviews indicated that even when reflection occurred, it typically focused on the pre-service teacher and sometimes felt more like an evaluation of the pre-service teacher rather than a reflection. A possible unintended side effect of this was reinforcement of a power differential where the pre-service teacher was viewed as “less experienced” and in need of advice from a “superior.” To alleviate this barrier, teacher education programs can provide better structures around reflection. One way to encourage collaborative reflection could be to provide guiding questions for reflection (e.g., How could we have better utilized having two teachers in the classroom to meet the needs of all learners? Reflect by yourself first, then share with your co-teacher your self-identified strengths and areas for growth). Another way to address this barrier is by asking cooperating teachers to model self-reflection after they have taught all or part of a lesson. This emphasizes the concept of lifelong learning and lowers the potential for anxiety or defensiveness on the part of the pre-service when receiving feedback.

A final common barrier for the three co-teaching pairs was an apparent lack of clarity regarding each of the co-instructional strategies, including misunderstanding of the possible benefits of using the various co-instructional strategies. This was seen when two of the three co-teaching pairs implemented team teaching in a manner that was more closely aligned with one teach/one assist. This interpretation of team teaching does not take full advantage of having two teachers equally and actively engaged with student learning throughout a lesson. Another example of the misunderstanding of the benefits of the co-instructional strategies was apparent through accidental successes. One co-teaching pair benefitted from differentiated instruction only because students came to class unprepared. Later they reflected that those students were in fact struggling and required more scaffolding than the rest of the class. In order for teacher education programs to better support its co-teaching pairs to understand and strategically implement the co-instructional strategies, trainings could include think alouds of co-teaching pairs sharing how they came to determine which co-instructional strategy would produce the best results for students. Models of lesson plans, video clips of the co-instructional strategies in action, and the reflections of co-teachers could also help to clarify not only how each co-instructional strategy could be utilized but also the collaborative reflection of co-teachers.
Key Factors that Enabled Co-Teaching

Teaching Diverse Learners

For all three co-teaching pairs, the diverse learning needs of their students encouraged the implementation of co-teaching. In the case of Elliot and Sarah and Grace and Ignacio, teaching English Language Learners created an opportunity for the implementation of parallel and differentiated instruction. Lowering the student-to-teacher ratio was an important first step in meeting the needs of these diverse learners. In addition, strategically grouping students by ability level (in the case of Elliot and Sarah) was another way to meet the needs of diverse students. Stacey and Rebecca implemented co-teaching not necessarily because their students were English Language Learners but because there were different levels of preparedness (e.g., when implementing a lab), so the learning needs of the students required a differentiated approach to instruction.

Drawing on the teacher change research, all three co-teaching pairs found student success when implementing co-teaching to meet the needs of their diverse learners, perhaps serving as a pivotal opportunity to change the cooperating teachers’ beliefs about co-teaching since they saw success with their students (Guskey, 1985; Guskey, 2002). Capitalizing on this opportunity, teacher education programs could help support co-teachings pairs to collect data on student learning in order to provide evidence that the implementation of co-instructional strategies did, in fact, increase student learning. By collecting and analyzing this data, if positive learning gains were evident, cooperating teachers might be more likely to see the value in implementing co-teaching when teaching diverse learners and extend these co-teaching practices to support all learners.

Teaching New Content

For Grace and Ignacio and Stacey and Rebecca, new science standards or content where one of the co-teachers was less confident created authentic opportunities for collaborative planning. It makes sense that more collaborative planning would occur when developing a new lesson, for the power differential was disrupted with the cooperating teacher no longer having a wealth of experience and archive of lessons but instead, both co-teachers were positioned as learners. In the case of Stacey and Rebecca, Stacey’s limited knowledge of forensics and marine biology – two courses that she was teaching with Rebecca – provided an opportunity for Rebecca to position herself as a mentor, engaging in discussions about the content and providing insight into how she approached planning for these classes. For Elliot and Sarah, the opportunity for collaborative planning never occurred because they relied on the lesson plans that Sarah had implemented over the course of her teaching career.

In order to encourage collaborative planning opportunities, teacher education programs could provide professional development for the co-teaching pairs around the Next Generation Science Standards and innovative instructional practices. For example, a multi-day professional development on project-based learning could be provided for co-teaching pairs. The co-teaching pairs would attend this professional development together, receiving foundational information on project-based learning and being tasked to design a project to be implemented at their school site. Since this project would be new curriculum, both co-teachers would be on an equal playing field and would be designing a unit of instruction together. Then, continued support would be provided to the pair throughout the clinical experience, providing guidance on developing and implementing the project, offering this support at the school site. Providing
professional development that was focused and sustained would create an authentic reason for collaborative planning. By providing “a support group for initial change and experimentation,” the co-teaching pair might be more likely to “grow and become more reflective” (Sparks, 1998, p. 117), engaging in co-generative dialogue (Scantlebury et al., 2008).

**Discipline-Specific Content**

The data also revealed that the content of the discipline itself might provide natural opportunities for the implementation of co-teaching. For example, Stacey and Rebecca frequently used co-instructional strategies when implementing labs, showing how the content of a lab encourages co-teaching. Having two teachers in the classroom to set up the lab, circulate to provide one-on-one instruction during the lab, and assist with cleanup aided the implementation of a lab and ultimately created a more student-centered learning environment. Researchers on teacher change argue that some elements of teacher change and practice are more easily changed than others (Franke et al., 2001; Franke & Kazemi, 2001), and in the case of Stacey and Rebecca, changing the approach to implementing labs through the use of co-instructional strategies seemed like a natural and easy change in practice.

**CONCLUSION**

The results of this study confirm the challenges associated with implementing a new model for the clinical experience. In order to enact a change in the practice of a cooperating teacher when supporting the development of a pre-service teacher, the cooperating teacher must be properly supported to understand the model of co-teaching. In addition, opportunities to employ co-planning, co-instructing, and co-assessing and find success when implementing these aspects of co-teaching are important contributors to moving along the continuum of co-teaching and disrupting the master/beginning teacher power dynamic that often can inhibit collaboration. Positioning both co-teachers as learners and focusing on increasing the learning of their students can be an important first step in seeing value in the co-teaching model.

**REFERENCES**


The Evolution of Clinical Practice


The Evolution of Clinical Practice


ADDITIONAL READING


KEY TERMS AND DEFINITIONS

Clinical Experience: Clinical experience is the fieldwork portion of a teacher credentialing program where a pre-service teacher is paired with a cooperating teacher. This has often been referred to as student teaching.

Co-Assessing: Co-assessing occurs when the co-teachers collaboratively evaluate, grade and reflect upon the results of assessments. Co-assessing also includes reflecting informally on how a lesson went. Assessments might be formative (e.g., quick writes, homework, exit slips) or summative (e.g., lab reports, tests, essays). In either case, co-assessing conversations should focus on what students have learned, where there is room for growth, and next steps for instruction.

Co-Instructing/Co-Instructional Strategies: Co-instructing occurs when the co-teachers have intentional, active, and specific roles within a lesson. Options for co-instructing include the following strategies: one teach/one observe, one teach/one assist, team teaching, station teaching, parallel teaching, and differentiated teaching.

Co-Planning: Co-planning occurs when the co-teachers discuss and develop lessons and/or assessments collaboratively. Both teachers are actively involved in the planning process by sharing ideas, developing drafts for feedback, sharing resources, etc. Co-planning may occur in person or virtually (e.g., through the use of Google Docs).
Co-Teaching: A model of student teaching where both the cooperating teacher and pre-service teacher are engaged in student learning at all times through daily co-planning, co-instructing, and co-assessing. Through intentional reflective dialogue and collaboration, there is potential for professional development and growth for both co-teachers.

Cooperating Teacher: A cooperating teacher is a certificated teacher of record working within a school system who hosts a pre-service teacher during the clinical experience.

Pre-Service Teacher: A pre-service teacher is a post-baccalaureate student who is studying to earn a teaching credential and enter the teaching profession.

Traditional Student Teaching: Traditional student teaching typically involves a master teacher who gradually releases responsibility of classroom instruction to their student teacher. The final phase of traditional student teaching is often an extended period of ‘take-over’ where the student teacher has full responsibility of the classroom with minimal active participation from the master teacher. This model is sometimes associated with a “sink or swim” method for learning to teach.

ENDNOTES

1 Pseudonyms are used throughout the chapter for all names and schools.

2 For more information on the different co-instructional strategies, see Bacharach et al. (2010).
APPENDIX 1: WEEKLY REFLECTION SURVEY

Table 10. Weekly reflection survey

<table>
<thead>
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<th>Last Name:</th>
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<tbody>
<tr>
<td>First Name:</td>
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<tr>
<td>Current Program:</td>
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<tr>
<td>Cooperating Teacher:</td>
<td></td>
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<td>School:</td>
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<td>Date:</td>
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What was your most memorable moment this week?

What was your biggest challenge this week?

Did you and your cooperating teacher co-teach this week?

If yes, please provide a specific example of how co-teaching (co-planning, co-instructing, or co-assessing) was implemented in your classroom this past week. If co-teaching did not occur, what do you see as the barriers?

Approximately how much time was spent co-planning this past week?

How often did you take the lead role during co-planning?

Which of the options below most accurately reflect your planning experiences this past week?

- (1) You were given lesson(s) or page(s) to teach without discussion,
- (2) You were given lesson(s) to teach with discussion and/or clarifying questions asked and answered,
- (3) You were given lesson(s) and jointly modified with your cooperating teacher,
- (4) You were given lesson(s) and you modified on your own,
- (5) Beginning with a standard/objective, you and your cooperating teacher jointly developed a new lesson,
- (6) Beginning with a standard/objective, you developed your own lesson,
- (7) Beginning with a standard/objective, you provided your cooperating teacher with a lesson for them to teach,
- (8) Other

How often did co-instructing occur this week?

How often did you take the lead role in co-instructing?

Which of the strategies below did you utilize when co-instructing this past week?

- (1) Station teaching,
- (2) Team teaching,
- (3) Parallel teaching,
- (4) Differentiated teaching,
- (5) None of the above,
- (6) Other

How often did co-assessing occur this week?

How often did you take the lead role in co-assessing?

Which of the following options below most accurately reflect your assessing experiences this past week?

Formal Assessment: (1) Your cooperating teacher evaluated/graded assessments and discussed results with you,
- (2) You evaluated/graded assessments and discussed results with your cooperating teacher,
- (3) You and your cooperating teacher evaluated/graded assessments collaboratively;
Informal Assessment: (1) You and your cooperating teacher collaboratively reflected on lesson(s), student learning, and engagement;
- (2) You and your cooperating teacher discussed possible changes that could have improved the lesson(s), student learning, and/or engagement;
- (3) You and your cooperating teacher discussed modifications to future lessons based on observations and post-lesson reflection;
- (4) Other

Do you feel your students view you as an additional teacher in the classroom?

Do you feel both you and your cooperating teacher are engaged in furthering student learning throughout the school day?
APPENDIX 2: INTERVIEW PROTOCOLS FOR CO-TEACHING PAIRS

Interview 1

1. Tell me a little bit about your teaching career.
2. Describe your relationship with your co-teacher. What are the strengths and challenges of this relationship?
3. Have you already established that you are co-teachers in the classroom? If so, how? If not, in what ways have you not established that you are co-teachers?
   3a. Have you co-planned during practicum? If yes, describe what co-planning looked like?
       Possible Probes:
       i. How much time did you co-plan per week?
       ii. Who took the lead in co-planning?
       iii. What was your role in co-planning?
       iv. What were the benefits of co-planning?
       v. What challenges did you encounter when co-planning?
   3b. Have you co-instructed during practicum? If yes, what did co-instructing look like?
       Possible Probes:
       i. If yes, what co-instructional strategies did you implement?
       ii. What worked about the co-instructional strategy?
       iii. What was challenging about the co-instructional strategy?
   3c. Have you co-assessed during practicum? If yes, what did co-assessing look like?
       Possible Probes:
       i. Did you design, grade, and/or analyze assessments together?
       ii. Who took the lead when co-assessing?
       iii. What benefits did you see to co-assessing?
       iv. What challenges did you encounter when co-assessing?
4. What do you look forward to about co-teaching in January?
5. What challenges do you anticipate encountering as you implement co-teaching in January? What would help you to overcome these anticipated challenges?

Interview 2

For this interview, I would like you to think about your experience during part-time co-teaching as you respond to these questions. Part-time co-teaching occurred in January (after winter break) and will conclude at the end of March/beginning of April.

1. Describe to me a day in the life of co-teaching. What would I see and hear? How do you spend your time together?
2. Describe your planning process as a cooperating teacher/teacher candidate within the part-time clinical experience.
   Possible Probes:
   a. What does co-planning look like? Provide a specific example of how you co-planned a recent lesson.
b. Who takes the lead in planning?
c. How much time do you spend co-planning?
d. In what ways are you implementing co-planning?
e. In what ways are you not implementing co-planning?

3. Describe your assessment practices with your teacher candidate/cooperating teacher within the part-time clinical experience.
Possible Probes:
   a. Provide an example of how you have co-assessed this quarter.
   b. If you haven’t co-assessed this quarter, what has been a challenge/barrier to co-assessing?

4. In the previous two questions, we discussed planning and assessing. Now, describe what instruction looks like with your teacher candidate/cooperating teacher during the part-time clinical experience.
Possible Probes:
   a. Provide an example of a lesson that you co-taught. What did it look like?
   b. What co-instructional strategies have you used this quarter?
   c. Which co-instructional strategies do you use most frequently?
   d. Are there any co-instructional strategies that you haven’t tried?
      i. Why haven’t you tried this co-instructional strategy?

5. Tell me about the sharing of leadership in co-teaching – sharing planning, instructing, and assessing responsibilities.
Possible Probes:
   a. How did edTPA impact the transition of leadership in co-planning, co-instructing, and/or co-assessing?

6. Describe a co-teaching experience that you have had during part-time co-teaching that went well.
   In what ways did it go well?

   Note: This question may not need to be posed if the previous questions have elicited a response to this question.

7. Describe a challenging co-teaching experience that you have had during part-time co-teaching.
Possible Probes:
   a. What challenges did you face?
   b. What was the cause of these challenges?
   c. How are you working to resolve this or how have you resolved this challenge?

8. What is one goal that you have for co-teaching during the full-time clinical experience?

9. What do you think contributes the most to whether co-teaching is successful or not?
Interview 3

Kennedy University defines the components of co-teaching as co-planning, co-instructing and co-assessing. For each of these areas, we’d like you to reflect on how they played out during full-time co-teaching and how they evolved throughout the clinical experience. Although these first few questions may seem redundant, we want you to focus on each particular aspect of co-teaching.

1. What has co-planning looked like for you and your co-teacher during full-time co-teaching? How has co-planning evolved throughout the clinical experience?
2. What has co-instructing looked like for you and your co-teacher during full-time co-teaching? How has co-instructing evolved throughout the clinical experience?
3. What has co-assessing looked like for you and your co-teacher during full-time co-teaching? How has co-assessing evolved throughout the clinical experience?
4. Share and reflect on quantitative data.
5. Reflecting on the clinical experience, what has been the highlight of the co-teaching experience?
6. Reflecting on the clinical experience, what has been the greatest challenge of the co-teaching experience?
7. Has the co-teaching experience shaped how you think about reflection? If so, how so?
8. Has the co-teaching experience shaped how you think about collaboration? If so, how so?
9. Describe the role the university supervisor played in supporting the implementation of co-teaching.
10. What advice would you provide to a co-teaching pair beginning the clinical experience?
APPENDIX 3: UNIVERSITY SUPERVISOR INTERVIEW PROTOCOL

1. Tell me a little bit about your career in education and your role as a university supervisor.
2. What is co-teaching? How would you describe it to someone who is unfamiliar with this method of teaching?
   Possible Probes:
   What do you think are the benefits and drawbacks of co-teaching?
3. Describe the relationship between your co-teaching pair. What are the strengths and challenges of this relationship in respect to implementing co-teaching?
4. Over the course of the clinical experience, how did your co-teaching pair establish that they were co-teachers in the classroom?
5. Over the course of the clinical experience, what barriers prevented your co-teaching pair from establishing that they were co-teachers in the classroom?
6. Did you observe or hear of any strengths AND/OR challenges from your co-teaching pair regarding co-planning? If there were challenges, did you provide any support/solutions?
7. Did you observe or hear of any strengths AND/OR challenges regarding co-instructing? If there were challenges, did you provide any support/solutions?
8. Did you observe or hear of any strengths AND/OR challenges from your co-teaching pair regarding co-assessing? If there were challenges, did you provide any support/solutions?
9. How did Kennedy University’s program help to support you to understand the co-teaching model?
10. What was most helpful to you when supporting your co-teaching pair to implement co-teaching?
11. What would have helped you to better support your co-teaching pair to implement co-teaching?