
Using Co-Planning and Co-Teaching during Clinical Experiences and as Early Career In-service Teachers

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Abstract

Considering that teacher attrition is higher in schools with high-poverty rates, exploring ways to improve clinical experiences to better prepare teachers to work in these environments is important to address needs of diverse learners. In this study, we examine how co-planning and co-teaching (CPCT) could be used as a collaborative process, to place a focus on learning, and to develop pre-service teachers' and in-service teachers' skills to work in diverse environments. We garnered data from two secondary mathematics teachers over a five-year period, starting prior to the Mathematics Teacher Education Partnership. An analysis of data collected from narratives, surveys, and evaluation reports indicated that CPCT was indeed influential in the development of the two teachers' instructional practices and their overall preparedness to work in high-need schools.

Keywords: Co-Planning and Co-Teaching, pre-service teachers, in-service teachers, clinical experience, induction

Introduction

Since 2013, the Association of Public Land-Grants Universities (APLU) Mathematics Teacher Education Partnership (MTE-Partnership) clinical experiences research action cluster (RAC) had a network improvement community (NIC) that focused on using co-planning and co-teaching (CPCT) (Brosnan & Sears, 2016; Bacharach, Heck & Dahlberg, 2010; Sears et al., 2017). Co-teaching is a pedagogical approach that promotes collaboration and communication between instructional pairs who share their space to deliver instruction, organize classroom environments, and administer assessment (Bacharach, Heck & Dahlberg, 2010; Sears et al., 2017). According to Sears et al., (2017), "Co-teaching is a paradigm shift from the traditional clinical experience because the sharing of responsibility is promoted and emphasized between the mentor and preservice teacher" (p. 267).

Our NIC found that using CPCT during clinical experiences increased opportunities for pre-service teachers and their mentor teachers to address diverse needs of students and promoted a culture of mutual respect (Sears et al., 2017). This paper extends the narrative of the implications of using CPCT by considering the impact of teachers using CPCT with a focus on learning, during their clinical experiences and induction years. Thus, this paper will trace two secondary mathematics teachers from pre-service to in-service, and it will consider the extent they used CPCT to promote learning and how using CPCT has impacted their teaching in urban settings.

Problem and Purpose

Considering that there is a need to recruit and retain effective teachers, teacher preparation programs are challenged to meet the national demand of preparing effective teachers (Carroll & Foster, 2010; Darling-Hammond, 2010). The extent to which teachers are deemed effective and are prepared to teach a diverse group of students may be influenced by the quality of teacher education preparation programs (Darling-Hammond, 2000). Thus, teacher preparation programs are challenged to develop pre-service teachers to be effective teachers in a diverse society in which they will eventually work (Darling-Hammond, 2000; Koehler & Mishra, 2009).

Furthermore, being cognizant that the attrition rates of teachers are higher in schools with high poverty rates, which is typically common in urban environments, a greater attention ought to be placed on preparing teachers to be effective in an urban context (Darling-Hammond, 2010). Thus, it is recommended that pre-service teachers be provided opportunities to learn about teaching in diverse contexts, be welcomed into the professional community, and be encouraged to promote professional standards of the discipline (National Council of Teachers of Mathematics [NCTM], 2014; Sowder, 2007). Thus, the purpose of this study is to describe how using CPCT, with a focus on learning, can be used to promote the development of teachers who work in urban settings during their clinical experiences and induction years.

Conceptual Framework

To frame the nature of our inquiry, we used a conceptual framework entitled “An Apprenticeship Model for Learning.” There are three components of our conceptual framework including: a) an apprenticeship approach, b) a collaborative process of CPCT, and c) a focus on learning mathematics. First, the apprenticeship approach is a process of developing pre-service and novice in-service teachers under the guidance of an experienced urban educator (Downey, Dalidowicz, & Mason, 2015). During the apprenticeship, which focuses on cultivating student learning, mentor teachers introduce pre-service teachers and/or novice teachers as co-teachers the first day of class, to position the individual as an equal in the eyes of the students. The mentor teachers frequently conduct “teach alouds” to make instructional decisions public to their apprentice. The second component focuses on cultivating collaboration using CPCT. Thus, during the collaborative process the instructional pair reflects on the following questions: What do you want students to learn? How will you know if they learned? And in what tasks will students engage to get the learning to happen? By working as a team, the collaboration positively affects the practice of both the mentor and their apprentice over time (Brosnan & Sears, 2016). Finally, the third component of the framework focuses on learning using cognitively guided instruction (CGI), which is a philosophical and pedagogical stance regarding the teaching and learning of mathematics. Using the CGI protocol (adapted to secondary levels) to focus on student thinking by listening to their explanations of solution strategies of rich mathematical tasks has proven to assist teachers in learning how to navigate instruction based on what they learned from student thinking (Carpenter, Fennema, Peterson, Chiang, & Loef, 1989). Thus, as we seek to examine the implication of CPCT, considering the components of the framework, and their points of intersection provided greater insights of means to develop teachers to work in urban settings.

Research Question

For this study, our overarching research question is: To what extent does CPCT contribute to teachers’, who work in urban settings, professional growth during clinical experiences and induction years?

Methods

Our connections to the MTE-Partnership are evidenced by our work within the essential characteristics of improvement strategies (Martin & Gobstein, 2015) to: a) focus on a common problem within mathematics teacher education regarding clinical experiences and induction years, b) develop a deep understanding of the systems that provide clinical experiences and professional development and support to novice teachers, c) use a cyclic process of developing, teaching, and refining our approach, and d) working within a NIC to carefully study how our improvement efforts can vary across participating contexts.

Therefore, although our work began before the MTE-Partnership was conceptualized, being a part of the NIC provided greater insights of means to support teachers during their clinical experiences and inductions years. To nurture relationships formed by CPCT, instructional pairs were encouraged to attend professional development together, and provide feedback to the program on a regular basis. An intervention was implemented if there were

challenges identified. Teachers also acknowledged that they used at least one free period a week to engage in CPCT with their instructional pair, whenever possible. Thus, we have used PDSA cycles to plan, do, study, and act in developing and refining our collective approaches to improve clinical experiences that aim to produce higher numbers of effective secondary mathematics teachers as evidenced by improved student learning. We further sought to retain effective teachers of mathematics in the classroom setting.

Data Collection and Analysis

To enhance our learnings and to deepen our understanding of the potential implications of using CPCT to improve the development of mathematics pre-service and in-service teachers who work in urban settings, we collected data over a five-year period beginning prior to the creation of the MTE-Partnership. Particularly, we employed a qualitative research narrative to report one institution's attempt to document the professional development of pre-service teachers and in-service teachers early in their careers. Data were garnered from two mathematics teachers (one in an urban middle school and the other in an urban high school). The urban schools in which the teachers worked had a high population of free and reduced lunch, and a high teacher turnover rate. During the 2013-2014 school year, of the 53,327 students enrolled in schools within this district, 73 percent were students of color, 79 percent were students who were socio-economically disadvantaged, and 12 percent were students with limited English proficiency. In addition, the student mobility rate was 17 percent. Data were collected via narratives, surveys, and evaluators' reports. The narratives captured written reflections by the participants describing how the conceptual framework, described above, helped or hindered their progress. The surveys included questions to elicit additional detail of the two participants' perspectives about their development as mathematics teachers. The evaluators' reports were from district personnel who were charged with providing feedback on instructional practices for pre-service and novice teachers as well as from external evaluators on the funded project.

We initially analyzed the data from the lens of the conceptual framework. Subsequently, we documented other emergent themes. To document the results, we considered their perspectives about CPCT across the spectrum from their clinical experiences to their induction years, and subsequently as mentors of pre-service teachers.

Results

We found that these two participants viewed CPCT to be helpful in their professional development as mathematics educators. The middle school teacher reported that during his clinical experiences his mentor did not engage him in CPCT, so he felt that what he learned was rather limited. However, when he engaged in CPCT during his induction years, he noticed an improvement in his craft of teaching. The high school teacher reported that he used CPCT as a pre-service teacher and learned much as a result of it. Hence, the high school teacher became frustrated that he was not able to continue this collaboration when he took a position as a new faculty. Thus, he expressed enthusiasm when, after three years of teaching, he was afforded an opportunity to use CPCT with a pre-service teacher that he mentored. In the subsequent paragraphs, we will describe the participants' perspectives about co-teaching as pre-service teachers, early career teachers and subsequently mentors, while taking into account the components of the conceptual framework.

Pre-service Interns and Evaluator

Using CPCT during clinical experiences was viewed as a positive approach to prepare one novice teacher, compared to traditional methods. For instance, the middle school teacher said,

When I went through the traditional method as an intern, I didn't do much when I started out. My main responsibility was to observe. I wasn't doing much, therefore, I didn't feel as if I learned much. (Middle School Intern – Narrative. June, 2015)

The lack of guidance offered during a traditional clinical experience did little to help the pre-service teacher enhance his instructional craft. In contrast, the high school teacher, who used CPCT during his clinical experiences, acknowledged his readiness to teach. He noted,

When I thought of teaching my view was having my own classroom where I would essentially plan things on my own with no assistance or collaboration with other teachers. I also never expected that I would co-teach a class with one of my colleagues. This positive experience as a graduate student working with a mentor teacher helped me feel prepared to begin to teach. (High School Intern – Survey. October, 2016)

Additionally, the district evaluator reported that teachers who had clinical experiences that used CPCT appeared more prepared to teach than their peers who were prepared using alternative approaches. The district evaluator noted,

Interns who are in the Project come to school three steps ahead of those not in the Project. They seem to have a sense of working with urban children; they do a nice job of setting expectations, and framing their consequences in a positive way. (District Evaluator; Interview 2. March, 2012)

Thus, CPCT appeared to have a positive impact on pre-service teachers' clinical experiences.

Early Career Teachers

The use of CPCT was found rewarding to support the development of participants during induction years. The middle school teacher noted,

Co-planning and co-teaching, if done correctly...in all its glory, is not only effective for pre-service teachers, but for all teachers. Not only should the model be extended to first year, second year, and third year teachers, but for all teachers. (Early Career Middle School Teacher – Narrative. June, 2015)

The high school teacher who implemented CPCT with a pre-service teacher echoed similar sentiments. Initially, this opportunity was not afforded to him and he felt isolated. Hence, when he was able to use CPCT he welcomed the opportunity since he believed it more readily facilitated learning. The high school teacher noted,

My first two years of teaching, I found myself isolated from other math teachers. I had very little opportunity to co-plan or co-teach within my school, and wondered if this was how it would be when teaching in high school, or if I would be presented with more opportunities in the future. (Early Career High School Teacher – Narrative. June, 2015)

Thus, these teachers perceived using CPCT during teachers' induction years as beneficial.

Role Reversal, "Now, I'm the Mentor!"

When the early career teachers became mentors, they continued to echo the sentiment that CPCT can be used to enhance student learning in urban contexts. For instance, the middle school teacher noted,

CPCT was effective for me, the mentor, because I had another teacher in my classroom. I now had TWICE the number of people available to clarify instructions, or answer questions, or ask questions. This meant less idle time, more time on task, and more learning. Through...collaboration, I also became a better teacher. I discovered better questions, new lessons, and other means of assessment. Finally, I was always in control of my class. With the amount of responsibility a teacher has over their students' learning, I liked this component of the CPCT model as well. (Early Career Middle School Teacher– Narrative. June, 2015)

Similarly, the high school teacher indicated that the intersection of the conceptual framework provides opportunities to collaborate and cultivate critical thinking. He noted,

I learned how to talk to my intern and co-workers in ways to encourage thinking instead of just giving suggestions or answers. Using Cognitive CoachingSM within my professional environment created a

stronger sense of collaboration, between everyone involved, because it really allowed for original thinking. (Early Career High School Teacher– Narrative. June, 2015)

He continued,

I found that the level of learning was much higher among the students during the time in which my intern and I collaborated on lessons. We took time to plan out lessons together and create ideas and explorations that allowed students to have more in-depth learning and build their own conclusions about the concepts they were learning. (Early Career High School Teacher– Narrative. June, 2015)

The mathematics teacher participants who used CPCT during mentorship reported that this process helped improve student learning and fostered collaboration within the team.

Furthermore, data from the district representatives and the program evaluation by external reviewers also confirmed our observations. For instance, the district representative noted that they were able to recognize program graduates because “they appear to be more effective than their peers who obtained their teacher certification via alternative pathways.” Likewise, the external evaluators found that pre-service teachers and in-service teachers in the program were generally pleased with the support and training offered by the program. More specifically, evaluators reported that program graduates “... benefitted from the two main enhancements ...—the yearlong Urban Teaching Seminar (UTS) with its focus on culturally relevant pedagogy, and placements with mentors for sustained mentoring relationships built around co-planning and co-teaching. The UTS evolved considerably over the course of the project, particularly from Year 2 to Year 4; evaluation findings suggest that the seminar began to strike a better balance between theory and practice. As a result, interns came away with an increased ability to understand and effectively work within urban classrooms and communities.” The evaluators continued, “These improvements were likely due to the mentoring becoming more focused on actively assessing their students’ learning, and were more likely to be engaged as problem-solvers in the co-planning/co-teaching process.”

Conclusion

In closing, we found that using CPCT in an apprenticeship model can facilitate collaboration, and learning outcomes for project participants. Our mentors and interns came away from these experiences viewing teaching as a collaborative process. Both teachers felt that planning for learning increased student-learning opportunities, which influenced their perspectives to use CPCT as much as feasibly possible. As we consider reflecting on means to retain mathematics teachers in the profession, our future studies should explore scaling up our efforts and collecting both quantitative and qualitative data on the impact of CPCT over a spectrum of years of professional experiences as well as in a multitude of diverse learning contexts. Although our study was set in an urban environment, the findings can be valuable regardless of context if the goal is to promote student learning, and retain teachers during their induction years, considered the teachers’ agency was enhanced, and their willingness to return to the classroom in subsequent years was increased.

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