

# Using Co-Teaching to Grow Novice Teachers' Self-Efficacy

## The Potential of Co-Teaching

A recent partnership led by Penn State Harrisburg and including Holy Family University, Messiah College, the Lincoln Intermediate Unit (IU12), and the Center for Schools and Communities (CSC), using funding from the Pennsylvania Department of Education (PDE), developed a new student teaching model between 2013 and 2016. Named Project Excellence, the partnership sought to strengthen teacher preparation programs using high-quality clinical experiences.<sup>1</sup> Project Excellence was a comprehensive model that unified the work of university faculty and supervisors, and mentor teachers and principals, to train teacher candidates using a highly collegial framework. This strategy leveraged collaboration to accelerate knowledge and skill development, as well as best practices in pedagogy, among candidates and mentors.

## Defining Co-Teaching

Co-teaching is an alternative model for student teaching (herein referred to as the clinical experience). The term co-teaching in this context refers to a single classroom instruction method where the teacher candidate and mentor teacher deliver instruction and share classroom responsibilities based on content, pooled resources, and accountability for the taught material.<sup>2</sup> Some team teaching strategies were first applied in the 1960s<sup>3</sup> and the concept of co-teaching can be found in empirical literature from two decades ago.<sup>4</sup> Previous literature illustrates that co-teaching improves instructional practice and student outcomes, especially for students receiving disability services or who have greater learning needs.<sup>9</sup> The initial purpose of co-teaching was to facilitate the inclusion of special needs students into typical classroom settings. In recent years,

it has become a collaborative teaching approach for improving instructional quality and clinical experiences.<sup>1,7</sup> Implementation in the clinical setting has emerged recently, in part due to federal regulations such as the No Child Left Behind Act (NCLB) in 2001.<sup>5-8</sup>

In 2003, the St. Cloud Teacher Quality Enhancement (TQE) project developed a research-based co-teaching model for teacher candidate clinical experiences.<sup>1</sup> The co-teaching model provides an atmosphere that allows for professional growth; an environment for prospective teachers to develop agency in instructional decision-making skills.<sup>10,11</sup> Research has shown that students in co-teaching classrooms performed statistically significantly better on reading and mathematics achievement tests than students in classrooms that were not co-taught.<sup>1</sup> Co-teaching enables the mentor teacher and teacher candidate to enhance their expertise by benefitting from one another's knowledge.<sup>11,12</sup> In general, both the mentor teacher and the teacher candidate have been found to have a positive attitude toward this experience.<sup>13</sup>

Faculty and school district administrators participating in Project Excellence were trained on St. Cloud's Co-Teaching Model prior to each semester.<sup>1</sup> Additionally, higher education supervisors, cooperating teachers, and teacher candidates were trained each semester on the co-teaching model and the seven co-teaching strategies: one teach, one observe; one teach, one assist; parallel teaching; station teaching; alternative teaching; supplemental teaching; and team teaching.<sup>1,14,9</sup> This research brief will share results of a study that examined the extent to which teacher candidates' teaching self-efficacy grew from their participation in a co-teaching clinical experience.

## Teacher Self-Efficacy

Self-efficacy is one of the most important components for predicting an individual's behavior. According to Bandura, self-efficacy is an individual's belief about his or her capabilities to create specific outcomes. For teachers, self-efficacy relates to the belief that he or she can produce a desired outcome in students' engagement and learning in the classroom setting.<sup>15,18,19</sup> These self-efficacy expectations have an important influence not only on a teacher's impact on student achievement, but on their professional goals, classroom planning and other classroom behavior.<sup>18</sup> Teachers with higher self-efficacy are more confident in executing activities to engage students and enhance students' learning.<sup>20-23</sup> Mentor and student teachers with a strong sense of self-efficacy are more likely to be flexible and innovative when working with their students. Higher self-efficacy affects their ability to positively motivate their students.<sup>18,24</sup> Teacher self-efficacy is also a basis for greater teacher effectiveness.<sup>17,25</sup>

Teachers' self-efficacy beliefs have three sub-domains: instructional strategies, classroom management, and ability to engage students.<sup>26-28,18</sup> If self-efficacy influences teachers' behaviors within classroom settings, it is important for teacher education programs to implement practices aimed at enhancing teacher candidates' teaching skills and positively influencing their sense of self-efficacy.

The purpose of this study was to explore teacher candidates' self-efficacy over the course of a three-month co-teaching clinical experience (CTCE). The study addressed the following research questions: 1) To what extent does participation in a co-teaching

clinical experience promote teacher candidates' teaching self-efficacy? 2) To what extent does participation in a co-teaching clinical experience promote teacher candidates' self-efficacy related to the sub-domains: a.) instructional strategies; b.) classroom management; and c.) student engagement? 3) How do efficacy results compare to candidates' descriptions of their co-teaching experience?

## Research Methods

### Sample

We measured efficacy at the beginning, middle and end of the semester using surveys of 219 teacher candidates from three higher education institutions: Messiah College, Penn State Harrisburg, and Holy Family University. The convenience sample included 178 women and 35 men in elementary schools, middle schools (grades 5-8), high schools (grades 9-12), and kindergarten academies to complete their clinical experience. The candidates sought certification in PreK-4 (n=118), grades 4-8 (n=20), grades 7-12 (n=53), and other non-graded area classes such as music, art, etc. (n=41) (13 students had overlapping certification areas).<sup>\*</sup> Most of the candidates were under the age of 30 while 20 participants were 31 and older.

<sup>\*</sup> Subtotals may vary due to item non-response.

The participants identified themselves as Caucasian (n=198), Black (n=6), Hispanic or Latino (n=10), Pacific Islander (n=1), Asian (n=5), and Other (n=3). While six participants did not report their racial identification, 12 participants reported more than 1 category. All spoke English as their first language. Most candidates had less than one year of teaching experience and had not completed their bachelor's degrees.

### Instrument

The short form of the original version of the Teachers' Sense of Efficacy Scale, a 12-item questionnaire developed by Tschannen-Moran and Woolfolk Hoy<sup>18</sup> was used to measure the teacher candidates' teaching self-efficacy as well as the aforementioned subscales. Tests on the instrument have strong construct validity as shown in previous factor analyses.<sup>18</sup>

Candidates were asked to rate their efficacy in specific classroom settings from 1 to 4, where 1=not at all; 2=a little; 3=somewhat; 4=to a great extent. The distribution of the mean efficacy scores across all five semesters of data was highly skewed (Fischer-Pearson skew was  $g_1 = -2$ ). Additionally, because the measures were measured originally on an ordinal scale, non-parametric statistics were used to test for group differences.<sup>28</sup>

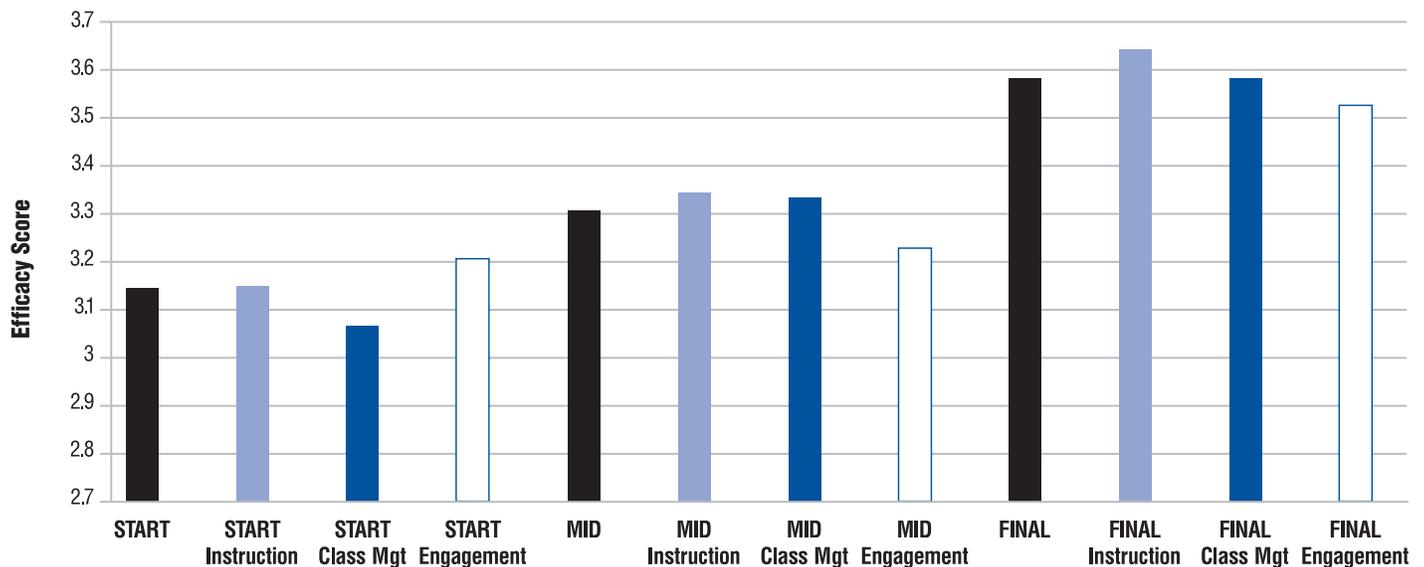
In addition, twenty of the teacher candidates were interviewed at the beginning, middle, and end of their clinical experience by Penn State faculty. The candidates were selected based on availability and location to respond to questions regarding the successes and challenges of their co-teaching experience.

Each of the universities' internal review boards approved the study and consent forms were received from all participants. Descriptive statistics and non-parametric tests were calculated using the Statistical Package for the Social Sciences (SPSS v. 23).

### Results

In total, 219 participants completed the first (beginning of semester) survey; 196 participants completed the midpoint survey; and 180 participants completed the final survey. Overall, the objective of the study was to determine whether there was a significant growth in the candidates' teaching self-efficacy over the semester. Candidates' reported increasing aggregate self-efficacy scores (black bars) between the start and end of the semester. ( $\chi^2 = 104.13$ ,  $p < .001$ ), with a mean of 3.13 for the first survey, 3.30 for the midpoint, and a mean of 3.58 at the final.<sup>1</sup>

**Figure 1: Mean Efficacy Scores at Start, Middle and Final Timepoints**



<sup>1</sup> Mann-Whitney and Kruskal-Wallis nonparametric tests were run to compare the ranked scores. In each case, the p-values were all less than .05 indicating statistical significance.

A second objective of the study was to determine whether the three self-efficacy subdomains (instructional strategies, classroom management, and student engagement) changed over time. In every pre-post comparison, the difference was statistically significant. For instance, the instruction subdomain increased significantly between times 1 (START), 2 (MID) and 3 (FINAL).

### Qualitative Results

Interviews were conducted with a subset of the candidates at the beginning, midpoint, and final weeks of the clinical experience. The qualitative statements support the statistically significant findings from the self-efficacy surveys.

At the beginning of the co-teaching experience, candidates shared concerns about classroom management. For example, one stated her anxiety about their professional identity and classroom management: *“One of my greatest fears is probably just having control of the classroom and having them take me seriously as a teacher instead of just as a person that’s there.”* Another stated, *“I’m worried about dealing with typical eighth-grade issues, discipline issues, and emotional issues.”* Classroom management is a common concern among teacher candidates<sup>30</sup> and problems coping with students’ misbehavior can substantially affect future teachers’ self-efficacy. The co-teaching experience resulted in a statistically significant increase in the teacher candidates’ self-efficacy regarding classroom management. Comments such as the following shared at the final interview support this

finding: *“Having my co-teacher support and guide my decisions regarding classroom management helped me feel more confident to be firm and in control.”*

Prior to student teaching, the candidates also had concerns about classroom discipline, motivating students, asking the right questions, implementing teaching strategies, and planning for full class periods, such as: *“How am I going to be comfortable with my students?”* and *“I want to make sure I’m asking the right question to cover everything the same way he (the cooperating teacher) would...”* and *“I’m nervous about planning lessons and knowing how to manage the time.”*

Finally, the interviews supported the observed growth in the instructional strategy subdomain, *“I learned much from teaching alongside my mentor teacher. I feel I can plan a lesson and anticipate questions and problems that may arise.”* Additionally, the interviews revealed that candidates’ had greater self-efficacy in promoting student engagement. *“I believe I was able to keep the students engaged on a much more regular basis, especially with the instruction in the classroom, whether it was actual team teaching or one teach, one assist. It kept more students engaged.”* Another stated, *“By having two teachers in the classroom you are able to have better personal relationships with students and be more effective.”* The findings from this study comport with previous research that substantiates the positive correlation between self-efficacy and greater levels of classroom planning and organization that meet the needs of students.<sup>31-33</sup>

### Discussion

The results presented here suggest that co-teaching enhances teacher candidates’ self-efficacy subdomains of instructional strategies, student engagement, and classroom management. The co-teaching experience provided the support and mentorship teacher candidates need to plan lessons and implement them effectively. The candidates earned the respect of their students and created relationships with their students that helped enhance their learning. They also shared leadership responsibilities and classroom management authority in the classroom, and the students viewed candidates as a “classroom teacher.”

As several studies have shown, it is during the clinical experience that teachers’ self-efficacy beliefs are most malleable.<sup>34, 35</sup> As teachers gain experience, their self-efficacy beliefs tend to be more progressively resistant to change.<sup>36, 37</sup> Since teachers’ self-efficacy beliefs can influence the learning environment and ultimately the students’ level of academic performance<sup>21, 23</sup> it is important for teacher candidates to participate in an effective clinical experience. In short, these data support further use and development of a CTCE like Project Excellence. Future research should examine whether the growth in efficacy is similar with a control group, such as a traditional group of student teachers.

### Authors

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