**Title:** Adopting a Co-Teaching Model of Student Teaching to Meet the Needs of

 Diverse Learners

**Abstract**:

Carefully designed student teaching experiences, specifically co-teaching, effectively prepare novice teachers while positively impacting achievement of diverse learners. In this study authors examined results of a pilot study of Co-Teaching to determine the impact of Co-Teaching instruction. Drawing from multiple data sources, researchers explored the following two research questions (1) What is the difference in teaching ability of Co-Teaching versus Non Co-Teaching student teachers? (2) What are the opinions of cooperating teachers and student teachers that participated in the Co-Teaching model for meeting the needs of diverse student populations? Findings indicate that Co-Teaching positively influences student teachers, cooperating teachers, and elementary students. In addition, student teachers felt that they were better able to differentiate instruction than their non Co-Teaching peers.

**Objectives or purposes**

The purpose of this paper presentation is to share research findings of effective teacher preparation through a model of Co-Teaching. Objectives include: (1) meeting the needs of diverse learners in the P-12 classroom (2) allowing cooperating teachers to remain in their classrooms when hosting a student teacher to meet new teacher accountability requirements (3) investigating ways to enhance the relationship between cooperating teacher and student teacher and (4) reducing the number of student teaching placements to allow the process of identifying cooperating teachers to be more selective.

*Why should Co-Teaching be the new model of Student Teaching?*

Co-teaching initially began as a collaborative between general education and special education in response to PL94-142 (IDEA) legislation to support students with disabilities in general education classrooms (Cook & Friend, 1995; Vaughn, Schumm, Arguelle, 1997; Austin, 2001; Boucka, 2007; Hang & Rabren, 2009). Though definitions of co-teaching may differ, most educators agree that co-teaching involves two or more adults collaborating to instruct groups of students (Beninghof, 2011; Adams, Cessna & Friend, 1993). Friend (1995) identified 7 Co-teaching strategies: (1) One Teach, One Observe (2) One Teach, One Assist (3) Station Teaching (4) Parallel Teaching (5) Supplemental Teaching (6) Alternative (Differentiated) Teaching (7) Team Teaching. Many different co-teaching structures exist with variations of these components (Bauwens & Hourcade, 1991; Bauwens & Hourcade, 1997; Bauwens, Hourcade, & Friend, 1989; Cook & Friend, 1995; Friend, 2001; Friend, Reising, & Cook, 1993; Gable, Hendrickson, Evans, Frye, & Bryant, 1993; Reeve & Hallahan, 1994). The most promising aspect of co-teaching is that both teachers plan and deliver lessons together based on student needs (Sileo, 2005).

*How does Co-Teaching impact student teaching and P-12 learning?*

Co-teaching in student teaching provides a comprehensive and rigorous experience for student teachers, allows cooperating teachers the ability to remain actively involved, and enhances the quality of learning for P-12 students. The co- teaching partnership enables cooperating teachers to provide consistent mentoring, giving teacher candidates the time and support necessary to gain skills and confidence required to teach successfully.

Various co-teaching studies in special education indicate differing research results on academic student outcomes. Idol (2006) indicated positive outcomes when studies focused on teacher, administrator, parent, and/or student perceptions of co-teaching, while studies on student outcomes (Mastropieri, Scruggs, Graetz, Norland, Gardizi & McDuffie, 2005) indicate equivocal results.

Cumulative student achievement data gathered from 2003-2007 at St. Cloud State University found statistically significant gains in reading and math proficiency when 35,000 P-12 students were compared in Co-Taught and Not Co-Taught student teaching settings. Co-teaching strategies applied to student teaching have been used successfully at all grade levels and in every content area, from pre-school to senior high, teacher candidates and their cooperating teachers have effectively incorporated co-teaching into the classroom (Bacharach, Heck, Dahlberg, 2008).

**Perspective(s) or theoretical framework**

Once a foundational aspect of the development of pre-service teachers, clinical field experiences in American public school classrooms are changing. Historically wide-open, doors are closing as teachers realize how legislated changes in the use of test scores will negatively affect their own performance ratings and pay scales if student gains are not in evidence. A study by the Academy for Co-Teaching and Collaboration at St. Cloud State University showed that students in classrooms in which a pre-service teacher completed his or her student teaching performed more poorly than students in classrooms with only a regular teacher present (Academy for Co-Teaching and Collaboration, 2012). Though these data are plausible when one recognizes that pre-service teachers are still novice teachers and need care and mentorship to grow to their potential, however veteran teachers are unwilling to allow their own evaluations to reflect this phenomenon, particularly when evaluations are tied to job security and pay.

The decreasing willingness of public school partners to take pre-service teachers is of significant concern due to changes in state laws linking teachers to their students’ achievement data. When programs are built around field experiences that occur early and often, partnerships with public school partners are paramount.

Guiding our questions and research is the importance of co-planning and collaboration in learning to teach. Patterned after the social constructivist learning theory of Vygotsky (1978), collaboration is a social process in which teachers construct meaning from discussions among peers. Vygotsky (1962,1978) envisioned the zone of proximal development (ZPD) moving forward social interactions of people working together, most often viewed in development of children, but has been expanded to relationships among adults. A social constructionist view in co-teaching envisions new ways for student teachers and the collaborating teacher, as well as in-service teachers to extend learning through interactions with others.

**Methods, techniques, or modes of inquiry**

Using a mixed methodology approach, researchers incorporated quantitative and qualitative statistical techniques for this empirical work.

*Quantitative*

To answer research question one, researchers conducted analysis of edPTA scores using JMP Pro 10 statistical software to compare elementary candidate’s performance of co-teaching versus non co-teaching students during Spring 2013 academic year. There were 162 elementary education degree completers, 20 co-teaching and 142 non co-teaching candidates. The analysis was conducted using the two independent sample means of the 15 rubrics and analyzed using Wilcoxon/Kruskal-Wallis Tests and the 1-way Chi Square Test.

*Qualitative*

To understand and be able to explain the experience of student teachers and cooperating teachers, researchers focused on the qualitative data to answer research question two, what are the opinions of cooperating teachers and student teachers that participated in the Co-Teaching model? Semi-structured interviews were conducted after the co-teaching experience, which were transcribed and then stored and coded electronically using NVivo. Following initial coding in NVivo, researchers reanalyzed data and then triangulated categories using survey data.

**Data sources, evidence, objects, or materials**

Data sources included edTPA portfolio evaluation scores, semi-structured interviews, and self-assessment surveys.

*edTPA Portfolio Evaluation Scores*

Building on California’s long-term performance assessment for student teachers and beginning teachers, the edTPA requires each student teacher to show evidence of planning, teaching, and assessing around a centralized focus in each content area during the student teaching experience. Student teachers complete three tasks: (1) planning a series of lessons, (2) implementing and video recording of the lessons, and (3) assessing the outcomes and planning next steps. For each of the three tasks, student teachers reflect through guided questions in written commentaries. Student artifacts are scored using fifteen rubrics matched to the edPTA tasks. The edTPA is a nationally validated performance assessment specifically crafted for evaluating student teachers (SCALE, 2013).

*Semi-Structured Interview*

The same semi-structured interview protocol was administered to all participants in the study including teacher candidates, cooperating teachers, and university supervisors. The protocol included five open-ended questions, which were administered in focus groups by type of participant. The questions sought to understand positive and negative aspects of their experience with co-teaching.

There were 29 total participants who participated in the semi-structured interviews. The participants included 14 cooperating teachers, nine teacher candidates, and six university supervisors.

*Self-Assessment Survey*

The Co-Teaching Self-Assessment is a survey instrument designed by the researchers for use in this study to determine teacher candidates’ perceptions of their student teaching experience. The measure includes 17 Likert-style items on a 9-point scale from 1 (Disagree) to 9 (Agree) that queries candidates about their perceptions of various aspects of their student teaching experience. There are eight additional items on the same scale that were posed only to the student teachers who participated in co-teaching.

Additionally, all teacher candidates were asked to respond to the following open-ended question: *Do you feel the student internship path (co-teaching or not) you traveled was best for you? Why or why not?* It is noted that at the university in the study, the student teaching experience is termed as the “student internship” and is referred to as such in the survey.

**Results and/or substantiated conclusions**

Findings from analysis of edTPA student teacher scores are trending positive for Co-Teaching. Student teachers that co-taught attained higher mean scores on 11 of the 15 edTPA rubrics than non-co-teaching student teachers. Co-teaching student teachers performed significantly higher in “subject-specific pedagogy” and “using assessment to inform instruction” than non-Co-teaching student teachers.

Table 1

*Comparison Analysis of Elementary Interns edTPA Rubric Scores: Co-Teaching vs. Non Co-Teaching*

 Non Co-Teaching Co-Teaching

Rubric N Mean SD N Mean SD p-value

Rubric 9 142 3.50 0.889 20 3.95 0.510 .0485\*

*Subject-Specific Pedagogy*

Rubric 15 142 3.10 0.968 20 3.65 0.671 .0283\*

*Using Assessment to Inform Instruction*

*Notes.* SD=standard deviation, Wilcoxon Test p-value of 95%CD; \*=statistically significant

 Findings from the qualitative case study design suggest that student teachers and cooperating teachers who participated in the co-teaching model develop stronger relationships with their co-teachers, greater impact on students, efficacy in their readiness to teach, and gains in collaborative skills. Data also indicate that student teachers in the Co-Teaching treatment group felt better able to differentiate than their non Co-Teaching peers. Cooperating teachers noted that having extra teachers in the classroom minimized behavioral issues by keeping students on task, lowered the student-teacher ratio, and cut out wait time.

**Scientific or scholarly significance of the study or work**

Current Co-teaching research is being used to support engaging, collaborative partnerships between the university and local public schools. Clinically-based teacher education programs are using data analysis of the Co-teaching experiences to guide decision making for reforming student teaching and initiating successful and effective practice. In addition, Co-teaching has tremendous potential for raising student achievement, especially for diverse learners. Implications of this pilot Co-Teaching research study indicate positive trending results of the Co-Teaching innovation specifically in regard to collaboration, planning, and efficacy of student teachers’ effectiveness in diverse classrooms.

 As a result of this work it is hypothesized that student teachers will gain increased ability to positively impact student achievement for diverse learners. The Co-Teaching model can serve as an exemplar for field experiences that benefit student teachers as well as P-12 students and cooperating teachers. In addition, there are practical and process implications such as alleviating the challenges of finding quality placements; increasing the amount of planning, teaching, and assessing time for student teachers; and easing cooperating teachers’ concerns about turning over their classrooms to novices when their evaluations depend on their students’ achievement.

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