Changing the Face of Student Teaching Through Coteaching

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ABSTRACT: In this article, we challenge the status quo of current student-teaching practice, which has remained relatively unchanged for close to 100 years. This 4-year study identifies the differences between a coteaching and a non-coteaching model of student teaching. Quantitative and qualitative results clearly demonstrate the positive impact of coteaching on learners. This emerging practice of coteaching in student teaching holds great promise in transforming the world of teacher preparation.

In the world of teacher preparation, student teaching has long been the culmination of a teacher candidate's journey to becoming a licensed classroom teacher. Student teaching is a widely accepted component of teacher preparation programs, with all states requiring prospective teachers to have some clinical experience in the classroom. Whereas the length and expectations of student-teaching experiences vary widely across teacher preparation programs, the traditional model of student teaching has not changed significantly since the 1920s (Guyton & McIntyre, 1990). The student-teaching experience is the most prevalent way in which colleges and universities link the theory of educational preparation with the reality of daily classroom practice. Wentz (2001) stated that the basic purpose of any student-teaching program is to provide a situation in which student teachers learn and practice various techniques of teaching while working with real students under the direction of a certified teacher in a public school. Field experience directors across the country are experiencing increasing difficulty in securing high-quality student-teaching placements, with cooperating teachers wary of exiting the classroom, especially during the term in which state-mandated No Child Left Behind tests are given (Ellis & Bogle, 2008).

Historically, teacher candidates spent their initial weeks as silent observers, gradually assuming the role of teaching, leading up to full responsibility for the classroom. Teacher candidates were left alone or, at a minimum, unassisted in a classroom as they assumed this full responsibility. Given the increasing diversity of today's schools and the prevalence of teacher accountability issues, this model of learning to teach in isolation should no longer be an unquestioned practice.

A current challenge in teacher education is that few data exist connecting success in a student-teaching experience with student learning outcomes. Cochran-Smith and Zeichner (2005), in leading the American Educational Research Association panel on the study of teacher education, maintained

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that more data are needed on the impact of student teaching on P–12 learners. This article examines the impact of a coteaching model of student teaching on the math and reading achievement of K–6 learners. It also shares the perceptions of these learners about their experience in a cotaught classroom.

Background

St. Cloud State University enrolls 18,000 students and is the largest preparer of teachers in the state of Minnesota, graduating more than 400 prospective teachers a year. For the past 4 years, the university has been piloting a coteaching model of student teaching through a Teacher Quality Enhancement Partnership grant from the U.S. Department of Education.

The coteaching model of student teaching developed and studied at St. Cloud State University is grounded in the theory and research of many educators. As early as 1973, Miller and Trump defined coteaching "as an arrangement in which two or more teachers . . . plan, instruct, and evaluate in one or more subject areas" (p. 354). Cook and Friend (1995) asserted that coteaching is "two or more professionals delivering substantive instruction to a diverse or blended group of students in a single physical space" (p. 14). Taking it further, other writers have concurred that coteaching is two or more individuals working together "for the outcome of achieving what none could have done alone" (Wenzlaff et al., 2002, p. 14).

Although coteaching has been frequently employed in the special education domain, its use during student teaching is a practice in its infancy. Coteaching was originally proposed as an administrative arrangement facilitating the full inclusion of special education students into general education classrooms (Cook & Friend, 1995). Coteaching has frequently been applied, with mixed results, combining the efforts of special and general educators (Bauwens & Hourcade, 1995; Platt, Walker-Knight, Lee, & Hewitt, 2001; Vaughn, Schumm, & Arguelles, 1997). The use of coteaching among university faculty members has been documented and discussed (Bacharach, Heck, & Dahlberg, 2007; York-Barr, Bacharach, Salk, Frank, & Beniek, 2004). In addition, coteaching has been studied by Roth and Tobin (2004), who suggested that coteaching, or teaching at another teacher's elbow, assists in the development of becoming a better teacher. A plethora of research describes what coteaching is and how it has been utilized in P–12 classrooms and institutions of higher education. However, Zigmond and Magiera (2001) noted, "The research base on the effectiveness of co-teaching is woefully inadequate. While there are many resources available to tell practitioners how to do it, there are virtually no convincing data that tell the practitioner that it is worth doing" (p. 4). Murawski and Swanson (2001), in completing a meta-analysis of the literature on coteaching, concurred that little empirical research is available on the impact of coteaching.

Coteaching in Student Teaching

The student-teaching experience, a mainstay of teacher preparation, does vary significantly across institutions. Historically, student teaching reflected a "sink or swim" approach, wherein a student was placed in a classroom, observed for several days or weeks, and then expected to take over the classroom as the teacher exited or remained largely uninvolved in the instruction. In this scenario, a teacher candidate either survived or failed on his or her own. Research by Darling-Hammond and Bransford (2005) urged teacher education programs to find connections between coursework and fieldwork and to support teacher candidates throughout their student-teaching experience. Although many institutions have moved toward a more supportive student-teaching program, for the purposes of this article, we compare and contrast coteaching to a non-coteaching model.

The St. Cloud Teacher Quality Enhancement initiative has taken literature-based definitions of coteaching and modified them to fit the student-teaching arena, defining coteaching in student teaching as "two teachers (a cooperating teacher and a teacher candidate)

working together with groups of students; sharing the planning, organization, delivery and assessment of instruction, as well as the physical space" (Heck, Bacharach, Mann, & Ofstedal, 2005, n.p.).

The student-teaching experience is as unique as the institution and individuals involved. To better understand the differences between a cotaught and non-cotaught model of student teaching, we have identified and compared several key components. Within each component there is a wide continuum of practice. The components include the following.

Preparation. In a non-coteaching model of student teaching, there is typically little preparation for the participants. In some cases, student teachers are dropped into a classroom, and cooperating teachers are expected to guide their growth with little support from the university. When coteaching, all members of the triad (cooperating teacher, teacher candidate, and university supervisor) are provided information about the role of each member, expectations for the experience, coteaching and coplanning approaches, and strategies for how to build a strong partnership.

Introduction. A critical element in the success of any student-teaching experience is how the students view the teacher candidate. In coteaching, cooperating teachers are instructed to introduce their candidates as teacher candidates or coteachers rather than as student teachers so that the first word the students hear is *teacher.* Cooperating teachers in cotaught settings are expected to incorporate teacher candidates into the classroom routines and instruction from the very 1st day. In contrast, the non-coteaching model typically has the student teacher observing, with minimal participation in the classroom until later in the experience.

Involvement. One clear difference between a non-cotaught and a cotaught student-teaching experience is the level of involvement of the participants. In a non-cotaught model, one teacher is generally passive while the other leads instruction. In other words, one teacher tends to be "on" while the other is "off." In coteaching, teachers work together to remain actively involved with students and their learning. Coteaching provides opportunities for both teachers to be on, working with students to best meet their needs.

Relationship building. In non-cotaught student-teaching models, the cooperating teacher and teacher candidate typically have little opportunity to build a relationship before beginning their work together. In contrast, coteaching participants are brought together at the beginning of their shared experience to establish a foundation of professional trust and respect, and they are supported as they continue to nurture this relationship throughout the student-teaching experience.

Communication and collaboration. In non-cotaught student teaching, candidates are expected to inherently possess the communication and collaboration skills necessary to succeed in today's complex teaching and learning environment. Participants in coteaching receive guidance on the importance of strong communication and collaboration skills. In addition, they receive instruction and opportunities to purposefully practice effective communication and collaboration strategies with one another.

Planning. In a non-cotaught student-teaching experience, teacher candidates typically plan lessons in isolation, presenting them to their cooperating teacher in advance of delivery. In coteaching, the cooperating teacher and teacher candidate are expected to identify a specific planning time where the focus includes the details of how, when, and which coteaching strategies to use for upcoming lessons. Teacher candidates will spend additional time planning on their own to prepare for their part in each lesson. In the early stages of the experience the cooperating teacher leads the planning. As the experience progresses, the teacher candidate assumes more responsibility, ultimately taking the lead in planning. Pairs of cooperating teachers and teacher candidates are not expected to use coteaching for every lesson but, rather, determine during coplanning time when and which strategies are most useful in assisting student learning.

Solo versus lead. In the non-cotaught model, teacher candidates typically observe for a period of time (often from a stationary position), eventually taking over a variety of tasks or portions of lessons. At some point

the cooperating teacher exits, leaving the teacher candidate fully in charge of the classroom (solo), with the expectation that he or she will meet the needs of all students on his or her own. With coteaching, the cooperating teacher provides the teacher candidate time to develop and practice all aspects of teaching with mentoring and support. Rather than giving away responsibility, the classroom teacher partners with the teacher candidate. As the experience progresses, the pair is expected to collaboratively plan for instruction and evaluation; ultimately, the teacher candidate becomes fully responsible for the entire classroom. During this time, the cooperating teacher remains actively engaged in the classroom, with the teacher candidate leading all aspects of teaching, including directing the activities of the cooperating teacher and other adults in the classroom. In a coteaching experience, the paradigm shifts from the teacher candidate's gaining experience through solo teaching to gaining experience in being the lead teacher. Certainly, all coteaching candidates must have opportunities to solo teach to ensure they have the ability to meet the challenges of tomorrow's classroom.

Modeling and coaching. In non-cotaught student teaching, cooperating teachers often expect teacher candidates to enter the experience skilled in various instructional strategies, lesson planning, and classroom management techniques, possessing the ability to take over all aspects of the teaching day after weeks of observation. When coteaching, the cooperating teacher provides ongoing modeling and coaching, making the invisible visible by explicitly sharing his or her rationale for instructional, curricular, and management decisions. Coteaching allows teacher candidates the time to develop instructional and management strategies with the support of their cooperating teacher, preparing them meet the challenges of the classroom on their own.

Power differential. In any student-teaching model, a power differential between the cooperating teacher and teacher candidate exists. This power differential is rarely addressed in a non-coteaching student-teaching experience. In a coteaching model, cooperating teachers and teacher candidates are taught to address issues of parity and gain experience in how to work as a team. Teacher candidates are provided with strategies to find their voices and contribute to the partnership, whereas cooperating teachers are expected to be open to the ideas and contributions of the candidate.

In our case, with the complexities of moving to a coteaching model of student teaching, additional support was necessary for all participants. A cornerstone of our success in shifting paradigms has been that of providing professional development and ongoing support for cooperating teachers, teacher candidates, and university supervisors. The initial coteaching workshop establishes a fundamental understanding and common language, and it provides the theoretical and historical perspective of coteaching. The coteaching strategies used at St. Cloud State University were developed by Cook and Friend (1995) and have been modified for use in a student-teaching experience (see Table 1).

In addition, the workshop incorporates coplanning strategies, research findings on coteaching, and the roles and expectations of members of the coteaching triad. A second workshop attended by cooperating teacher and teacher candidate provides background in relationship building, communication, and collaboration, and it includes ways to incorporate coteaching and coplanning strategies into the student-teaching experience. Further information on these workshops has been described elsewhere (Bacharach & Heck, 2009; Heck et al., 2007).

Methods

The initial research focused on the difference in math and reading achievement between K–6 students in cotaught and non-cotaught settings. Although those findings were informative, additional research questions emerged in the 2nd year, which led to the current research questions:

> Are there differences in the math and reading achievement of K–6 students

Table 1. Strategies of Coteaching in Student Teaching

Strategy	*Definition*
One teach, one observe	One teacher has primary instructional responsibility while the other gathers specific observational information on students or the (instructing) teacher. The key to this strategy is to focus the observation on specific behaviors. Both the teacher candidate and the cooperating teacher are able to take on either role.
One teach, one assist	One teacher has primary instructional responsibility while the other assists students with their work, monitors behaviors, or corrects assignments, often lending a voice to students or groups who hesitate to participate or add comments.
Station teaching	Station teaching occurs when the coteaching pair divides the instructional content into parts. Each teacher instructs one of the groups. The groups then rotate or spend a designated amount of time at each station. Independent stations are often used along with the teacher-led stations.
Parallel teaching	Parallel teaching occurs when the class is divided, with each teacher instructing half the students. However, both teachers are addressing the same instructional material. Both teachers are using the same instructional strategies and materials. The greatest benefit to this method is the reduction of the student-to-teacher ratio.
Supplemental teaching	Supplemental teaching allows one teacher to work with students at their expected grade level while the other teacher works with those students who need the information or materials extended or remediated.
Alternative (differentiated) teaching	This teaching strategy provides two approaches to teaching the same information. The learning outcome is the same for all students; however, the avenue for getting there is different.
Team teaching	Team teaching incorporates an invisible flow of instruction with no prescribed division of authority. Using a team-teaching strategy, both teachers are actively involved in the lesson. From the students' perspective, there is no clearly defined leader—both teachers share the instruction, are free to interject information, and are available to assist students and answer questions.

in cotaught student-teaching settings as compared to non-cotaught student teaching and classrooms where there is a single licensed teacher?

Are there differences in math and reading achievement of K–6 students eligible for special services (special education, free and reduced-price lunch, and English-language learners) in co-taught student-teaching settings as compared to non-cotaught student teaching and classrooms where there is a single licensed teacher?

Sample

Although coteaching occurred in a number of school districts in central Minnesota, the study of academic impact took place in the St. Cloud Area School District over 4 years (2004–2008). This district has 9,800 students enrolled in 13 buildings. At the outset of the study, the student enrollment in this district included 33% eligible for free or reduced-price lunch; 17%, special education; 8%, English-language learners; and 16%, students of color. The demographics of this district are continuing to change and, in the four years of study, increased to 45% eligible for free/reduced lunch, 19% special education, 12% English-language learners, and 24% students of color.

For the purpose of this study, coteaching pairs were defined as those teacher candidates placed with cooperating teachers in which both members had participated in the two coteaching workshops. This group consisted of 149 pairs in Year 1, 203 pairs in Year 2, 231

pairs in Year 3, and 243 pairs in Year 4, for a total of 826 pairs.

Measures

To thoroughly examine the impact of coteaching on K–6 learner outcomes, two academic measures were employed: the Minnesota Comprehensive Assessment (MCA) and the research edition of the Woodcock–Johnson III (WJIII-RE). The MCA is a standardized test administered every year in the state of Minnesota to measure students' performance toward meeting state standards. The MCA complies with the No Child Left Behind Act of 2001, and it is aligned with what students are expected to know and do in a particular grade. This test is used to determine levels of proficiency and the degree to which the student is on track to pass the required Minnesota Basic Skills Tests in later grades.

For this study, the MCA has three limitations: The reading and math portions are administered only at certain grade levels; it is a group-administered assessment; and it is administered one time every year (rather than as pre- and posttests), which allows comparisons only between cohorts of students.

To compensate for the limitations inherent in the MCA data, the study employed the WJIII-RE psychoeducational battery tests of academic achievement (McGrew & Woodcock, 2001). The WJIII-RE is individually administered, has been normed for all grade levels, and can be used as a pre- and postintervention measure. Pretesting occurred in September, and posttesting occurred in May with the same test. The WJIII-RE included four individually administered subtests: Letter–Word Identification, Passage Comprehension, Calculation, and Applied Problems. The reported median reliability ranged from .86 for the Calculation subtest to .94 for the Letter–Word Identification subtest (McGrew & Woodcock, 2001). Composite scores for Broad Reading and Broad Math were calculated to reflect the clusters provided on the clinical edition. On the WJIII-RE, raw scores were converted to W scores, which are a special transformation of the Rasch Ability Scale. Because tests on the WJIII-RE tap such a range of ability in each competence area, scores vary greatly, and the Rasch scale allows researchers to record changes in actual ability within or across years. A pre- and posttest design was employed for this study, with participants serving as their own control.

The WJIII-RE testing was done with a stratified random sample, as selected with a random-numbers table, to determine the classrooms in which testing would occur. Classrooms were identified by primary and intermediate elementary level, as well as by whether they were in a "high-need" building (based on proportion of student population eligible for free or reduced-price lunch). Need and grade level served as strata for the sampling. District substitute teachers were trained to administer the WJIII-RE.

K–6 students in the cotaught group received primary instruction from a classroom teacher and a teacher candidate, using coteaching strategies. Classroom teachers individually identified students that received cotaught instruction in either reading or math to account for cross-classroom ability grouping. Building principals selected the comparison classrooms based on similarities in grade level, student demographics, and experience of teachers. The students in the comparison classrooms were exposed to whatever teaching styles and strategies their teacher employed during the school year. No training was provided to teachers in the comparison group.

The following dependent variables were measured: broad reading and math gains, as measured by the WJIII-RE, using composite W scores; reading and math proficiency levels, as measured and defined by the MCA.

Results

WJIII-RE Findings

The initial research questions focused on the difference in academic achievement of K–6 students in cotaught and non-cotaught set-

Table 2. Statistics for Coteaching Interactions: K–6 Reading W scores

Academic Year	*n*	*Pretest M (SD)*	*Posttest M (SD)*	*Gain M (SD)*	*F*
2004–2005					
Coteaching	223	466.42 (43.25)	482.39 (33.41)	15.74 (15.47)	10.16**
Non-coteaching	99	483.87 (23.28)	493.76 (19.61)	9.89 (12.11)	
2005–2006					
Coteaching	228	457.34 (46.11)	480.78 (32.49)	23.44 (20.13)	5.16*
Non-coteaching	125	472.99 (33.78)	491.65 (23.94)	18.67 (15.28)	
2006–2007					
Coteaching	322	476.46 (29.16)	491.28 (22.37)	14.83 (13.11)	6.76*
Non-coteaching	172	481.44 (28.05)	493.22 (24.59)	11.79 (10.91)	
2007–2008					
Coteaching	245	466.14 (37.52)	485.77 (27.46)	19.64 (15.41)	12.24**
Non-coteaching	182	479.27 (27.72)	494.06 (22.86)	14.79 (12.26)	

*$p < .05$. **$p < .01$.

tings. In keeping with that research question, a dichotomous variable was established that reflected whether a student was cotaught or not cotaught. The analysis of variance of the reading gains based on the composite W scores proved to be statistically significant in each of the 4 years (see Table 2).

Consistent with the reading analyses, the math scores were converted to W scores. Again, a dichotomous variable was established that reflected whether a student was cotaught or not. The analysis of variance of the math gains based on the composite W scores proved to be statistically significant in 2 of the 4 years (see Table 3).

MCA Findings

Because all students in predetermined grades take the MCA, data were available on all elementary students who were tested. Again, the initial research question focused on differences between coteaching and any other classroom configuration, resulting in the same dichotomous variable: cotaught versus non-cotaught. The State of Minnesota reports No Child Left Behind data in terms of the percentage of students reaching proficiency in each subject area. A chi-square analysis was undertaken (cotaught or not cotaught versus proficient or not proficient), which is presented in Table 4.

Table 3. Statistics for Coteaching Interactions: K–6 Math W scores

Academic Year	*n*	*Pretest M (SD)*	*Posttest M (SD)*	*Gain M (SD)*	*F*
2004–2005					
Coteaching	221	477.78 (34.90)	494.98 (29.11)	17.20 (13.28)	4.30*
Non-coteaching	99	490.37 (21.25)	504.28 (20.59)	13.90 (12.76)	
2005–2006					
Coteaching	229	474.85 (35.28)	495.42 (28.84)	20.57 (14.61)	3.41
Non-coteaching	166	483.45 (28.86)	501.36 (27.93)	17.91 (13.35)	
2006–2007					
Coteaching	313	484.57 (23.71)	498.85 (22.80)	14.30 (11.53)	4.02*
Non-coteaching	182	491.49 (23.65)	503.59 (23.88)	12.10 (11.94)	
2007–2008					
Coteaching	250	476.15 (26.36)	493.93 (23.30)	17.78 (11.34)	2.27
Non-coteaching	177	486.89 (25.42)	502.99 (24.03)	16.10 (11.43)	

*$p < .05$.

Table 4. Descriptive Statistics for Minnesota Comprehensive Assessment: K–6 Reading Proficiency

	Cotaught		*Not Cotaught*		
Academic Year	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	χ^2
2004–2005	318	82.1	1,035	74.7	7.37**
2005–2006	484	78.7	1,757	72.7	7.06**
2006–2007	398	74.9	1,937	64.1	17.16**
2007–2008	261	80.8	2,246	61.4	37.95**

**$p < .01$.

A dichotomous variable was established for proficiency because the cut scores defining proficiency vary by grade. Chi-square analyses revealed a statistically significant positive effect for coteaching on reading proficiency each year.

Consistent with the analyses of the MCA reading data, a chi-square analysis was undertaken on math results, as presented in Table 5, which found a statistically significant positive effect for coteaching on math proficiency in each of the 4 years.

To further study the differences between coteaching and non-coteaching in student teaching, researchers returned to the original data set to gain an understanding of the variance associated with these groups. The MCA data, which included all children tested, were further disaggregated to create a three-level variable for type of classroom (cotaught student teaching, non-cotaught student teaching, and a traditional classroom with one experienced teacher), which enabled researchers to examine the effect of student teaching on reading and math proficiency. Students in cotaught student-teaching settings attained higher mean proficiency levels than did either of the other groups. A chi-square was performed, the results of which are described in Tables 6 and 7. There were only two class-

Table 5. Descriptive Statistics for Minnesota Comprehensive Assessment: K–6 Math Proficiency

	Cotaught		*Not Cotaught*		
Academic Year	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	χ^2
2004–2005	317	82.3	1,032	75.3	6.78**
2005–2006	524	68.9	1,831	64.1	4.19*
2006–2007	364	69.0	1,984	61.5	7.32**
2007–2008	314	75.4	2,217	60.1	23.04**

*$p < .05$. **$p < .01$.

Table 6. Descriptive Statistics per Type of Classroom on Minnesota Comprehensive Assessment: K–6 Reading Proficiency

	Cotaught Student Teaching		*Not Cotaught Student Teaching*		*Classroom With One Experienced Teacher*		
Academic Year	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	χ^2
2004–2005	318	82.1	101	65.3	934	75.7	12.79**
2005–2006	462	78.8	140	62.9	1,419	73.0	14.98**
2006–2007	398	74.9	42	N/A	1,895	64.0	17.63**
2007–2008	347	71.8	297	64.0	1,863	61.8	12.46**

**$p < .01$.

Table 7. Descriptive Statistics per Type of Classroom on Minnesota Comprehensive Assessment: K–6 Math Proficiency

	Cotaught Student Teaching		*Not Cotaught Student Teaching*		*Classroom With One Experienced Teacher*		
Academic Year	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	χ^2
2004–2005	317	82.3	105	70.5	927	75.8	8.31*
2005–2006	524	68.9	171	57.9	1,660	64.7	7.35*
2006–2007	364	69.0	43	N/A	1,941	61.4	7.98*
2007–2008	314	74.5	278	62.6	1,939	59.5	26.04**

*$p < .05$. **$p < .01$.

rooms in the test district during 2006–2007 that utilized a non-cotaught model of student teaching, thereby providing insufficient data to analyze. In the remaining 3 years, the type of classroom had a statistically significant effect on reading and math proficiency.

The third research question—pertaining to the academic achievement of students receiving services for special education, English-language learners, and those eligible for free or reduced-price lunches—was analyzed by aggregating the data from 4 years. Again, chi-square analyses were conducted to evaluate the effect of coteaching in student teaching. Tables 8 and 9 outline the findings, which were statistically significant in reading and math for special education students and those eligible for free or reduced-price lunch.

Table 8. Cumulative Findings per Type of Classroom on Minnesota Comprehensive Assessment: K–6 Reading Proficiency

	Cotaught Student Teaching		*Not Cotaught Student Teaching*		*Classroom With One Experienced Teacher*		
Four-Year Cumulative	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	χ^2
Overall	1,461	78.8	572	64.0	6,403	67.2	81.3**
Free/reduced-price lunch	477	65.0	222	49.5	2,684	53.1	25.6**
Special education	433	74.4	179	46.4	1,945	52.9	73.8**
English-language learners	76	44.7	31	25.8	515	30.7	6.6*

*$p < .05$. **$p < .01$.

Table 9. Cumulative Findings per Type of Classroom on Minnesota Comprehensive Assessment: K–6 Math Proficiency

	Cotaught Student Teaching		*Not Cotaught Student Teaching*		*Classroom With One Experienced Teacher*		
Four-Year Cumulative	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	*n*	*Percentage Proficient*	χ^2
Overall	1,519	72.9	597	63.0	6,467	63.7	46.90**
Free/reduced-price lunch	513	54.2	232	45.7	2,778	47.3	8.86*
Special education	472	72.0	180	48.9	1,906	54.7	52.30**
English-language learners	118	30.5	41	26.8	671	28.8	0.20

*$p < .05$. **$p < .01$.

There was a strong positive trend for English-language learners in reading, where the findings approached statistical significance; in math, however, there was not a difference between coteaching and other classrooms.

Focus Group Findings

As another source of data, more than 400 students in Grades K–6 were interviewed in focus groups over the course of the 4-year project. Students overwhelmingly identified the number one benefit of coteaching—namely, getting help when they needed it. Students noted that they spent less time waiting and that coteachers covered more materials.

Students in all focus groups identified other benefits to being in a cotaught classroom, including exposure to two styles of teaching, fewer classroom disruptions (for passing out papers and other routine classroom tasks), and improved student behavior. Additionally, students pointed out that they got their assignments and grades returned more quickly, felt more connected to school, and were able to do a variety of activities that were not possible with just one teacher.

Discussion

Although coteaching is not a new phenomenon, its application in the student-teaching experience is a new area of study. Compared to the non-cotaught student-teaching experience, coteaching in student teaching provides two professionally prepared adults in the classroom who are actively engaged with students for greater periods of time. The coteaching model of student teaching allows children increased opportunities to get help when and how they need it. It affords teachers an opportunity to incorporate coteaching strategies, grouping, and teaching students in ways that are not possible with just one teacher. The coteaching model has been used at all grade and content levels, and it works with any curriculum.

Although the data on coteaching in student teaching are promising, two limitations to the current study must be addressed. First, although spanning four academic years, the study occurred in only one school district in the Midwest, limiting the ability to generalize to other locales. The second limitation lies in the voluntary nature of the coteaching program. Although using volunteers could be viewed as a threat to external validity, cooperating teachers volunteering to host a teacher candidate is the norm for most student-teaching programs.

A strength of this study is that two independent measures of student academic performance were used over a 4-year period. Results from the MCA and the WJIII-RE were analyzed separately, and they yielded similar results regarding the effect of coteaching on achievement. In each of the 4 years, the MCA indicated a statistically significant increase in academic performance in reading and math proficiency for students in a cotaught classroom as compared to students in a non-cotaught classroom. The WJIII-RE showed a statistically significant gain in all 4 years in reading and in 2 of the 4 years in math.

Although the results comparing the achievement of students in cotaught classrooms to the achievement of students in non-cotaught classrooms are convincing, the most compelling data possibly lie in the comparison between the academic achievement of students in three types of classrooms. According to the MCA data, students in a classroom that utilized the coteaching model of student teaching statistically outperformed their peers who were in classrooms taught by either a single teacher or a cooperating teacher and a teacher candidate using a non-coteaching model of student teaching.

Qualitative research supports the use of coteaching. Feedback received from students in focus groups indicated that coteaching is a positive experience. They reported that coteaching provides increased opportunities for engagement and additional and timely support in meeting their individual learning needs.

The achievement gap attributed to socioeconomic and special education status has been well documented (Conger, Conger, & Elder, 1997; Eamon, 2002; McLoyd, 1998).

Findings from this study highlight the benefits of coteaching in student teaching for these special populations. This is a promising practice in raising academic outcomes for at-risk students and so warrants further research.

This study clearly establishes the positive impact of the coteaching model of student teaching. Teacher candidates, when paired with cooperating teachers and trained in coteaching, increase the academic achievement of students in the classroom. Since adopting the coteaching model, St. Cloud State University now has more cooperating teachers willing to host candidates than available candidates in most licensure areas. Cooperating teachers recognize the value added by hosting a teacher candidate using the coteaching model.

Teacher preparation institutions should be challenged to rethink the student-teaching portion of their programs to better prepare teachers to meet the needs of the learners they will serve. Likewise, partner schools that work with teacher preparation institutions are urged to consider the use of coteaching during the student-teaching experience as an academic benefit for students. Implemented at other sites, coteaching will have a tremendous impact on the academic achievement of learners throughout the United States, and it has the potential to unequivocally change the face of teacher preparation and student teaching as we know it today. ATE

References

Bacharach, N., & Heck, T. (2009, February). *Best practice in student teaching*. Paper presented at the annual meeting of the American Association of Colleges for Teacher Education, Chicago.

Bacharach, N., Heck, T., & Dahlberg, K. (2007). Co-teaching in higher education. *Journal of College Teaching and Learning, 4*, 19–26.

Bawens, J., & Hourcade, J. (1995). *Cooperative teaching: Rebuilding the schoolhouse for all students*. Austin, TX: PrEdo.

Cochran-Smith, M., & Zeichner, K. (2005). *Studying teacher education*. Mahwah, NJ: Erlbaum.

Conger, R. D., Conger, K. J., & Elder, G. (1997). Family economic hardship and adolescent academic performance: Mediating and moderating processes. In G. Dincan & J. Brookes-Gunn (Eds.), *Consequences of growing up poor* (pp. 288–310). New York: Russell Sage Foundation.

Cook, L., & Friend, M. (1995). Co-teaching: Guidelines for creating effective practices. *Focus on Exceptional Children, 28*(3), 1–17.

Darling-Hammond, L., & Bransford, J. (Eds.). (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: Jossey-Bass.

Eamon, M. K. (2002). Effects of poverty on mathematics and reading achievement of young adolescents. *Journal of Early Adolescence, 22*(1), 49–74.

Ellis, J., & Bogle, D. (2008, November). *Placement: An unforeseen causality of No Child Left Behind*. Paper presented at the annual meeting of the Southeastern Regional Association of Teacher Educators, Myrtle Beach, SC.

Guyton, E., & McIntyre, D. (1990). Student teaching and school experiences. In W. Houston (Ed.), *Handbook of research on teacher education* (pp. 514–534). New York: Macmillan.

Heck, T., Bacharach, N., Dahlberg, K., Wellik, J., Ofstedal, K., Mann, B., et al. (2007, February). *Extreme makeover: Student teaching edition*. Paper presented at the annual meeting of the Association of Teacher Educators, San Diego, CA.

Heck, T., Bacharach, N., Mann, B., & Ofstedal, K. (2005, February). *Co-teaching workshops: A platform for enhancing collaboration in student teaching*. Paper presented at the annual meeting of the Association of Teacher Educators, Chicago.

McGrew, K. S., & Woodcock, R. W. (2001). *Technical manual: Woodcock–Johnson III*. Itasca, IL: Riverside.

McLoyd, V. C. (1998). Economic disadvantage and child development. *American Psychologist, 53*(2), 185–204.

Miller, D., & Trump, J. (1973). *Secondary school curriculum improvement: Challenges, humanism, accountability*. Boston: Allyn & Bacon.

Murawski, W., & Swanson, H. (2001). A meta-analysis of co-teaching research: Where is the data? *Remedial and Special Education, 22*, 258–267.

Platt, J., Walker-Knight, D., Lee, T., & Hewitt, R. (2001, February). *Shaping future teacher education practices through collaboration and co-teaching*. Paper presented at the annual meeting of the American Association of Colleges for Teacher Education, New Orleans, LA.

Roth, W., & Tobin, K. (2004). Coteaching: From praxis to theory. *Teachers & Teaching, 10*(2), 161–180.

Vaughn, S., Schumm, J., & Arguelles, M. (1997). The ABCDEs of co-teaching. *Teaching Exceptional Children, 30*(2), 4–10.

Wentz, P. (2001). *The student teaching experience: Cases from the classroom.* Upper Saddle River, NJ: Prentice Hall.

Wenzlaff, T., Berak, L., Wieseman, K., Monroe-Baillargeon, A., Bacharach, N., & Bradfield-Kreider, P. (2002). Walking our talk as educators: Teaming as a best practice. In E. Guyton & J. Ranier (Eds.), *Research on meeting and using standards in the preparation of teachers* (pp. 11–24). Dubuque, IA: Kendall-Hunt.

York-Barr, J., Bacharach, N., Salk, J., Frank, J., & Beniek, B. (2004). Team teaching in teacher education: General and special education faculty experiences and perspectives. *Issues in Teacher Education, 13*(1), 73–94.

Zigmond, A., & Magiera, K. (2001). A focus on co-teaching: Use caution. *Current Practice Alerts*, 6. Retrieved February 1, 2010, from http://www.teachingld.org/pdf/Alert6.pdf

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