Utilizing Co-Teaching during the Student Teaching Experience

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Describe your program: mission, goals, structure, etc. Include discussion of how this is a cooperative effort among education, arts and sciences and P-12 schools.

The St. Cloud Teacher Quality Enhancement Partnership was collaboratively developed by the Colleges of Education, Fine Arts & Humanities and Science & Engineering at St. Cloud State University (SCSU), in partnership with the St. Cloud Area school district. SCSU and the St. Cloud school district have a long history of working together to improve teacher education in Central Minnesota. St. Cloud State University was founded in 1869 as a teacher college, and continues to be the top producer of teachers in the state of Minnesota and 12th in the nation. SCSU enrolls 16,000 students and graduates over 500 teachers a year. High quality teacher preparation has been central to the vision and mission of SCSU throughout its 138 year history. The College of Education’s licensure programs are all approved by the Minnesota Board of Teaching and the National Council for Accreditation of Teacher Education (NCATE).

Today, the partnership has grown to include 17 school districts throughout Central Minnesota. The largest of the partner districts is St. Cloud Area Schools. This medium-sized district enrolls 9,600 students in 13 buildings. Of the students enrolled in the district, 38% are eligible for free-reduced lunch, 19% receive special education services, 21% are students of color, and 10% are English Language Learners. The combined student enrollment of all partner districts is now over 50,000. Over 700 public school teachers have attended co-teaching workshops, and to date, 583 pairs have co-taught in pre-school, elementary and secondary settings, impacting over 20,000 individual students.

St. Cloud State University faced the same challenges as many institutions across the country in finding high quality student teaching placements. Perl and Maugham (1999) identified barriers to placements including teacher and parental resistance to having a novice in charge of the classroom. As a result of these concerns, SCSU has transformed the student teaching experience through a U.S. Department of Education Teacher Quality Enhancement partnership grant. The focus of these changes is on enhancing the preparation of teachers by re-examining the student teaching experience through co-teaching. This co-teaching model of student teaching developed and studied at SCSU is grounded in the theory and research of many educators. While many aspects of the art of teaching have been studied over the years and have been redefined by best practice, student teaching itself has gone virtually unchanged since the 1920’s (Guyton & McIntyre, 1990). The goal of the partnership is to demonstrate the effectiveness of co-teaching in student teaching and ultimately to increase the academic achievement and learning environment for all students.

As the move toward increased educational accountability gains momentum (Cochran-Smith, 2005), it is critical that teacher preparation professionals continue to explore new ways to better prepare tomorrow’s teachers to meet the increasingly diverse and challenging needs of P-12 learners. Highly effective teachers find it advantageous to collaborate with other classroom teachers, paraprofessionals, parent volunteers, community experts and special educators to meet the academic needs of their students. Marilyn Friend, an expert in collaboration, maintained that, “Classroom teachers and other educators are working with increasingly diverse students; all school personnel are under tremendous pressure to ensure that all students achieve higher academic standards. In this context, collaboration is not a luxury; it is a necessity” (Brownell & Walther-Thomas, 2002, p. 4). Building on this body of knowledge, it is our assertion that teacher
preparation programs must provide classroom-based opportunities for teacher candidates to develop these vital collaboration skills.

St. Cloud State University has taken literature based definitions of co-teaching and modified them to define co-teaching in student teaching as: two teachers (a cooperating teacher and a teacher candidate) working together in a classroom with groups of students; sharing the planning, organization, delivery and assessment of instruction, as well as the physical space.

In most traditional student teaching models, the cooperating teacher and teacher candidate have little opportunity to build a relationship before beginning their work together. Teacher candidates typically observe (often from a stationary position) for a period of time, eventually taking over a variety of tasks or portions of lessons. They frequently create lessons in isolation and are expected to present them for feedback from the cooperating teacher before the lesson is taught. At some point the cooperating teacher exits, leaving the teacher candidate fully in charge.

In contrast to the traditional student teaching model used at SCSU, cooperating teachers and teacher candidates who will be co-teaching are brought together to get to know each other and begin to establish a professional relationship early in the student teaching experience. In addition, they receive instruction in co-teaching strategies, collaboration, and communication. This is supported by Friend who asserted that “Expecting preservice teachers to learn about collaboration simply by being together in schools is not enough; proximity is a necessary but insufficient condition for collaboration” (Brownell and Walther-Thomas, 2002, p.4).

In co-taught classrooms the cooperating teacher and teacher candidate collaboratively plan and deliver instruction from the very beginning of the experience resulting in the teacher candidate being seen by students as a “real teacher”. Cooperating teachers are taught to make their instructional decisions more explicit in order to make the invisible workings of the classroom visible to the teacher candidate. As the experience continues, the pair seamlessly alternate between assisting and/or leading the planning, teaching, and evaluation. As this occurs, the classroom teacher partners with the teacher candidate rather than “giving up” the responsibility (a reality of traditional student teaching that makes some classroom teachers hesitate to take on a teacher candidate). This approach combines the knowledge and strengths of both teachers, enhances the learning opportunities for students, and models a positive adult working relationship. As the term progresses, the teacher candidate assumes more responsibility and is still given time to be “fully in charge” of the classroom, including directing the cooperating teacher in how they will assist in the delivery of portions of the lessons.

Pairs of cooperating teachers and teacher candidates are not expected to use co-teaching for every lesson but determine when and which strategies would be most useful in assisting student learning. Of course, there are times when the cooperating teacher will leave the classroom allowing the teacher candidate to fly alone. All teachers candidates need time to develop their own teaching and management skills assuring they have the ability to meet the challenges of tomorrow’s classroom.

Wald and Boehm (2002) noted that teachers must share ownership for the success of all the students in a co-teaching setting. In order to achieve this shared ownership, co-teaching partners must share decision making, resources, responsibility, and accountability. There must also be respect and trust for a co-teaching partnership to work. There will always be a power differential in the student teaching experience as a result of the evaluative role of the cooperating teacher.
This power differential can create an impediment to successful co-teaching if it is not overtly addressed.

To that end, SCSU has developed a successful model of co-teaching in student teaching by providing workshops for cooperating teachers and teacher candidates. Initial workshops provide a fundamental understanding of co-teaching methods and strategies. As our work progressed, it became apparent that the collaboration and communication skills necessary to successfully co-teach were not inherent to our teacher preparation programs. Therefore, cooperating teachers and teacher candidates are provided a second workshop, in the first week of their shared experience that focuses on communication, planning, and implementation of the co-teaching model. These shared learning experiences are the heart of the program’s success.

In addition to the workshops outlined above, co-teaching pairs are encouraged to spend one additional hour per week co-planning. This time is specifically utilized to plan co-taught instruction. Pairs are also asked to use a portion of each planning session to address communication issues and/or broader collaboration issues. Pairs are given planning sheets to aid them in planning co-taught instruction, including questions they may use to prompt broader discussions or reflections.

In order to enhance preservice teachers’ knowledge and understanding of co-teaching strategies, SCSU has also integrated co-teaching into select teacher preparation courses. Since the 2003-2004 academic year the TQE initiative has provided funding for up to three co-taught teacher education courses each semester. At SCSU, all secondary education students have their major housed in their content area. The teacher preparation program is a combination of various required content courses taken in conjunction with teaching theory and pedagogy, culminating in the student teaching experience. As such, co-teaching in these secondary methods courses involves faculty from four different colleges: Education, Fine Arts & Humanities, Science & Engineering and Social Sciences. A co-teaching application and rubric for scoring are made available to faculty interested in applying. Applicants are rated on their rationale for wanting to co-teach, their plan for building the co-teaching relationship, the expected number of students enrolled and the professionalism of the application.

To date, nineteen university courses have been co-taught. Seven of these courses involved collaboration between a university faculty member and a public school teacher. The remaining twelve courses had two university faculty members co-teaching. Twelve of these co-taught methods courses were in the College of Education, three were in Fine Arts & Humanities, three were in Science & Engineering and one was in Social Sciences.

Like public school teachers, co-teaching faculty are required to attend a four-hour workshop on co-teaching strategies. After each strategy is described, examples for using the approach are presented and participants discuss how they might apply the strategy in their co-taught course. The second phase of the workshop focuses on skills that are essential to the success of any co-teaching partnership. Participants take the Gregorc Style Delineator (Gregorc, 2004) to determine their working style. Each person then shares their results with their co-teaching partner and discusses the implications of how they might work together as a team. Specific questions are used to facilitate higher level thinking and discussions about participants’ readiness to share and commit to the co-teaching relationship. These thought-provoking questions lead to rich discussion about how to work productively as a team. Participants discuss
how to share instructional time and space. They establish a relationship that allows and encourages them to engage in constructive problem solving. Each co-teaching pair also takes time to review their course syllabus to specifically identify how co-teaching will be utilized throughout the semester.

In addition to preparing and supervising teacher candidates to implement co-teaching strategies, the Colleges of Education, Fine Arts & Humanities and Science & Engineering are each represented on the Teacher Quality Enhancement steering committee. This committee meets quarterly to review the progress made in each TQE initiative, including co-teaching.

**What evidence do you have of the program's positive impact on its teacher candidates or in-service teachers?**

Teacher candidates at SCSU are observed by their university supervisors and cooperating teachers during their student teaching experience, which culminates with a summative assessment completed by the supervising faculty member. The summative assessment consists of eleven indicators of teacher preparedness, each of which is scored on a four point Likert scale. The first ten elements are based on the standards set for beginning teachers by the Interstate New Teacher Assessment and Support Consortium (INTASC). Practicing teachers, teacher educators, school leaders, and state agency staff crafted INTASC’s standards, which articulate what all beginning teachers should know and be able to do to teach effectively regardless of the subject matter or grade level being taught. While the instrument used at SCSU has not been validated, the INTASC standards have been accepted by both the Minnesota Board of Teaching, and the National Council for Accreditation of Teacher Education (NCATE) as the professional standards used for program assessment and accreditation. The final element of the teacher candidate summative assessment addresses professional dispositions as outlined by INTASC. Assessing teacher candidate dispositions has recently become a formal process for St. Cloud State University, since licensure standards require schools, colleges, and departments of education to provide assessment data demonstrating that candidates have the knowledge, skills, and professional dispositions to be successful educators.

Beginning in the 2005-2006 academic year it was possible to disaggregate the teacher candidate assessment data by type of student teaching experience. Mean scores on the summative assessment showed that candidates participating in a co-teaching experience during student teaching outperformed their peers who had a traditional student teaching experience in each of the eleven performance indicators. In five of the rated areas, the effect of a co-teaching model of student teaching on teacher candidate performance was statistically significant at the .05 level. Those areas are: Student Learning, Learning Environment, Reflection and Professional Development, Partnerships and Professional Dispositions. Table 2 describes the cumulative findings for the past two academic years.

To further study the impact of participation in the co-teaching model of student teaching on teacher candidate learning, candidates are asked to complete an end of experience survey. To date, surveys have been completed by 201 teacher candidates. According to the survey results, teacher candidates indicate that participation in co-teaching led to:

- Improved classroom management skills (93.5%)
- Increased collaboration skills (92.5%)
- More time involved in instruction (90.8%)
- More exposure to experienced teachers (90.5%)
- A deeper understanding of the curriculum resulting from co-planning (89.1%)
- Added opportunities to ask questions and reflect (88.6%)
- Increased confidence through co-planning (88.6%)

Table 2: Teacher Candidate Summative Assessment Scores from 2005-2007

<table>
<thead>
<tr>
<th></th>
<th>Co-Teaching Student Teaching (N=370)</th>
<th>Traditional Student Teaching (N=447)</th>
<th>t</th>
<th>df</th>
<th>p (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 1: Subject Matter</td>
<td>3.39 .63</td>
<td>3.36 .66</td>
<td>.67</td>
<td>643</td>
<td>.51</td>
</tr>
<tr>
<td>Standard 2: Student Learning</td>
<td>3.40 .63</td>
<td>3.27 .66</td>
<td>2.51</td>
<td>643</td>
<td>.01</td>
</tr>
<tr>
<td>Standard 3: Diverse Learners</td>
<td>3.13 .64</td>
<td>3.05 .64</td>
<td>1.52</td>
<td>643</td>
<td>.13</td>
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<tr>
<td>Standard 4: Instructional Strategies</td>
<td>3.41 .66</td>
<td>3.31 .69</td>
<td>1.84</td>
<td>643</td>
<td>.07</td>
</tr>
<tr>
<td>Standard 5: Learning Environment</td>
<td>3.37 .68</td>
<td>3.25 .69</td>
<td>2.34</td>
<td>643</td>
<td>.02</td>
</tr>
<tr>
<td>Standard 6: Communication</td>
<td>3.35 .63</td>
<td>3.29 .65</td>
<td>1.30</td>
<td>642</td>
<td>.20</td>
</tr>
<tr>
<td>Standard 7: Planning Instruction</td>
<td>3.41 .65</td>
<td>3.35 .67</td>
<td>1.09</td>
<td>643</td>
<td>.27</td>
</tr>
<tr>
<td>Standard 8: Assessment</td>
<td>3.11 .64</td>
<td>3.02 .63</td>
<td>1.77</td>
<td>642</td>
<td>.08</td>
</tr>
<tr>
<td>Standard 9: Reflection and Professional Development</td>
<td>3.50 .68</td>
<td>3.35 .67</td>
<td>2.65</td>
<td>643</td>
<td>.01</td>
</tr>
<tr>
<td>Standard 10: Partnerships</td>
<td>3.45 .67</td>
<td>3.33 .63</td>
<td>2.29</td>
<td>643</td>
<td>.02</td>
</tr>
<tr>
<td>Professional Dispositions</td>
<td>3.61 .64</td>
<td>3.49 .63</td>
<td>2.43</td>
<td>641</td>
<td>.02</td>
</tr>
</tbody>
</table>

Teacher candidates are also invited to participate in focus groups to discuss the pros and cons of the co-teaching model of student teaching. To date, 136 teacher candidates have
participated in focus groups. In addition to the benefits outlined above, teacher candidate focus
groups have consistently identified four major benefits of co-teaching in student teaching:

- **Sharing and managing resources.** Teacher candidates appreciate the wealth of knowledge
  they gain from co-planning with their cooperating teachers, but are particularly vocal
  about how beneficial the sharing of resources is to them as up-and-coming teachers. They
  also recognize the benefit of having the opportunity to direct the contributions of other
  adults in the classroom. One cooperating teacher said, “Watching my teacher candidate
  grow in all aspects of the teaching job was so rewarding. Teaching is no longer a solo job
  so learning how to delegate and use your resources is so essential! The co-teaching
  model gives candidates an opportunity to grow in all aspects of the job.”

- **Being seen as a “real” teacher.** In every focus group, teacher candidates have talked about
  the benefit of being seen as a “real” teacher. This is a concept that is addressed with
  cooperating teachers in the initial workshop and revisited at the second workshop for the
  co-teaching pair. This is seen by teacher candidates as a direct result of their immediate
  involvement in the classroom. One teacher candidate said, “The first day I taught a
  Science lesson. I think it really got the students to think, ‘Oh, he is really a teacher.’ I
  think it benefited me in the eyes of the students.”

- **Mutual support.** Teacher candidates and cooperating teachers both discuss the benefits of
  on-going, mutual support. Because of the teaming required in co-teaching, teacher
  candidates describe developing increased confidence in their teaching ability because of
  the level of mentoring they receive from their cooperating teacher. Cooperating teachers
  also describe the support they receive from the teacher candidates in terms of classroom
  management and new ideas and technologies.

- **Equal partnership.** The development of an equal partnership, which begins in the pairs
  workshop, is a significant benefit to teacher candidates. Again, teacher candidates
  describe increased confidence in working with other professionals in the building and in
  directing the contributions of their cooperating teacher as a result of their equal
  partnership. One teacher candidate said, “It’s an attitude. My teacher and I have been
  equal from the beginning and she has made that so clear to the students.” Another teacher
  candidate said, “My teacher includes me in everything. She always finds a way to
  incorporate my name so the students know it’s both of us.”

Cooperating teachers agree that teacher candidates are benefiting from participation in a co-
teaching model of student teaching. Of the 279 cooperating teachers completing end of
experience surveys, 81.7% indicated that they believed their teacher candidate had a better
experience than they would have had in a traditional model of student teaching. Many of the 92
cooperating teachers interviewed in focus groups also felt that their teacher candidates became
competent more quickly and that they were exposed to a wider variety of teaching strategies as a
result of co-teaching. Cooperating teachers have been so positive about the co-teaching model
that SCSU no longer has difficulty convincing teachers to take on teacher candidates. Quite the
opposite, there are more teachers that have participated in co-teaching workshops than there are
candidates to go around.
Cooperating teachers also benefit from co-teaching with teacher candidates. Specifically, cooperating teachers indicated in their end of experience survey (N=279), that participation in co-teaching led to:

- More help for students with high needs (93.5%)
- Better relationship with their teacher candidate (91.0%)
- Professional growth through co-planning (89.2%)
- Enhanced energy for teaching (87.8%)
- Being able to host a candidate without giving up their classroom (87.1%)

When asked to describe a highlight of the co-teaching experience, one cooperating teacher stated, “I enjoyed watching how my teacher candidate started implementing some of my techniques in her teaching style and then realizing that I was implementing some of her techniques into my strategies, too. We really grew together!” Another cooperating teacher stated, “[Co-teaching] was new to me and caused me to re-think why some things work the way they do and examine if they could go better. It has made me justify my technique and strategy, not just go through the motions.”

What evidence do you have of the program graduates’ positive impact on P-12 pupil learning?

This project examined a variety of ways in which co-teaching impacted P-12 learners including academic performance, attendance, and classroom behavior. Considering that this model of co-teaching was implemented in P-12 classrooms, we were particularly interested in the impact of co-teaching on P-12 learners’ academic performance.

Although co-teaching occurred in nearly all of the seventeen partner school districts in Central Minnesota, the study of academic impact was limited to the largest of the partner districts, St. Cloud Area Schools. This was the “high need district” named in the original federal grant application, and was chosen due to the size and diversity of their student population.

In order to thoroughly examine the impact of co-teaching on P-12 learner outcomes, two academic measures were employed: the Minnesota Comprehensive Assessment (MCA) and the Woodcock Johnson III -Research Edition (WJIII-RE). Each assessment offered a unique view of achievement that together provided the scope of data desired. Both assessments focused on the Reading and Math skills of co-taught students versus non-co-taught students.

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 (NCLB) Act of 2001, and is aligned with what students in Grades 3-8 are expected to know and do at each grade level. Like all NCLB tests, this test is used to determine levels of proficiency as defined by the state. The MCA results included the entire population of co-taught and non-co-taught students who took the state assessment. In Year One, data were available on 1,324 elementary students, and in Year Two, 2,241 elementary students.

The WJIII-RE, on the other hand, is an individually administered assessment that was given at the beginning and end of each academic year to students in grades K-12. This
assessment enabled us to examine individual gains resulting from the intervention. For this part of the data collection, the project utilized a stratified random sample to assure adequate representation of grade level and free and reduced lunch populations. The sample size was 474 students in Year One and 439 students in Year Two.

Woodcock Johnson results were used to analyze academic gains resulting from the co-teaching intervention. In the Woodcock-Johnson analyses, raw score differences (post-test minus pre-test) were employed as dependent variables. MCA data were used to determine the overall proficiency of students in co-taught vs. non-co-taught classrooms, as well as to examine the relationship between proficiency and the model of student teaching used.

The research also included the examination of interaction effects of variables including free/reduced lunch eligibility, special education status, English language ability, age, grade and gender on the treatment group; none of which were found to be significant. Despite the fact that grade level did not interact with the co-teaching treatment, the data presented here represents those elementary students in grades K-6 only because the MCA is K-8 focused and we had no co-teaching pairs in the middle school.

**Reading Gain Scores**

In **Year One** (2004-2005) K-6 students in co-taught classrooms demonstrated a mean gain of 2.14 points (SD=2.17) on the WJIII-RE reading assessments, compared to a mean gain of 1.36 points (SD=1.67) for students in comparison classrooms. This was statistically significant at the .002 level \[ F (1 df, N=323) = 10.05, \ p = .002 \]. In **Year Two** (2005-2006) students in co-taught classrooms demonstrated a mean gain of 3.16 points (SD=2.72) on the WJIII-RE reading assessments, compared to a mean gain of 2.61 points (SD=1.99) for students in comparison classrooms. This was statistically significant at the .04 level \[ F (1 df, N=374) = 4.46, \ p = .035 \].

**Reading Proficiency**

For this analysis, students were categorized as either Proficient or Not Proficient, as determined by the State of Minnesota, based on the results of the MCA. In **Year One** (2004-2005), 82.1% of students in co-taught classrooms scored “proficient” in Reading, compared with 74.1% of students in non-co-taught settings. This was statistically significant at the .002 level \[ \chi^2 (1 df, N=1324) = 8.05, \ p = .002 \].

In looking at the relationships between co-teaching candidates, traditional student teachers and classrooms with one licensed teacher in **Year One** (2004-2005), we continue to find a statistically significant effect of the co-teaching intervention (see Figure 1). Here 82.1% of students in co-taught classrooms score “proficient”, compared to 75.7% of students in classrooms with one teacher, and 65.3% of students in classrooms with a traditional student teacher. Overall, the relationship between the type of instruction and reading proficiency is statistically significant at the .002 level. In further examining the contributions of each of the three variables, it is evident that the effect between co-teaching and traditional student teaching is the strongest, at the .001 level, but that there is a statistically significant effect in all three relationships (Figure 1).

**Figure 1. Reading Proficiency by Type of Classroom**

![Figure 1. Reading Proficiency by Type of Classroom](image)
2004-2005
Co-teaching Candidate & One Teacher: $\chi^2 (1\text{df}, N=1252) = 5.51, p=.019$
Co-teaching Candidate & Traditional Student Teacher: $\chi^2 (1\text{df}, N=419) = 12.52, p=.001$
One Teacher & Traditional Student Teacher: $\chi^2 (1\text{df}, N=1035) = 5.16, p=.023$

2005-2006
Co-teaching Candidate & One Teacher: $\chi^2 (1\text{df}, N=2081) = 5.33, p=.021$
Co-teaching Candidate & Traditional Student Teacher: $\chi^2 (1\text{df}, N=644) = 12.17, p=.001$
One Teacher & Traditional Student Teacher: $\chi^2 (1\text{df}, N=1757) = 5.32, p=.021$

In Year Two (2005-2006), 78.7% of the students in co-taught classrooms scored “proficient” in Reading, compared to 72.7% of students in non-co-taught settings. This was also statistically significant at the .004 level $\chi^2 (1\text{df}, N=2241) = 7.06, p=.004$.

Again, in looking at the relationships between co-teaching candidates, traditional student teachers and classrooms with one licensed teacher in Year Two (2005-2006) the effect between all three groups proves to be statistically significant, with 78.7% of students in co-taught settings scoring “proficient”, compared to 73.5% of students in classrooms with one teacher and 65.0% of students in classrooms with traditional student teachers (see Figure 1).

Math Gain Scores
No significant results accrued for mathematics scores in Year One (2004-2005). The students in the co-taught classrooms demonstrated a mean gain of 2.35 points (SD=1.78) compared to a mean gain of 2.05 points (SD=1.85) for students in the comparison group, $F (1\text{df}, N=323) = 1.88, p = .17$.

In exploring these findings with teachers, particularly at the upper elementary level, it became apparent that the assignment of all students in a particular classroom to the treatment or comparison group was inadequate. It is common for teachers of a particular grade level to group students for Math instruction. Thus, in Year Two, educators utilizing co-teaching were asked (for each participant) whether that individual received mathematics instruction in the co-taught setting. In this manner an independent variable was created that more precisely reflected the intervention’s status. This new variable was employed in all analyses of mathematics achievement in Year Two.

In Year Two (2005-2006), the students in the co-taught group demonstrated a statistically significant mean gain of 2.78 points, (SD=1.95) compared to a mean gain of 2.20 points (SD=1.83) for students in the comparison group $F (1\text{df}, N=430) = 16.83, p = .001$.

Math Proficiency
In **Year One** (2004-2005), 82.3% of students in co-taught classrooms scored “proficient” in Math, compared with 75.0% of students in non-co-taught settings. This was statistically significant at the .004 level \( \chi^2 (1df, N=1332) = 7.09, p=.004 \).

In looking at the relationships between co-teaching candidates, traditional student teachers and classrooms with one licensed teacher in **Year One** (2004-2005), there was a statistically significant effect of the co-teaching intervention (see Figure 2).

**Figure 2. Math Proficiency by Type of Classroom***

<table>
<thead>
<tr>
<th>Year</th>
<th>Condition</th>
<th>( \chi^2 ) (1df, N)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-2005</td>
<td>Co-teaching Candidate &amp; One Teacher</td>
<td>5.72, N=1244</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>Co-teaching Candidate &amp; Traditional Student Teacher</td>
<td>6.78, N=422</td>
<td>.009</td>
</tr>
<tr>
<td></td>
<td>One Teacher &amp; Traditional Student Teacher</td>
<td>1.46, N=1032</td>
<td>.227</td>
</tr>
<tr>
<td>2005-2006</td>
<td>Co-teaching Candidate &amp; One Teacher</td>
<td>3.11, N=2184</td>
<td>.078</td>
</tr>
<tr>
<td></td>
<td>Co-teaching Candidate &amp; Traditional Student Teacher</td>
<td>6.97, N=695</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>One Teacher &amp; Traditional Student Teacher</td>
<td>3.12, N=1831</td>
<td>.077</td>
</tr>
</tbody>
</table>

Here we see that 82.3% of students in co-taught classrooms scored “proficient”, compared to 75.8% of students in classrooms with one teacher, and 70.5% of students in classrooms with a traditional student teacher. The relationship between the type of instruction and reading proficiency is statistically significant at the .016 level. It is evident that the effect between one teacher and a traditional student teacher on Math proficiency is not statistically significant, but the other two are, with the strongest effect being noted between co-teaching candidates and traditional student teachers, (see Figure 2).

In **Year Two** (2005-2006), after significant changes to the state assessment, 68.9% of the students in co-taught classrooms scored “proficient” in Math, compared to 64.1% of students in non-co-taught settings. This was also statistically significant at the .023 level \( \chi^2 (1df, N=2355) = 4.19, p=.023 \). In **Year Two** (2005-2006) the only statistically significant relationship between type of classroom and Math proficiency lies between co-teaching candidates and traditional student teachers. In **Year Two**, 68.9% of students in co-taught settings scored “proficient”,

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compared to 64.7% of students in classrooms with one teacher and 57.9% of students in classrooms with traditional student teachers (see Figure 2).

The academic data collected on the impact of co-teaching focuses on elementary students due to the structure of the MCA. In the higher grade levels, with students receiving instruction from a wide variety of teachers during the course of a day, it is harder to single out any one intervention as having an impact on academic outcomes. As a result, students in grades 7-12 were asked to compare their co-taught experience with previous student teaching experiences. Qualitative data has been collected from 1,391 secondary student surveys. Compared to the traditional model of student teaching, students find that in co-teaching:

- The cooperating teacher and teacher candidate worked more as a team (64.3%)
- The teacher candidate was more involved with the lessons (61.0%)
- The teacher candidate was more ready to teach (58.2%)
- The teacher candidate was more prepared for class (53.2%)
- The teacher candidate brought in more new ideas and methods (52.6%)

In this survey, students are also asked to identify the benefits of co-teaching. The findings indicate that secondary students perceive the following benefits to co-taught instruction:

- More help when you have a question (79.1%)
- Experiencing different styles of teaching (66.6%)
- Receiving more individual attention (65.7%)
- Getting two perspectives (62.9)
- Teachers building off each other (58.3%)
- More creative lessons (51.3%)
- Assignments graded and returned faster (51.1%)

Focus group interviews with over 500 K-12 students corroborate these findings. The most frequently cited benefits of co-teaching are getting their questions answered more quickly and having more than one way of explaining difficult concepts. Younger students describe as a benefit the ability for a lesson to continue even if a student is acting up and needs individual attention. Elementary students frequently discuss improved student behavior as a benefit of co-teaching, as there are “four eyes” on them in the classrooms instead of two. Students of all ages agree that this type of student teaching should be used more and that as a result of co-teaching they learn more because they learn faster.

In summary, SCSU’s co-teaching in student teaching model is positively impacting learners at all levels.