

## BETTER TOGETHER? CO-TEACHING IN MATHEMATICS CLASSROOMS

Rachel S. G. Bower  
School of Education, Nevada State College,  
1300 Nevada State Drive, Henderson, NV 89002;  
Rachel.Bower@nsc.edu

### ABSTRACT

This article shares results of a feasibility study conducted in a middle school classroom that featured two general mathematics teachers acting as co-teachers. For the fall semester the teachers worked in tandem and documented the experience through journaling and various surveys. Student data was collected in the form of a questionnaire to gather insight into their feelings regarding having two mathematics teachers. This study paves the way for future efforts to consider the effectiveness of a co-teaching model on student achievement.

**Keywords:** co-teaching, secondary mathematics, co-teaching models, middle-school mathematics

### Introduction

There are many issues facing education and educators. There are the lasting impacts of COVID19. There are teacher shortages across the country and closer to home. Hence, students are faced with classrooms devoid of a teacher or, if they are lucky, a part way trained substitute. Teachers are feeling overworked, overwhelmed, unsupported. The part way trained substitutes might be feeling the same along with flagging confidence. Test scores are down.

Solutions to these problems, what are they? The list of solutions might be longer than the list of problems. Possibilities might exist in co-teaching. Co-teaching in modern K-12 education typically is a partnership between a general education or content area teacher and a special education teacher who spend some or all of a class period together. What they do together can vary widely. Usually, a special education teacher will only work with students documented to receive their assistance. Another common co-teaching partnership exists between a licensed teacher and a student teacher or trainee teacher over a school semester. These models can also vary widely although typically there is an introductory period during which the student teacher is assuming responsibilities in the classroom. The semester concludes with the student teacher gradually returning those responsibilities. Students receiving dual licensure may be placed in shorter term co-teaching partnerships in multiple classrooms.

This study considers a co-teaching partnership between two mathematics teachers working together in a sixth-grade classroom. Eldridge et al. (2016) defines a feasibility study as follows, “A feasibility study asks whether something can be done, should we proceed with it, and if so, how” (p. 1). The mathematics teachers involved considers this a feasibility study because they indeed wondered whether co-teaching would be possible and how it would look. Mathematics has long been a subject that has difficulty attracting teachers, particularly into secondary classrooms. Often new secondary mathematics teachers are also completing alternate route to license (ARL) programs to become fully licensed. The levels of support these new ARL teachers receive from their programs and their administrators can vary greatly. Even veteran teachers require support and feedback from peers and administration. A co-teaching partnership can provide a teacher instant feedback and a support system. Students in a co-teaching classroom might also feel more supported. They can benefit from different teaching styles and perspectives. The likelihood that a student is able to form a meaningful relationship with their teacher, something that is encouraged in all educational literature, would be doubled.

### Literature review

Co-teaching is happening every day in K-12 classrooms. There are many definitions of co-teaching in the literature, Carty & Farrell (2018) call it, “a collection of models, each worthy of consideration in its own right vis-à-vis the content of the subject or topic, how that content is being taught and the needs of the learners” (p. 118). The identified models of co-teaching found in literature are defined here by King Sears, Jenkins, & Brawand (2020):

**One Teach, One Observe:** One co-teacher leads the lesson while the other co-teacher observes students, sometimes to collect academic, social, or behavioral data.

**One Teach, One Assist or Drift:** One co-teacher leads the lesson while the other co-teacher circulates and offers individual support to students as needed.

**Station Teaching:** Students rotate between three or more stations, including two with each co-teacher.

**Parallel Teaching:** Both co-teachers simultaneously teach the same content with the class divided into two equal-sized groups.

**Alternative Teaching:** One co-teacher instructs a larger group while the other co-teacher works with a smaller group (e.g. remediation, enrichment, pre-teaching).

**Team Teaching:** Both co-teachers interactively deliver instruction to one large group of students. (p. 428)

Most co-teaching that takes place is a collaboration between a general education teacher and a special education teacher or an inservice K-12 teacher and a preservice student teacher. There is limited published research that involved two licensed educators teaching mathematics in a K-12 classroom. Although co-teaching has been happening, perhaps since the start of formalized schooling, there are still gaps in the literature that can be explored. Rexroat-Frazier & Chamberlin (2019) share the following:

Co-teaching in mathematics can have a powerful impact on student performance. The area [co-teaching] continues to need further research in order to determine the best strategies and approaches for co-teaching partners to implement in their mathematics classrooms. The evidence in the literature indicates that co-teaching models and specific mathematical instructional strategies play integral roles in the success of co-teaching. (p. 177)

They also identify additional gaps in the literature are anything to do with mathematics and effects on student achievement.

Research does tell us that there are difficulties faced by co-teaching partnerships. Shared planning time is valuable and can be difficult to accommodate (Fluijt, 2016; Potts & Howard, 2011; Sears et al., 2017; Sileo & van Garderen, 2010). Pratt et al. (2017) believe, “A successful co-teaching partnership is rooted in the understanding that setting aside time for planning and reflecting is a priority” (p. 244). Although not speaking to co-teaching Tobias (2020) shares that the process of collaborating with colleagues, “has shaped me as a teacher, and my hope is that all teachers will be given the opportunity to have similar ones of their own” (p. 171).

Teaching collaboratively can be beneficial to educators and students as well. Yopp, et al. (2014) speak to positive impacts for students as well as their teachers. King-Sears et al. (2014; 2020) research co-teaching in secondary science and algebra classrooms and find student satisfaction with and feelings of support from the co-taught classroom.

### Research Questions

Any benefits of co-teaching would be best if palpable to both the students and the teachers. Any classroom intervention that benefits students to the detriment of their educators should be avoided as well as the reverse premise. As such this research concerns itself with how the teachers and students felt about the experience. The three question areas relate to the students, the teachers and lastly to the co-teaching models. The co-teaching models are an established piece of co-teaching in a special education context that may be applicable for this research. Collected research from co-taught mathematics classrooms that feature a special education expert show that the *one teach, one assist* model is most popular (King-Sear, Jenkins & Brawand, 2020). An awareness of how different models work in the mathematics classrooms might allow for more targeted training in the future. An understanding of the models may allow teachers some freedom and confidence as they approach and move through a co-teaching relationship. The three research questions are:

1. What co-teaching models are used and to what degree?
2. What do the two mathematics co-teachers perceive about their co-teaching experience? What are the similarities and differences between what co-teachers report about their co-teaching? Do the teachers report feeling supported by their co-teaching semester?
3. Do the students report feeling supported by having two teachers? In a partnership of a general education teacher and a special education teacher it is often the case that students feel the general education teacher is the “main teacher” and the special education teacher is the auxiliary teacher. Will students consider two mathematics teachers as equal teachers?

### Participants

The participants included approximately 120 sixth-grade students at a K-8 charter school in an urban area and their teacher of record. Their teacher of record, Mrs. Jackson, is a 42-year old woman who earned a dual degree in elementary and special education and is licensed in grades K-12. She also has prior experience as a substitute teacher and in long-term substitute positions for a total of about 9 years in the profession. The co-teaching semester occurred during her second year as a sixth grade departmentalized mathematics teacher.

The co-teacher role in this study was filled by the author, a tenure-track college professor in teacher education. She has twenty years' experience in mathematics education and is licensed in special education K-12 and secondary mathematics 7-12. She teaches mathematics content and methods courses which is where she met Mrs. Jackson and they first discussed the potential for a project of this nature. Their plan to collaborate was postponed by COVID-19 and ultimately occurred in the fall 2021 semester. Working with Mrs. Jackson and her classroom was ideal for this study because she was the only sixth-grade teacher on her campus. Therefore, the two teachers were able to make decisions about the curriculum without needing to consult with or keep pace with other classrooms.

Mrs. Jackson, as the teacher of record (TR), taught sixth-grade full-time. The author, who acted as the co-teacher (CT), collaborated on this project and taught 12 credits of college coursework simultaneously. The CT participated in all aspects of the sixth-grade classroom four days a week. Because the sixth graders had a shortened schedule every Wednesday she chose that day to fulfill duties related to the college.

### Assessment Methods

Both educators completed two surveys at the start of the semester. The SHARE Worksheet (Murawski & Dieker, 2004) and Leahy's Education Philosophy Inventory (2012). The purpose of these was to better understand their compatibilities as co-teachers and areas they may need to discuss. As a mid-semester assignment, both educators completed a Co-Teaching Rating Scale (Gately & Gately, 2001) to reflect on the previous weeks, improve on their co-teaching and gather data on the partnership. Both educators took King-Sear's Co-Teacher Questionnaire (CTQ) in December 2021 to conclude their time together and collect additional data on the experience. Throughout the semester, both educators journaled to document thoughts, feelings, ideas on the co-teaching as well as document instructional strategies used. Much of this is part of the typical reflection that educators do

Also in December, the students completed King-Sear's Co-Teaching Student Questionnaire (CTSQ). This questionnaire made it possible to gather information on the co-teaching models from the students' perspective. This can also be used to determine whether the students viewed the teachers as equal figures in the classroom or as one main teacher and one auxiliary. The CTSQ was administered via paper and pencil to 45 students, 37.5% of all students taught during the semester. These survey completers were evenly distributed among the four instructional periods and represented students with valid parental permission and student assent documentation. The student surveys were conducted by the TR and were completed anonymously. Both the CTQ and the CTSQ were created by Margaret King-Sears, Ph.D. and used with her permission. The CTSQ items can be found in her published work (King-Sears et al., 2014) whereas the CTQ items are proprietary, but discussed in some detail in her work. The CTQ is organized into six domains: Co-Teaching Relationship (CTR), Co-Teachers' Pedagogy and Instructional Climate (CTPIC), Parity, Effective Co-Planning (ECP), Monitoring Students' Progress to Make Changes, and Models of Co-Teaching.

### Results

The TR and CT completed the SHARE Worksheet and the Education Philosophy Inventory at the beginning of the semester. The SHARE worksheet demonstrated many similarities in thinking between the two teachers. The TR believed that each teacher should be responsible for, "planning, grading and divided instruction." The CT agreed that both teachers were responsible for planning and facilitating lessons, but felt that, "grading, parent contact, housekeeping and technology issues" were the TR's responsibility only. Then the CT questioned, "So, is this true co-teaching? Is it ever?" Both the TR and the CT completed and then dismissed the Education Philosophy Inventory. The questions felt too theoretical and not very applicable for the purposes of this project.

The Co-Teaching Rating Scale was completed at mid-semester by both teachers. This features 24 positive statements regarding classroom co-teaching using a three-point Likert scale where 1: Rarely, 2: Sometimes, and 3: Usually. The two teachers had nearly identical distributions of 1s, 2s, and 3s. Their scores agreed on 50% of the statements. The CT tended to score lower on aspects she felt were out of her control, for example, "Classroom rules and routines have been jointly developed." She also scored lower on items related to planning and communication. The TR scored lower on, "My coteaching partner often presents lessons in the cotaught class."

The CTSQ, which was administered to students at the end of the co-teaching semester, is organized into three sections: teacher comparison, learning environment, and observed models. These assessment results can be seen in Tables 1 through 3 below. The TR and CT responses to the CTQ are broken into its six domains and those averages can be found in Table 4. The CTQ used a standard, five-point Likert scale where 1 corresponds to Strongly Disagree. Note that this differs from the four-scale used in King-Sears et al.'s published work but was

done on King-Sears' recommendation. The sixth domain of the CTQ, Models of Co-Teaching uses a five-point Likert scale, but is tied to the percentage of time each co-teaching model was used where 1 corresponds to the model used most of the time and 5 corresponds to a model used rarely.

**Table 1**  
Student responses teacher comparison (CTSQ)

| Statements  | Teacher of Record (TR) (%) | Co-Teacher (CT) (%) | Both (%) |
|---|----------------------------|---------------------|----------|
| 1. When I need help, the teacher I ask is:                                      | 4                          | 18                  | 78       |
| 2. The teacher who grades my work the most is:                                  | 71                         | 2                   | 27       |
| 3. The teacher who seems to be in charge of the lessons the most is:            | 67                         | 7                   | 27       |
| 4. The teacher who walks around and helps students the most is:                 | 2                          | 80                  | 18       |
| 5. The teacher who organizes the materials for instruction is                   | 24                         | 18                  | 58       |
| 6. The teacher who seems to plan most instruction for this class is:            | 47                         | 2                   | 51       |
| 7. The teacher who explains things most of the time:                            | 40                         | 24                  | 36       |
| 8. I learn best from:   | 2                          | 4                   | 99       |
| 9. The teacher who explains things in different ways is:                        | 9                          | 38                  | 53       |
| 10. The teacher who explains things to me when I do something the wrong way is: | 9                          | 20                  | 70       |

Note. Assessment items provided by Margaret King-Sears, Ph.D.

**Table 2**  
Student responses learning environment (CTSQ)

| Statements  | Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |
|---|-----------------------|--------------|-----------|--------------------|
| 1. When the two teachers are teaching, I think they divide the teaching in half so that one teacher is not doing more work than the other | 9                     | 13           | 56        | 22                 |
| 2. The two teachers seem comfortable sharing responsibilities when they are teaching together   | -                     | 2            | 38        | 60                 |
| 3. I think both teachers are equal teachers in the classroom  | -                     | 7            | 33        | 60                 |
| 4. I believe both teachers enjoy teaching this class  | -                     | -            | 39        | 61                 |
| 5. I learn more when I am in this class with two teachers.  | -                     | 2            | 49        | 49                 |
| 6. The two teachers use more ways to teach than when I am in other classes where there is only one teacher.                               | -                     | 20           | 53        | 27                 |
| 7. I learn better with two teachers.  | 0                     | 7            | 53        | 40                 |
| 8. It is hard to have two teachers at the same time.  | 44                    | 47           | 4         | 4                  |
| 9. I wish all my classes had two teachers.  | -                     | 38           | 47        | 16                 |
| 10. I would rather learn with only one teacher in the classroom.  | 40                    | 51           | 9         | -                  |
| 11. Students seem to behave better when there are two teachers in this class.   | 2                     | 16           | 62        | 20                 |
| 12. Having two teachers makes me confused sometimes.  | 18                    | 56           | 27        | -                  |
| 13. I enjoy having two teachers in this class.  | -                     | -            | 33        | 67                 |
| 14. One teacher is mostly in charge of our behavior and the other teacher is mostly in charge of teaching.                                | 2                     | 60           | 20        | 18                 |
| 15. One of my teachers explains things better than the other.   | 24                    | 47           | 27        | 2                  |

Note. Assessment items provided by Margaret King-Sears, Ph.D.

**Table 3**

Which model did students observe?

| Co-Teaching Model      | Student Selected (%) |
|------------------------|----------------------|
| One Teach, One Assist  | 48                   |
| One Teach, One Observe | 24                   |
| Team Teaching          | 19                   |
| Parallel Teaching      | 4                    |
| Alternative Teaching   | 4                    |
| Station Teaching       | 2                    |

Note. Nine students selected two models, therefore we have 54 responses.

The CSTQ allows students to leave optional comments. 58% of respondents took advantage of this opportunity. Three student comments directly referenced co-teaching as providing more help. Four additional students also included comments that refer to co-teaching as boosting their confidence and providing support in mathematics class. All remaining comments utilize the descriptors: better, best, like, nice, love, happy, good, great, and fun. No students chose to leave negative comments regarding co-teaching.

**Table 4**

CTQ Results

|                         | Domain 1<br>CTR | Domain 2<br>CTPIC | Domain 3         |                       |                    | Domain 4<br>ECP | Domain 5<br>Monitor<br>Students |
|-------------------------|-----------------|-------------------|------------------|-----------------------|--------------------|-----------------|---------------------------------|
|                         |                 |                   | Parity<br>Shared | Parity<br>TR<br>Leads | Parity<br>CT Leads |                 |                                 |
| Teacher of<br>Record TR | 3.42            | 3.86              | 3                | 4                     | 2.25               | 3.25            | 4                               |
| Co-Teacher<br>CT        | 3.58            | 3.29              | 2                | 4.2                   | 2                  | 2.17            | 3.67                            |

Note. The CTQ was developed and shared by Margaret King-Sears, Ph.D.

For the sixth domain of the CTQ, Models of Co-Teaching, the TR indicated that One Teach, One Assist and Team Teaching were the models most utilized. The CT agreed that One Teach, One Assist was used a majority of the time.

The teacher journals were done independently without a prescribed number of entries required. Each teacher was asked to date their entries. The TR logged eleven entries and the CT made twenty-seven over the course of the semester. The TR, in her journal entries, noted that having two teachers was beneficial during school mandated testing because one teacher could monitor progress via the computer and the other could circulate and keep students on task. She noted later that having two teachers was beneficial during non-test days as well, “Both teachers are able to monitor, assist, and bring resources for diverse learning and instruction.” Journal entries for both the TR and CT contribute to the data that supports the One Teach One Assist model. “TR leads majority of math classes. CT supports.” The TR noted there were times they took the lead because the CT was unable to do certain tasks. As the teacher of record only the TR had access to student grades, testing results and personal information. This was also noted in the CT’s journal. In October 2021 the TR noted, “The presence of both teachers is providing dual supports yields effective teaching thus effective learning.”

In August 2021 the CT wrote, “I feel like the TR doesn’t want to tell me what to do but does want me to be more involved.” A repeated theme in the CT’s journal is the perceived lack of planning time. The TR and CT did have a 90-minute planning period each day, however the problem persisted. “Planning time has been zero. The TR’s own children are here before and after school. Often during planning the CT is covering for another teacher that was absent or she just has stuff to do... I definitely prefer to plan more in detail and in advance.” “I don’t think under the typical co-teaching structure that two teachers can work as equals in the classroom. Responsibility at the end of the day falls on the teacher of record and the students know it.”

### Discussion & Implications

The first research question asked, “What co-teaching models are used and to what degree?” The students and teachers came to agreement regarding the model of co-teaching that was most often used. Approximately 72% of CTSQ respondents chose One Teach, One Assist or One Teach, One Observe as the co-teaching model most



frequently observed in the classroom. 20% of student respondents chose the Team Teaching model. The two teachers agree via the CTQ and their journal entries that the TR was more responsible for content delivery and management decisions. The CT was more likely to be circulating the room observing students and providing support. There were occasions when the roles would reverse, in particular during remediation lessons that the CT would facilitate. This answer to the first research question is in keeping with previously cited research into co-teaching models in mathematics classrooms. The lack of parity between the two teachers may result, in part, from the lack of planning time cited in the journals.

The second research question asked, “What do the two mathematics co-teachers perceive about their co-teaching experience? What are the similarities and differences between what co-teachers report about their co-teaching? Do the teachers report feeling supported by their co-teaching semester?” The CTQ results show that the co-teachers agreed across most of the domains regarding their relationship, instructional climate, parity, and co-teaching models utilized. The ECP Domain demonstrates the biggest disparity. The TR’s average score (3.25) was Neutral tending to Agree, but the CT’s score was (2.17) Disagree tending to Neutral. This is corroborated by the journals where the CT noted that she wished for more and better shared planning time. The feelings of busyness leaning toward overwhelm felt by both teachers led to an environment where neither wanted to ask something more of the other.

The co-teachers that participated in this project enjoy a friendship which maintained after the semester ended. Both teachers felt that working with another was preferable to working alone. The ability to bounce ideas off another who is experiencing the same curriculum, students and school-wide mandates is a support system that teachers rarely are allowed. These teachers felt that supportive co-teaching requires a relationship where either member can broach a conversation with, “This is my expectation, and this is what I need from you.” It is probable that co-teaching partnerships are typically dictated, not formed from a genuine bond between amiable co-workers. Therefore, the preparation of co-teachers should include frank discussions and compatibility considerations. Interestingly though their fondness for each might be partly responsible for why they were reticent to ask each other for what they needed. Co-teaching partnerships might benefit from an objective third-party supervisor who is committed to nurturing their relationship.

The third research question asked, “Do the students report feeling supported by having two teachers? In a partnership of a general education teacher and a special education teacher it is often the case that students feel the general education teacher is the “main teacher” and the special education teacher is the auxiliary teacher. Will students consider two mathematics teachers as equal teachers?” The CTSQ responses demonstrate that students were very satisfied with the experience of having two teachers. 98% of respondents agreed or strongly agreed that they learned more from two teachers and 93% agreed or strongly agreed that they learned better. 100% of respondents agreed or strongly agreed that they enjoyed having two teachers. Only a handful felt that it was burdensome to have two teachers. The optional comments left by students were also positive, several cited feeling supported and an increase in confidence. The importance of building students’ confidence in mathematics cannot be overstated.

Although students felt positively about having two teachers and claimed to benefit, that does not mean the teachers were viewed as equals. Students were aware from the beginning that one teacher was the teacher of record and that one teacher was a visitor to their campus. Because the TR had exclusive access to student information and grades the burden of communicating with parents fell onto that person and students knew who was calling home and which teacher would continue with them for the remainder of the school year. This is evident in some of the CTSQ responses as well as from daily interactions between the teachers and students.

### **Limitations**

A goal of this study was to determine whether the students felt like the TR and the CT were equals in the classroom. It was not possible to hide from the students who was the teacher of record and who was the visiting outsider. It was very clear from school documentation and of course the fact that the CT did not attend school five days a week. This is similar to research between general education teachers and special education teachers which is also a difficult distinction to mask in the classroom. In order to get closer to true parity co-teachers need to be equally accessing grades and contact with families. They also need to be positioned by colleagues and supervisors as equal leaders in their classrooms.

The TR was a former student of the CT and therefore they had similar ideas about mathematics education. A partnership between teachers with disparate backgrounds might make for a more robust co-teaching experience as they are bringing different perspectives and resources. Additionally, their teacher-student relationship, albeit former, is a power dynamic that can be hard to adjust even though they are working as equals. The TR might

have been more likely to acquiesce to the CT wishes. The journals were included in part to document possible friction between the teachers particularly differences that were not vocalized, but that was not the case. However due to their former teacher-student dynamic it was clear that the TR expected to learn from the CT as part of the research semester.

A final consideration that was evident during this research semester was teacher burnout. Teacher burnout is frequently mentioned as a reason why teachers are leaving the profession and received additional attention during and following the COVID19 pandemic. The CT began the project believing that her time was the most important thing she could contribute to the classroom. As a result, she was at the K-8 school all day, four days a week and still teaching 12 credits of undergraduate coursework. This was overwhelming and the CT ended up feeling like she was not doing enough in any area of her life and was more likely to acquiesce to the TR's vision for class as a result.

### Conclusion & Future research

Large mathematics class sizes are not uncommon for college freshmen, however teacher shortages across the country have resulted in some rather large class sizes for secondary students in STEM. Perhaps utilizing co-teachers could allow for secondary classes to be combined and result in a more supportive learning environment for both teachers and students. The author of this paper, who is also the CT, was fortunate to co-teach in secondary mathematics for several years on a non-traditional K-12 campus and felt rejuvenated by the experience.

The findings of this co-teaching experiment will be used to continue the research into co-teaching in secondary mathematics. In the future the CT will co-teach one course with the TR each day the class meets. The results of these students will be compared to other sections of the same course that the TR facilitates. The CT and TR will also be diligent about co-planning time and keeping it sacred. The experiment will be repeated with the intent to better quantify student achievement that results from the co-taught secondary mathematics classroom. This will be done by utilizing a control classroom and obtaining student pre- and post-test scores. Rexroat-Frasier & Chamberlin (2019) recommend research into student achievement as well as documentation of mathematical strategies used.

Future research should focus on mathematics and specific mathematical strategies that are effective in a co-taught setting. Not only are co-teaching models important to consider, but also strategies used to teach mathematics are also a key component for determining effective practices of co-teachers. A focus on student performance and specific strategies teachers used while instructing could identify the most effective strategies for positive student outcomes. (p. 181)

Interestingly after the co-teaching semester described in this study ended the school administrators approached the TR to address the fact that student gains were not as strong as they had been the previous semester. Anecdotally this demonstrates support for the co-teaching partnership and the potential for documenting significant gains through assessment data moving forward. Unfortunately, in this instance the TR was made to feel they were not performing satisfactorily. In future studies researchers would hope to avoid this unintended consequence.

### References

- Beninghof, A. (2020). *Co-teaching that works: Structures and strategies for maximizing student learning* (Second ed.).
- Carty, A., & Farrell, A. M. (2018). Co-teaching in a mainstream post-primary mathematics classroom: an evaluation of models of co-teaching from the perspective of the teachers. *Support for Learning*, 33(2), 101-121.
- Eldridge, S. M., Lancaster, G. A., Campbell, M. J., Thabane, L., Hopewell, S., Coleman, C. L., & Bond, C. M. (2016). Defining Feasibility and Pilot Studies in Preparation for Randomised Controlled Trials: Development of a Conceptual Framework. *PLoS ONE* 11(3): e0150205. doi:10.1371/journal.pone.0150205
- Fluijt, D., Bakker, C., & Struyf, E. (2016). Team-reflection: The missing link in co-teaching teams. *European Journal of Special Needs Education*, 31(2), 187-201.
- Gately, S. E., & Gately Jr., F. J. (2001). Understanding coteaching components. *TEACHING Exceptional Children*, 33(4), 40-47.
- King-Sears, M. E., Brawand, A. E., Jenkins, M. C., & Preston-Smith, S. (2014). Co-teaching perspectives from secondary science co-teachers and their students with disabilities. *Journal of Science Teacher Education*, 25(6), 651-680. DOI 10.1007/s10972-014-9391-2

- King-Sears, M. E., Jenkins, M. C., & Brawand, A. (2020). Co-teaching perspectives from middle school algebra co-teachers and their students with and without disabilities. *International journal of inclusive education*, 24(4), 427-442.
- Leahy, R. (2012). *Education Philosophy Inventory*. <http://authenticeducating.com/education-philosophy-inventory/>
- Murawski, W. W., & Dieker, L. A. (2004). Tips and strategies for co-teaching at the secondary level. *Teaching Exceptional Children*, 36(5), 52-58.
- Potts, E. A., & Howard, L. A. (2011). *How to co-teach: A guide for general and special educators*. Paul H. Brookes Publishing Company.
- Pratt, S. M., Imbody, S. M., Wolf, L. D., & Patterson, A. L. (2017). Co-planning in co-teaching. *Intervention in School and Clinic*, 52(4), 243-249.
- Rexroat-Frazier, N., & Chamberlin, S. (2019). Best practices in co-teaching mathematics with special needs students. *Journal of Research in Special Education Needs*, 19(3), 173-183.
- Sileo, J. M., & van Garderen, D. (2010). Creating optimal opportunities to learn mathematics: Blending co-teaching structures with research-based practices. *TEACHING Exceptional Children*, 42(3), 14-21.
- Sears, R., Brosnan, P., Oloff-Lewis, J., Gainsburg, J., Stone, J., Biagetti, S., Cayton, C., Grady, M., Spencer, C., Riggs, L., & Clarke, P. J. (2017). Co-teaching mathematics: A shift in paradigm to promote student success. *Proceedings of the 15th Annual Hawaii International Conference on Education*, p. 1-7.
- Tobias, J. M. (2020). The evolution of my classroom structure. *Mathematics Teacher: Learning & Teaching PK-12*, 113(2), 170-171.
- Yopp, R. H., Ellis, M. W., Bonsangue, M. V., Duarte, T., & Meza, S. (2014). Piloting a co-teaching model for mathematics teacher preparation: Learning to teach together. *Issues in Teacher Education*, 23(1), 91-111.