

Collaborative Learning & Peer Reviews in Special Education
Action Research

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Area of Focus

Special education classrooms often do not resemble typical classrooms. In this particular classroom, the students are not required to sit in assigned seats, there is no general class instruction, and the teachers do not demand the entire class' attention. Instead of lecturing at the blackboard the teachers work individually with each student to first, help them catch up in general education classes and second, to help them meet IEP requirements. In this sense, the special education classroom at Saint Paul Open is structure around the individual needs of each student. Unfortunately in a classroom with between ten to fifteen students and only two teachers, individual instruction is not possible for every student everyday. While the teachers are working with one student, other students are required to work individually on their own assignments. This format led me to wonder whether or not special education should solely focus on each individual student apart from others or if small group activities could be used to create classroom cohesion and academic success for the collective as well as the individual.

Research Questions

The goal of this action research proposal is to examine the following questions:

1. Does collaborative learning through the use of peer review improve students' classroom experience?
2. Does collaborative learning through the use of peer review improve students' academic performance?

Literature Review

The use of cooperative learning grew in popularity following the 1997 Individuals with Disabilities Education Act (IDEA), which mandated that students with disabilities

must have access to the general education curriculum offered to all other students (Nyman McMaster & Fuchs). Following this act, teachers were faced with the challenge of accommodating students' diverse needs while still meeting rising state standards and preparing for standardized testing. Cooperative learning was found to be an effective strategy to meet these demands. Teachers quickly recognized the benefits of group work as students became responsible for ensuring that all members of their group mastered the assigned materials. Using cooperative learning, teachers could count on students to participate in the education of their peers.

The use of cooperative learning by general education teacher remains high. One study reported that 93% of all general education teachers use some form of cooperative learning at least once a week (Jenkins, et.al.). According to this study, teachers attributed deeper engagement, better comprehension, and active learning with cooperative learning. Furthermore, these benefits were not limited to general education students. Teachers also indicated that special education students benefited from increased self-esteem as a result of peer validation, a better final product, and increased class participation. However the teachers also warned that the achievement of these benefits often depended on the student. While some special education students felt less burdened by the assignment and were supported by their group, others were excluded and either refused to participate or were denied a clear role within the group. In order to ensure successful cooperative learning, teachers are encouraged to closely monitor group dynamics and to intervene when necessary.

Cooperative learning can take on many different implementations in the classroom. One strategy for implementation is the use of peer reviews in student writing.

Particularly for students with special needs, this type of informal evaluation can prove beneficial in its relative lack of pressure when compared to teacher evaluations. According to an article written by Jerome Ammer in the *Reading and Writing Quarterly*, a common bond is shared between the peer evaluator and student writer because both students are struggling to develop their own writing – that is, they share a common experience. Furthermore, teachers' evaluations are often lost in translation in that students do not understand what the teacher is attempting to communicate. Peers however are able to explain problem areas and provide recommendations in a common language. The dialogue between students allows the writer to bounce off ideas and receive additional feedback from the peer evaluator. This process ultimately leads to more creative work.

Findings from Stevens and Slavin on the use of cooperative learning may also provide evidence to support the argument for the use of peer reviews in classrooms. According to this study, the most important features to ensure the success of cooperative learning is individual responsibility and group rewards. Peer reviews meet these requirements in that students are ultimately responsible for their own assignment; that is, they cannot rely on other students to finish their own work. However, many teachers have also implemented a grade for quality of peer evaluations and pair interactions. In this type of grading, pairs of students share a portion of their grade based on their ability to work together as a team and to provide quality, constructive criticism.

Unfortunately, most of the research on cooperative learning and peer evaluations has been based on experiences within general education classrooms. In comparison, relatively little research has been reported in special education classrooms. It is the intent

of this study to further explore the potential benefits of cooperative learning in special education classrooms.

Intervention & Innovation

The two student participants (both in the seventh grade) were assigned the task of inventing either a super hero or villain, drawing a picture of this character, and finally writing a descriptive story about the character. The students were provided with a handout of guidelines for the assignment, as well as a worksheet to help them organize their ideas. At this point, students worked individually on their assignment.

After completing the first draft, the students were paired together. These students traded their writing assignments and were instructed to read each other's stories, paying close attention to grammar. The students were then told to underline or circle mistakes in writing mechanics such as spelling, punctuation, capitalization, and verb agreement or any sentences that just didn't make sense to them. If students were unsure about the grammar of a particular part, they were instructed to write a question mark by the area of confusion. After reading the drafts students were also asked to complete a peer evaluation of the writing. The evaluation form asked the peer proofreader to comment on areas of writing such as what he or she liked best in the story, what needed the most work, and what could be added to make the story better.

After the peer review process, the students traded back their stories and were given the evaluation forms. At this point the students were provided with additional time to revise their original work. Following final completion of the writing, students were asked to complete an opinion survey of the assignment and peer review session and to specifically indicate whether or not they thought their own writing improved. In order to

measure the progression of the students' writing, evaluations were conducted before the peer review session and after final revisions. The class teacher was also asked to comment on his/her perceived success of the peer review session and on any improvements he/she noticed in the students' writing.

Data Collection

The following data collection methods were used to address the research questions:

1. Observation of the classroom and students before and during the peer review session. The observer specifically examined time off-task and visible emotional indicators.
2. Evaluation of original and final drafts to compare before and after progress of the students' writing.
3. An opinion survey administered to the student participants to determine their perceived success of the peer review session.
4. An informal interview with the teacher to determine his/her perceived success of peer review session.

Ethical Considerations

Before implementing the research design, ethical concerns first needed to be addressed. For students struggling in writing, participation in student evaluations may not only be challenging, but also embarrassing. Though receiving criticism from a teacher is often considered normal, receiving criticism from a peer may be much more difficult to accept. In order to avoid unnecessarily stress, student involvement in the peer evaluation process was voluntary. Furthermore, the students were given specific directions regarding the proofreading process in order to prevent bias evaluations of the

writing depending on the students' relationships with one another. The evaluation forms focused on constructive criticism and on both areas in need of improvement and areas of strengths. The goal of this activity was to improve students' writing and to increase self-confidence in writing skills. For this reason, all possible means were taken to prevent student discomfort or embarrassment.

Another important ethical consideration involves the use of student opinion surveys. In many class environments, students that criticize class assignments are considered complainers or whiners. In this particular study however, honest student reactions were crucial in affectively evaluating the success of the peer review process. Unfortunately, students may be hesitant to offer negative opinions in order to prevent being labeled as a complainer. Though this participant bias may never be fully overcome, the students were encouraged to provide their most honest reactions. I specifically stated that both negative and positive comments are valid and that neither my own nor the teachers' perceptions of the students would change depending on the students' responses.

Analysis & Interpretation

Classroom Observations

The classroom behaviors of the two students participating in the study were observed during two different class periods one week prior to the research design implementation. Observations were coded in five-minute intervals throughout the course of the fifty-minute class periods. Through observation, I specifically examined the frequency of the students' off-task behavior and visible emotional indicators.

Behaviors coded as off-task included talking to another peer, asking for hall passes, getting up from their seat, sleeping, doodling/drawing, or working on materials unrelated to classroom assignments. During the course of a fifty-minute class period, the two students averaged 7 instances of off task behavior. The majority of off-task behaviors observed in the two students included talking and drawing/doodling, often occurring simultaneously. On task behavior most often occurred in the presence of adult involvement or supervision; of the 3 instances of on-task behavior averaged by the students per class period, 2 were while the students were receiving individual assistance from an adult.

Visual emotional indicators were also observed in the classroom. More specifically facial expressions were used to code for emotions/experiences such as happy, sad, angry, focused, confused, and bored. The most frequent emotional indicators displayed by the two participating students were happy and bored (each averaging 4 displays per class period). Focused and confused were also displayed but less frequently (each averaging 1 display per class period). Sad and angry were never coded. Emotional indicators were also often related to on- or off-task behaviors. More specifically, instances of happy emotional indicators only appeared in combination with off-task talking behavior. Furthermore, boredom was frequently coded with off-task doodling/drawing behavior.

The behaviors of the two participating students seemed consistent with the behaviors of the class in general. Over the course of the two class periods, I noted several instances of students talking, doodling, walking around the classroom, listening to headphones, and even sleeping. On average, 5 hall passes were written during each class

period, in a class of ten students. However, this was not the case for all the students, at all times. From these more informal observation, it seemed that students flowed in and out of on-task and off-task behaviors, using some, but not all of their time effectively.

During implementation of the peer review process, the on-task behavior of the two students increased. On average the students displayed 4 instances of off-task behavior (down from 7 prior to the peer review implementation). The reduction of off-task behavior may be partially due to the students' ability to talk to one another during the peer review process. Of the 4 off-task behaviors coded, 3 were related to talking about subjects unrelated to the assignment. Emotional indicators also changed with an increase in focused (averaged 4) facial expressions and a reduction of bored indicators (averaged 1). Happy and confused emotional indicators did not change, staying constant at an average of 4 and 1 (respectively) per class period. It is important to note however, that the change in on- and off-task behaviors and emotional indicators may not be entirely due to the peer review process itself. During the implementation, the students received constant support and supervision from an adult (myself). This adult involvement, rather than the peer review process, may have changed the nature of the students' classroom behavior.

Table 1: Average number of behaviors observed for each student per class period

	Off Task	Happy	Sad	Angry	Focused	Confused	Bored
Before Peer Review	7	4	0	0	1	1	4
During Peer Review	4	4	0	0	4	1	1

Before and After Evaluation of Students' Writing

The students' writing was evaluated before and after the peer review process on measures of writing mechanics and writing content.

Writing mechanics were evaluated based on number of incorrectly spelled words, number of mistakes in capitalization, number of mistakes in punctuation, and number of mistakes in verb agreement. The first draft of Student1's writing contained 15 incorrectly spelled words, 8 mistakes in capitalization, 9 mistakes in punctuation, and 6 mistakes in verb agreement. The first draft of Student2's writing contained 22 incorrectly spelled words, 10 mistakes in capitalization, 8 mistakes in punctuation, and 3 mistakes in verb agreement.

The peer review process did not produce significant improvements in writing mechanics. While reviewing Student1's writing, Student2 identified 4 incorrectly spelled words, 3 mistakes in capitalization, 0 mistakes in punctuation, and 0 mistakes in verb agreement. In turn, while reviewing Student2's writing, Student1 identified 6 incorrectly spelled words, 2 mistakes in capitalization, 1 mistake in punctuation, and 0 mistakes in verb agreement.

Writing content was evaluated based on the length of the students' writing (in number of words) and number of descriptive details. Descriptive details were defined as writing that provided new information about the character. The first draft of Student1's writing was 98 words long and contained 7 descriptive details. The first draft of Student2's writing was 89 words long and contained 6 descriptive details.

The peer review process did produce improvements in writing content. Following the peer review process, Student1's writing increased to 160 words and 3 new descriptive

details were added (a total of 10). Student2's writing increased to 151 words long and 3 new descriptive details were added (a total of 9).

Using the peer review process, the students thoughtfully commented on one another's writing and offered many suggestions for improvement and including recommendations for topics that could be added. However, the peer reviews were less successful in identifying mechanical errors. Though the students seemed to actively analyze the content of each other's stories, they passively read over and ignored mistakes in writing mechanics. Part of the problem in finding the errors may be related to the format of the peer reviews. The paper evaluation forms seemed too restrictive. The best advice offered by the students during the session was not written on the sheets, but rather was communicated through verbal discussion. A new peer review format based on dialogue rather than traditional assessment forms may provide better feedback in the future.

Table 2: Evaluation before peer review

<i>Student</i>	Mistakes in Writing Mechanics				Quality of Writing Content	
	<i>Spelling</i>	<i>Capitalization</i>	<i>Punctuation</i>	<i>Verbs</i>	<i># of Words</i>	<i>Descriptive Details</i>
1	15	8	9	6	98	7
2	22	10	8	3	89	6

Table 3: Evaluation after peer review

<i>Student</i>	Mistakes in Writing Mechanics				Quality of Writing Content	
	<i>Spelling</i>	<i>Capitalization</i>	<i>Punctuation</i>	<i>Verbs</i>	<i># of Words</i>	<i>Descriptive Details</i>
1	11	5	9	6	160	10
2	16	8	7	3	151	9

Student Opinion Survey

Following the peer review session and completion of the final drafts, the students were asked to complete an opinion survey regarding the peer review process.

Both students responded positively to the questions: “I enjoyed writing the story”, “I think my story improved after the peer review,” “I like working with a partner,” “I liked reading my partner’s story,” and “I would like to continue doing peer reviews in class.” When asked what they like most about the peer review, one student wrote, “Talking about clown stuff (the villain of his/her story)” and the other student wrote, “Getting help with ideas.” Responses regarding what could make the peer review process better included, “Getting more help with spelling,” and “Better ideas for the story.” Both students indicated that “working with a friend” was their favorite part of the assignment. Neither student reported something they did not like about the assignment.

From the opinion survey it seems apparent that the students enjoyed the peer review process and would like to continue doing peer reviews in class. Comments about getting more help however, in combination with low improvements in writing mechanics, may suggest that the students need additional support from a teacher in identifying mechanical mistakes in writing.

Informal Teacher Interview

Throughout the implementation of the research design, communication with the classroom teacher was maintained regarding the progress and outcomes of the students' writing. The teacher did not at any time express concerns regarding the direction of the research. Furthermore, upon completion he/she briefly commented on the students' improved writing and classroom behavior.

Action Plan

The results of the action research project indicate that collaborative learning through the use of peer reviews in special education classrooms reduces off task behaviors and improves the content of students' writing. Unfortunately because of the small sample size (only two students), it is difficult to determine whether or not peer reviews increase cohesion in special education classrooms. Given the positive results obtained from these two students however, I strongly recommend that additional action research studies further investigate the use of class-wide collaborative learning and peer reviews in special education. In my opinion, this research design should be viewed as a pilot study for additional research regarding the use of collaborative learning in special education. Now that success has been documented with this particular case study, research designs should be broadened to include participation by an entire special education classroom.

In addition, I recommend the development of a new format for peer reviews specifically designed to meet the needs of students in special education. In particular, traditional peer reviews that require written paper evaluations may not be appropriate for all students. More specifically, students with limited abilities to communicate through

writing may not be able to clearly express their ideas using this format. For instance, in this particular action research study, when examining the actual peer review forms completed by the students, it appears that very few comments were made. However, these written forms fail to capture the learning that occurred through the students' verbal discussion. Instead of writing down all of their suggestions, the students talked to one another about their writing. Peer review formats that utilize students' already existing strengths (in this case verbal communication), in order to improve writing, may better serve students with diverse needs. More specifically, I recommend the use of a revised peer review evaluation form (*see appendix*) that limits the actual amount of writing required by students, yet covers multiple areas of writing evaluation. This format is highly structured and guides the students through each part of the evaluation process. In addition, to filling out the evaluation itself, the students may also use the form as an outline to discuss their writing and possible suggestions for improvement.

Final Thoughts

A few days after the completion of the assignment, the two students approached me eager to show me a surprise. Even though the assignment was completed, the students, without being assigned, wrote another story together as a sequel to their first. Before starting this project the students frequently complained about writing assignments, often simply stating, "I don't write." However when given the freedom to create their own assignment and to develop the project together, the students developed a new interest in writing – enough so that they weren't quite ready to let the assignment be over. Even though the final implementation of the project has long been completed, the students still spend time revising their first story and are actively working towards

completing the sequel. Even more so than the data collected from this action research project, the students' apparent change in attitude regarding writing proves that collaborative learning can and does work in special education.

Annotated Bibliography

Ammer, J. (1998). Peer evaluation model for enhancing writing performance of students with learning disabilities. *Reading and Writing Quarterly*, 14(3), 263-283.

Because peer evaluators also struggle with their own writing, a common bond is shared between the evaluator and the writer. Furthermore, oftentimes teachers' evaluations are lost in translation in that students do not understand what the teacher is attempting to communicate. Peers however are able to explain problem areas and provide recommendations in a common language. The dialogue between students allows the writer to bounce off ideas and receive additional feedback from the peer evaluator. This process ultimately leads to more creative work.

Jenkins, J., Antil, L., Wayne, S., & Vadasy, P. (2003). How cooperative learning works for special education and remedial students. *Council for Exceptional Students*, 69 (3), 279-292.

In this study twenty-one general education teachers from both urban and suburban schools were interviewed about their use of cooperative learning in their classrooms. In the interviews, the teachers were asked to discuss the benefits of cooperative learning for students with special needs, the participation of students with special needs, and the problems encountered and subsequent modifications made.

According to this study, teachers attributed deeper engagement, better comprehension, and active learning with cooperative learning. Furthermore, these benefits were not limited to general education students. Teachers also indicated that special education students benefited from increased self-esteem as a result of peer validation, a better final product, and increased class participation. However the teachers also warned that the obtainment of these benefits often depended on the student. While some special education students felt less burdened by the assignment and were supported by their group, others were excluded and either refused to participate or were denied a clear role within the group. In order to ensure successful cooperative learning, teachers are encouraged to closely monitor group dynamics and to intervene when necessary.

Nyman McMaster, K. & Fuchs, D. (2002). Effects of cooperative learning on the academic achievement of students with learning disabilities: an update of Tateyama-Sniezek's Review. *Learning Disabilities Research & Practice*, 17(2), 107-117.

The use of cooperative learning grew in popularity following the 1997 Individuals with Disabilities Education Act (IDEA), which mandated that students with disabilities must have access to the general education curriculum offered to all other students (Nyman McMaster & Fuchs). Following this act, teachers were faced with the challenge of accommodating students' diverse needs while still meeting rising state standards and

preparing for standardized testing. Cooperative learning was found to be an effective strategy to meet these demands.

Stevens, R. & Slavin, R. (1991). When cooperative learning improves the achievement of students with mild disabilities: A response to Tateyama-Sniezek. *Exceptional Children*, 57, 276-280.

According to this study, the most important features to ensure the success of cooperative learning is individual responsibility and group rewards. Peer evaluations meet these requirements in that students are ultimately responsible for their own assignment; that is, they cannot rely on other students to finish their assignment. However, many teachers have also implemented a grade for quality of peer evaluations and pair interactions. In this type of grading, pairs of students share a portion of their grade based on their ability to work together as a team and to provide quality, constructive criticism.

Peer Writing Review

Author _____

Evaluator _____

Check all that apply.

_____ I read the story to myself and it makes sense.

_____ Every sentence begins with a capital letter.

_____ Every sentence ends with a punctuation mark.

_____ I checked spelling.

_____ I marked all areas where I was unclear or confused.

What I liked most about this story:

—

—

—

What I still wonder about or think could be improved:

—

—

—

Something that could be added:

—

-
-
-
-

I noticed that you're good at:

Student Opinion Survey

Check all that apply.

- I enjoyed writing the story.
- I think my story improved after the peer review.
- I liked working with a partner.
- I liked reading my partner's story.
- I would like to continue doing peer reviews in class.

What I liked most about the peer review was:

-
-
-
-

What I think could make the peer review better is:

-
-

—

My favorite part of the assignment was:

—

—

One thing I didn't like about the assignment was:

—

—

Revised Peer Writing Review
Example Form for Student Writing Evaluations

Writing Mechanics

Does every sentence begin with a capital letter?	Yes	No
Do all of the sentences end with a punctuation mark?	Yes	No
Do some sentences seem too long? Do they run on and on?	Yes	No
If yes, did you make changes to break the sentence up?	Yes	No
Are all of the words spelled correctly?	Yes	No
Did you change or mark the words spelled incorrectly?	Yes	No
Do all of the sentences use the correct verbs in the past, present, or future?	Yes	No
Do all of the sentences agree on whether the story is happening in the past, present, or future?	Yes	No

In writing mechanics, the writer needs the most help in _____.

Capitalization	Punctuation	Spelling	Verbs
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In writing mechanics, the writer is the best at _____.

Capitalization

Punctuation

Spelling

Verbs

Writing Content

Does the story meet length requirements?

Yes

No

Does the story make sense?

Yes

No

Does the story provide enough details to create a picture or pictures in your head?

Yes

No

What could be added to the story?

What was your favorite part of the story?
