5-2018

Does Co-teaching Increase Student Engagement

Tiffany Morey
Northwestern College - Orange City

Tiffany Morey

Northwestern College

Does Co-teaching Increase Student Engagement

May 2018

Abstract

The purpose of this action research is to determine if students will be more engaged in learning whole group interventions if co-taught. In the first two weeks students were observed with only the classroom teacher teaching the intervention. The next three weeks the classroom teacher and the instructional coach co-taught the whole group intervention, and students were observed to see if engagement had increased. Pre-survey and post survey questions were administered to the students for quantitative data. Qualitative data was gathered through observations and journal notes.

Does Co-teaching Increase Student Engagement

Teachers feel the need to compete with technology to keep students' attention. So many times teachers are worried about the lack of student engagement in classrooms and wonder how to increase student engagement. "Consensus has been reached that there are at least three types of engagement: behavioral, cognitive, and affective engagement" (Carter, Reschly, Lovelace, Appleton, & Thomas, 2012, p. 62). Cognitive engagement is willingness to work in the classroom; Carter et al., (2012) study defines the areas of engagement as the following:

> Behavioral engagement refers to involvement in academic and extracurricular activities and includes indicators such as school attendance and participation in class activities. Cognitive engagement is defined as a student's level of investment in learning and includes aspects such as perceived relevance and challenge sufficiency of coursework, appropriate application of learning strategies, self-regulation, perceived competence, and willingness to exert necessary effort to master difficult skills. Affective engagement is the connections with other students and teachers. Affective engagement addresses the student's perceived connection to the school environment and salient individuals within the school context. It includes positive and negative reactions toward the school climate (e.g., fairness of rules), teachers, and classmates. (p. 62)

Engaged students in a learning environment are retaining what is being taught and taking part in a deep level of learning and conversations. Draper, (2013) explains, "deep learners aimed to understand the meaning behind the text, and interacted with the material by creating relevant arguments and examples related to their daily lives" (para. 4). In this research project the researcher will collect qualitative and quantitative data to see if co-teaching interventions will

increase student engagement. A self-reflection survey will be given to the students to measure engagement levels with and without co-teaching.

Literature Review

Student engagement has many types of definitions. Everett (2015) explains student engagement as a "multidimensional, interrelated, observable behavior, internal cognition, and emotion." (p.69) Student engagement is the passion and the interest student show when taking part of school curriculum. Teachers need to understand student engagement when planning lessons to improve student learning. Student engagement involves the planning and delivery of the lesson as much as each individual student. "Research in earlier years focused on participation-identification model focusing on quality of instruction and student abilities" according to Everett (2015 p 68). However, current research has been focusing on academic engagement, social engagement, cognitive engagement, and affective engagement have added four important dimensions to student engagement, according to Everett (2015).

Student engagement is a concern for teachers and school districts. Teachers are always trying to determine why students are not engaged and how to motivate students to become actively engaged learners. According to Draper (2013), students who are more stressed and feel pressured in school are disengaged in learning activities. Draper (2013) also discusses the differences between surface level learning and deep level. When students are expected to only learn surface level content such as memorizing dates, wars, and names, the majority of students will not be engaged. Creating, problem solving, and critically thinking are examples of deep level learning. Surface level learning is memorized, tested, and forgotten. If schools can get

students engaged and learning at a deep level of learning, important skills will be retained. Schools and future workforce expect students to be critical thinkers and problem solvers.

Like Draper, Chapman (2003) also states that engaged students will be willing to start conversations and discussions about the lesson being studied, and students will complete homework with care and on time. Engaged students will be willing to participate in small or large group activities. Disengaged students will often not complete homework, or it will be finished carelessly. Disengaged students are often careless, distracted and hurry to complete work. Students who are not engaged in school will hurry through assignments, and move on to something that maybe more engaging, such as physical education (PE), recess, or going home. Disengaged students often sit back and are not open to discussion and partner work. Students who are not engaged may also complain about being in certain groups, and group conversations are often off topic.

Carter, Reschly, Lovelace, Appleton, and Thomas (2012) explain how students are disengaged and the connection to school dropouts. The study identifies the difference between behavioral engagement, physiological engagement, and academic engagement. Teachers will be able to use the different types of engagement to document in notes and observations. Behavioral engagement is documented by observing students willingness to share and participation during the lessons. Physiological engagement is measured with student self reflections after the lessons were delivered. The third engagement is academic which is observed and documented on the student's efforts in the classroom.

Carter et al. (2012) created a student engagement instrument (SEI) to measure student engagement in a school setting. After starting the research which was originally for the middle

and high school level, the researchers then determined the need for an elementary instrument as well, SEI-E The researchers chose to start the SEI-E at grade three because K-2 would be difficult with all of the distractions and behaviors at a young age. The SEI-E is a self-reflective survey that measures cognitive and affective student engagement. Cognitive and affective student engagement cannot be observed by the teacher, it is student self-reflection as data.

Students who were engaged physically, mentally, and emotionally were suspected to have higher academic growth than those who were not as engaged in the classroom and with peers. According to Ladd and Dinella, (2009) "those who exhibited a combination of higher behavioral and emotional engagement across the primary grades made greater academic progress than those who displayed lower levels of these two forms of engagement" (p. 190). Students who go to school need to do more than be there physically for academic growth. There has also been research linking disengagement and school drop-outs. Ladd and Dinella, (2009) explain "educators contemplate solutions for problems such as declining academic motivation and achievement, increasing student alienation, and elevated school drop-out rates" (p. 190).

Further studies on student engagement have shown that students who are eager and willing to participate in Kindergarten will maintain that engagement through primary school. Other students who are less enthused about kindergarten will have a tendency to be disengaged in school lessons. According to Ladd and Dinella, (2009) "found that children who liked school as they entered kindergarten tended to participate more cooperatively and independently in classroom activities" (p. 191). Research also shows that engagement is more intrinsic, which comes from inside the student, and less about the how the curriculum is being delivered. Ladd and Dinella, (2009) state that "their propensity to adopt the student role and act in ways that are

in accordance with classroom social rules and expectations is an essential prerequisite for engagement and success" (p.191).

Carter (2014) states "research shows that the average young adolescent's attention span is between 8 and 14 minutes. If that's the case, teachers who are trying to hold their students' attention for the full 50-60 minutes may never hear students exclaim that 'time really flew by" (Carter, 2014, p. 30). With two teachers available to provide differentiated instruction, the students may not lose interest in the lesson and become disengaged. Carter (2014) explains how a day filled with mini lessons will help keep students engaged. The findings explain how mini lessons can help improve student engagement. It keeps students moving and switching to reduce boredom. If students have been sitting in one spot for 20 minutes it is time to get up and move or switch mini lesson because if students keep sitting there, the result will be disengagement.

Methods

Participants

This action research was conducted in a second grade general education classroom in a small rural school during whole group intervention time. Whole group math interventions took place three days a week and on average were 15 minutes long. Every math intervention took place with the students seated on the carpet and the teacher in a chair. The participating class had fourteen students, one teacher and zero teacher associates. Random selections of five students were chosen to be the primary participants of the student engagement research project. The participating class was predominately white students with one student on a math Individual Education Plan (IEP) and five students that were receiving Title 1 math interventions. Zero students in the participating class had diagnosed attention disorders.

Data Collection

The focus on this data research project was to see if co-teaching during the whole group math intervention would increase student engagement. The researcher observed a second grade math class during their whole group interventions. The researcher documented the active engagement of 5 randomly selected students. After each whole group intervention, the students filled out a self reflection rubric by checking the box if they felt they were engaged, focused, and concentrated on the math lesson. The observations conducted prior to co-teaching lasted five days.

Prior to co-teaching, the students sat on the carpet while the classroom teacher sat in a chair, making herself visible to all students. The teacher would work through a math worksheet randomly calling on students for answers or explanations for the math problem. Students could use math manipulative to answer the question while the teacher wrote the answer on a whiteboard. After the class worked through a few problems the teacher grouped the student by ability level to work on small group math problems. As students sat in small groups working together to solve math problems the classroom teacher walked around and checked in with the groups.

After the researcher observed and documented the engagement of the selected students, the classroom teacher and the instructional coach who would be co-teaching collaborated and planned out whole group math interventions as co-teachers. As the classroom teacher and the instructional coach were co-teaching, the researcher documented the engagement of the same sample of students. The same rubric was used for engagement during co-teaching as was used prior to co-teaching. The seven areas observed were: student talking/sharing, active

engagement, use of manipulatives, writing/sharing correctly, focused on the teacher, up and moving, and working well with others. As each intervention time was finished, the students filled out a self-reflection form rating self engagement and participation. The researcher observed five days of co-teaching whole group math interventions and documented how often the students were actively engaged, used manipulates, worked with others, focused on the teachers, and shared ideas with the class.

During the five days of co-teaching the classroom teacher and the instructional coach collaborated about how to present the interventions. The classroom teacher presented the math problems while the instructional coach moved around from student to student asking questions about the problems. The instructional coach would also share different methods about how to solve problems or encourage students to share the methods for problem solving.

Data Analysis

There was little research bias during this research project. The researcher collected the data and was an outside observer. The researcher observed the students during whole group math intervention while the classroom teacher taught. During the observation the researcher marked down if the students were engaged in the lesson and focused on the teacher. Students would get marked on a rating scale if they were focusing on the teacher and completing tasks that were asked by the teacher. If students were looking around the room, playing with objects and not completing tasks, disengaged would be marked on the rubric. All the students had the same rubric to measure engagement. The same researcher also observed student engagement while whole group math interventions were being co-taught using the same rubric checklist.

Table 1

Student Engagement prior to Co-Teaching

	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Total**	**Engagement percent**
Student 1	26	22	34	23	23	128	61%
Student 2	17	7	19	24	18	85	40%
Student 3	27	31	31	29	29	147	70%
Student 4	17	7	9	7	12	52	25%
Student 5	20	24	24	27	19	114	54%

Table 1 shows student scores before math interventions were co-taught by the classroom teacher and the Instructional Coach. The students were observed in seven different areas and were rated on a scale from one to six; the highest score the student could receive for one day was a 42. For a student to receive a 42 he/she must be 100% engaged, focused on the teacher and discussing the math topic 100% of the time. The researcher observed the same five students for five days to collect engagement data. After five days the scores were added together for a total engagement score, the highest score they could receive after five days was 210. No students received a perfect score of 42 during the observation timeframe. Student behaviors observed were playing with shoe strings, with the carpet, looking around the room, and talking to friends. Table 2 shows student engagement data with co-teaching, the highest one-day score students could receive is 42 and the total score was 210. Zero students received a perfect engagement score of 42.

Table 2

Student Engagement with Co-Teaching

	Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Total**	**Engagement percent**
Student 1	27	27	30	33	29	146	70%
Student 2	20	24	25	28	18	115	55%
Student 3	27	28	33	28	21	147	70%
Student 4	22	21	14	18	18	93	44%
Student 5	27	37	26	25	28	143	68%

Effects of how co-teaching affects student engagement are displayed in Table 3. Student total scores and the difference have been documented. All students except Student 3 increased engagement with a co-teacher. Student 3 received the same score of 147during both intervention formats, which is 70% engaged. Student 4 had the lowest scores but had the greatest increase in engagement with an increase of 41 points. Student 4 went from 25% to 44% engaged with co-teaching. Zero students had a decrease in engagement with the co-teacher. As a whole group, the observed students increased over all engagement by 118 points.

Table 3

Engagement Difference prior to Co-Teaching and Co-Teaching

	Prior to Co-Teaching	Co-Teaching	Difference	Percent of engagement

				increase
Student 1	128	146	+18	11%
Student 2	85	115	+30	14%
Student 3	147	147	+0	0
Student 4	52	93	+41	19%
Student 5	114	143	+29	14%
Mean Score	**105.2**	**128.8**	**+23.6**	**11%**

After each math lesson, the students were given a reflection rubric for self engagement. The rubric included a scale of one to three with three being the most engaged. The self assessment reflection questions were: I was engaged in the task; I put forth a lot of effort; I wish I could continue this; and I was not thinking about math. The total score possible for each day was 12 and the total number for the five days was 60. Figure 1 shows that zero students felt engaged 100% of the time for all five days. Student 2 was the closest to getting a perfect total score prior to co-teaching with 53points. Student 4 rated himself/herself more engaged with one teacher than with co-teaching. However, when the researcher was observing Student 4 he/she made the most growth with co-teaching (Table 3). Two students in figure 4 rated higher engagement without the co-teaching than with the co-teaching, but when compared to the engagement data in Table 3, Student 2 and 4 both make engagement growth. Student 3 stayed at the same engagement score of 147 or 70% engaged during interventions.

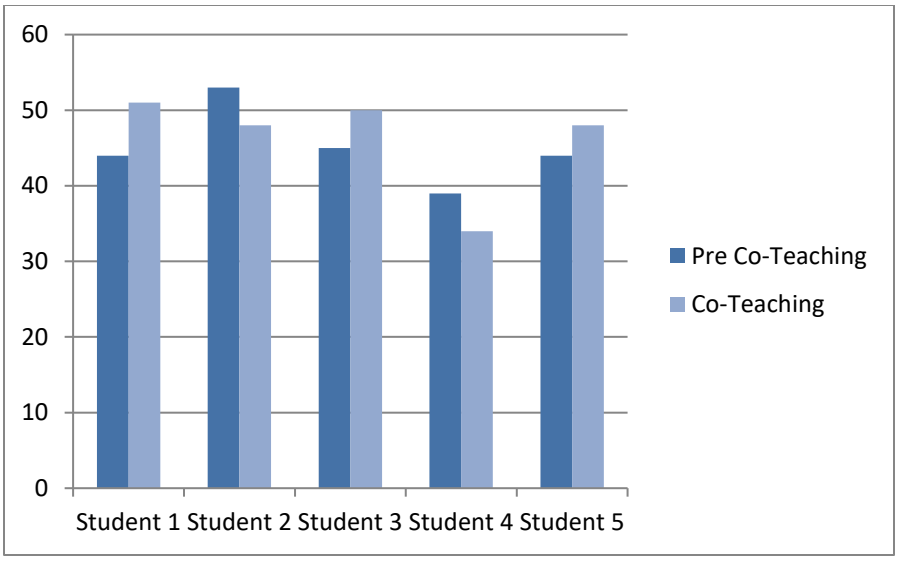

Figure 1. Student Engagement Self Reflection

At the conclusion of the student engagement research, all students increased their engagement except for one student who stayed at the same score. According to the self-reflections Student 2 and Student 4 felt less engaged with a co-teacher. This data generates a question as to if the second grade students knew how to self-reflect correctly and honestly when analyzing their own engagement. Validity in the research is student engagement increased with the co-teacher because it was a new presence in the classroom.

Discussion

Summary of Major Findings

The data collected throughout this research suggests that co-teaching whole group interventions does increase student engagement. The selected students being observed increased engagement by eleven percentage points when teachers co-taught lessons. The data collected with students' self reflection on self engagement indicated that the majority of the students felt an increase in engagement. According to student self evaluation survey two students, Student 2 and Student 4 felt a decrease in engagement with co-teaching. However, the observation by the

researcher shows those same two students had the greatest increase of engagement with the co-teacher.

Prior to co-teaching the majority of the students looked around the room, played with shoestrings, and did not respond appropriately or voluntarily when the classroom teacher asked for a response or an answer. The students often played with manipulatives as the teacher was delivering instruction and then when called on would not answer or would look at other students for the correct response. The classroom teacher did not have a long wait time after calling on students and would quickly move to the next response if a response was not given correctly.

Limitations of Study

The limitations of this study included the validity of second grade self reflections. Students should have had a clear understanding of what engagement was and how to reflect honestly about self engagement during lessons. When given the self-evaluation rubric the students would often ask what each statement meant, even after the researcher explained each evaluation question. The researcher was the only one observing the students' engagement. Even though all the observations were being done by the same person, the researcher's definition of active student engagement may differ from other researchers.

Teacher collaboration time was another limitation to this research project. The classroom teacher and the instructional coach met once prior to co-teaching the lesson. Therefore, the presenting teachers only met once instead of every time they were going to co-teach interventions. Giving more collaboration time the teachers would have more time to analyze and discuss data on the group as a whole and individually. The teachers would have more time to

decide who was going to present each section of the intervention, and what tasks the co-teacher was going help with.

Conclusion

Inclusion to finding out if co-teaching interventions will increase student engagement the data has shown that engagement will increase. Using a variety of observations, rubrics, and student self-assessments, the majority of the data has shown an average 11% overall engagement increase. The researcher observed whole class math interventions instructed first by the classroom teacher then co-teaching with an instructional coach. The researcher took anecdotal notes on five randomly selected students. The areas of engagement the researcher observed and documented were: student talking/sharing, active engagement, use of manipulatives, writing/sharing correctly, focused on the teacher, up and moving, and working well with others. Besides the observation rubric, the students were given a self-evaluation rubric following each intervention that was delivered. The final outcome of this research suggests that co-teaching whole group interventions does increase student engagement.

References

Carter, C. P., Reschly, A. L., Lovelace, M. D., Appleton, J. J., & Thompson, D. (2012). Measuring student engagement among elementary students: Pilot of the student engagement instrument - elementary version. *School Psychology Quarterly, 27*(2), 61. Retrieved from https://search-proquest-com.ezproxy.nwciowa.edu/ education1/docview/1024414629/ DA69FFA333D04B3APQ/2?accountid=28306

Carter, N. (2014). Keeping students engaged with mini-lessons. *AMLE Magazine, 2*(4), 14-16. Retrieved from https://ezproxy.nwciowa.edu/login?url=https://search-proquest-com.ezproxy.nwciowa.edu/docview/1673120425?accountid=28306

Chapman, E. (2003, Sept). *Assessing student engagement rates*. *ERIC Digest* Retrieved from https://eric.ed.gov/?id=ED482269

Draper, S. (2013, March 23). *Deep and surface learning: the literature.* Retrieved from http://www.psy.gla.ac.uk/~steve/courses/archive/CERE12-13-safari-archive/topic9/webarchive-index.html

Everett, D. (2015). Adding Value: Online Student Engagement. *Information Systems Education Journal, 13(6), 68-76.* Retrieved from http://isedj.org/2015-13/n6/ISEDJv13n6p68.html

Ladd, G. W., & Dinella, L. M. (2009). Continuity and change in early school engagement: Predictive of children's achievement trajectories from first to eighth grade? *Journal of Educational Psychology*, *101*(1), 190-206. https://search-proquest-com.ezproxy.nwciowa.edu/docview/614493870/fulltextPDF/C0B7CC41CDEE4F63PQ/12?accountid=28306