How Does Teacher Collaboration Affect Student Learning?

Marcia Wagner

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Dr. Teresa San Martin
Abstract

Collaboration seems to be a new buzzword in the field of education. This paper will define collaboration, show the benefits and drawbacks of collaboration, and state the purpose of my research: How does collaboration affect student learning? A review of current literature, data collection plan, and strategies to increase validity are also included as well as predicted results.
Research Focus

We started having a collaboration time weekly at Palco Grade School two years ago. I was a part of the Grades 3-5 team which included the third, fourth, and fifth grade teachers, the Title I teacher, Special Education teacher, and Administrator, with the School Psychologist as needed. Boundaries were set up as to arriving and ending on time, no use of cell phones, staying on topic, all comments being accepted, no griping about our students or teaching situation—remain positive. The roles of facilitator and recorder were rotated so no one teacher took control of the collaboration time. Even with these boundaries in place, I felt frustrated about our collaboration time. Teachers continued to arrive late and spend time on their cell phones. Some comments were disregarded as unimportant and I had trouble seeing that this time was valuable to me as a classroom teacher. If our administrator was going to be gone during a collaboration time I usually made up an excuse to be absent from the collaboration time as comments from other teachers really got out of control without the administrator present. At times we went over test data, discovering strengths and weaknesses, but no solutions were discussed as to how to improve test scores and strengthen student learning. After doing my Literature Review I have narrowed my research focus to be “How does teacher collaboration affect student learning? either positively or negatively instead of just the broader idea of collaboration.

Search Criteria

When I tried to access ERIC, ProQuest, or EBSCOhost through their personal websites I found that I did not have access to their articles. When I did a search of articles through Deets Library of Southwestern College I was reminded that all of these websites were available through
one search. My first search was collaboration. This lead to numerous types of collaboration, not necessarily related to the educational field. I narrowed the search by using Teacher Collaboration. This was still overwhelming, so I decided to further narrow my search to reflect my question of “How does teacher collaboration affect student learning?” I used the terms teacher collaboration student learning. When I did this I found exactly what I was looking for. I was somewhat frustrated because the ERIC site had discontinued to host some of the articles. This lead to a longer search, which still had plenty of information to sift through. I also decided to try Google Scholar and had some luck in finding articles there as well.

The Literature Review

What is collaboration? Collaboration as used in the educational setting can be described as teachers doing things together in accomplishing their job (Kelchtermans, 2006). Sometimes these times together are called Professional Learning Communities, or PLCs (Lumpkin, 2010, & Honawar, 2010). PLCs are made up of teachers who are committed to improvement. This process is ongoing thus it never ends. Teachers who are a part of a PLC usually have similar values. They utilize self-examination and reflection to solve problems that could prevent the success of students. (Rasberry with Mahajon, 2008). This could also be called teacher teamwork.

Other types of collaboration are collaborative planning, peer coaching, mentoring, team teaching or co-teaching, collaborative action research, staff room talk, teachers working together (Base, 1991), shared expertise (Honawar, 2008), brainstorming (Briscoe & Peters, 1996), and technological collaboration between teachers, between teachers and students (Dunlap, Neale, & Carroll, 2000), and between students (Poling, 2005).
Topics of Collaboration include many and varied ideas. Some of these include developing assessments, creating lesson plans, discussing student learning goals, discussing instructional content and strategies, discussing student assessments, talking about how to improve student achievement (Lumpkin, 2010), using support staff to find resources (Kimmel, 2012), and examining standards (Honawar, 2008).

There are many benefits to be had from teacher collaboration. The feeling of being isolated in a one-teacher classroom is decreased (Smith, 2001) because the collaboration time can be a time to share ideas and discuss concerns (Briscoe & Peters, 1996). Collaboration can be a time for professional development (Pollak, 2009). This would be a time to learn from each other and the dependency on outside sources for teacher development would decrease. (Briscoe & Peters, 1996). An important benefit for teachers is the increased job satisfaction and increased confidence felt when part of a collaboration team (Briscoe & Peters, 1996). Teachers feel a sense of empowerment because their ideas have been discussed and validated. Teacher moral is enhanced (Cook & Friend, 1993) and the collaboration time can be specific to individual teacher’s problems and school (Honawar, 2008). Teaching is no longer driven by the standards, thus teachers no longer teach to the test (Pollak, 2009). A benefit that cannot be ignored is how the learning of students with learning disabilities or other eccentricities is addressed (Cook & Friend, 1993). These factors culminate with teachers being the drivers of change not only in their classroom but in their school as well. (Rasberry with Mahajon 2008). Teachers also become mutually accountable and feel more support from their administrators (Pollak 2005, 2009). Pre-service teachers are also being trained on the benefits of collaboration. They have a chance to try it out during their student teaching to discover the benefits so that when they become a classroom
teacher they are ready to participate in the collaboration at their schools (Santagata & Guarino, 2012).

There are many other factors to consider when embarking on teacher collaboration. The culture of the staff must be considered as well as the micropolitics, or teachers who use their power to achieve preferred outcomes (Base, 1991). Teacher background and beliefs also play a part in teacher collaboration (Smith, 2001). Many teachers prefer that their preparation time not be consumed by collaborating (Base, 1991). Collaboration takes a lot of time (Pollak, 2009), energy, and asks teachers to step out of their comfort zone (Rasberry with Mahajan, 2008). There is often a lack of trust and respect between teachers which can prohibit collaboration from being effective (Kelchtermans, 2006). When using technology to facilitate collaboration there is a feeling of disconnection because one individual is facing a computer screen (Dunlap, Neale, & Carroll, 2000).

Literature Review Conclusion

Some researchers (Briscoe & Peters, 1996 and Dunlap, Neale, & Carroll, 2000) implied that not all of the time allowed for collaboration was a focused discussion. From the research, it was decided that one should not be discouraged when our collaboration drifts from the focal points and that one should focus on the time spent on evaluating how our teaching will showing student growth. Collaboration is a great concept. The benefits do outweigh the negatives. Collaboration does address student learning in a positive light. By using the time to address student test scores, discussing student strengths and weaknesses, deciding on a plan of action together our school should be able to show growth on student test scores and student learning. Therefore, I plan to show how teacher collaboration can affect student learning.
TEACHER COLLABORATION

Purpose and Research

The primary purpose of this research study is to discover how teacher collaboration affects student learning. Will student learning increase or decrease during the study and how will the study affect student attitudes and perceptions about their own learning? My primary research question is: How does teacher collaboration affect student learning? My secondary research questions are: Will teacher collaboration concerning test scores and the placement of students in multi-tiered reading and math groups improve student test scores? And will teacher collaboration ultimately affect student attitudes and perceptions about their own learning?

Intervention

Students will be administered the AIMS web tests, MAP tests, and the STAR reading and math tests at the beginning of the year. Scores for each individual student will be recorded. Teachers will collaborate about these scores and the scores will be used for placement in multi-tiered support groups for reading and math. Teacher perception of each child will also be addressed as well as student attitude towards their placement and their learning.

The AIMS web tests will be administered during the middle of the school year and placement adjusted as necessary. All tests will be administered at the end of the year and progress recorded.

Third, fourth, and fifth graders will be given an attitude survey three times during the school year, beginning, middle, and end of the year. This survey will ask about their attitudes about their learning as well as how they think the multi-tiered groups did or did not help them learn.

Participants:
The participants of my research study will be the Kindergarten through Fifth Grade teachers in my school with the addition of Title and Special Education teachers, Administration, and the school psychologist. Other participants will include the third, fourth, and fifth graders in our school district. Our school is in a small consolidated school district in northwest Kansas with class size averaging around ten students each. Parent participation varies within each classroom level with some classes having a lot of participation and others not so much. We have a high level of students receiving free and reduced lunches. Students have a high rate of attendance and usually have a good attitude about coming to school. Teachers make learning fun, which helps foster student attitude and parental participation.

Collaboration

Collaboration is vital to my research focus. We meet weekly in grade level collaboration teams Kindergarten, First Grade, and Second Grade teachers with the additions listed above and then the Third Grade, Fourth Grade, and Fifth Grade teachers meet with the specialists from above. Once a month we meet as a school-wide team of teachers to discuss student progress. The role of each member of the teams is rotated so that each member takes a turn at being the leader, the secretary, and the time master. We state in our ground rules that we will begin and end on time and that no cell phones will be brought to the meeting.

Data Collection Plan

Primary Research Question:

How does teacher collaboration affect student learning?

Data Collection Strategies:
I will use Microsoft Excel to record pre/post test data for the various tests given. These tests include STAR Reading, STAR Math, AIMSweb, and MAP (Measures of Academic Progress).

I will have teachers complete a survey about how they perceive their contributions to collaboration.

I will keep running records of collaboration meetings and suggestions made for student placement within multi-tiered reading and math groups.

**Secondary Research Questions:**

How will teacher collaboration concerning test scores and the placement of students in multi-tiered reading and math groups improve student test scores?

**Data Collection Strategies**

- I will ask teachers to record informal observations about student progress, both positive and negative.

- I will informally conference with each student to stress the importance of his or her test scores throughout the year.

- I will use Microsoft Excel to record pre/post data for the various tests.

  How will teacher collaboration ultimately affect student attitudes and perceptions about their own learning?

- I will have students complete a Student Survey concerning how they feel about their placement in the multi-tiered reading and math groups.

- I will have teachers keep informal running records concerning student behaviors, including learning styles, keeping attention, non-school issues, and who works well with whom.

- I will have teachers make observations about the school atmosphere and how it is affected by student placement and progress in multi-tiered reading and math groups.

**Baseline Data**
The collection of baseline data will be very important to my action research project because student growth will be measured. I plan to use student grades from the end of the previous year and pre-test scores from the STAR Reading, STAR Math, AIMS web, and MAP tests as my baseline.

The data collection strategies listed above will show how teacher collaboration will affect student learning. The information gathered will help determine how teacher collaboration about student placement in multi-tiered reading and math groups will affect student learning and their perceptions and attitudes about their learning.

Plan for Increasing Validity

Multiple strategies for increasing validity will be used in this action research project. The purpose of the project is to see how teacher collaboration affects student learning. It will be necessary to use truth-validity to make sure that the facts and findings are accurate and that accurate interpretations are made and correct conclusions are drawn. Making sure that the results are accurate and are not a result of researcher or observer bias will involve neutrality/confirrmability. When the collaboration team meets and discusses student placement and progress made in the multi-tiered reading and math groups democratic validity and dialogic validity will be used. When considering the usefulness of the results with the various students’ applicability/transferability and consistency/dependability will be used. Understanding the results and student placement in the multi-tiered reading and math groups will be a vital portion of the research study.

Projected Results
The correlation between student successes and teacher collaboration should be obviously evident from the research in this study. Placing students in the multi-tiered reading and math groups should further be able to address student strengths and weaknesses and allow for further teacher instruction to be more individualized, thus resulting in the improvement in student test scores. Student attitudes and perceptions about their own learning should become more positive because the higher and lower level students won’t be competing with each other, they will be placed more nearly with students of about their own learning level. Teacher perception of collaboration should become more positive as the research plan progresses because the collaboration time will become more focused and productive.

Conclusion

Collaboration takes many shapes and forms in a teacher’s life. Using collaboration in a positive way by helping student learning to increase in a positive way will also help teacher attitudes increase about the time spent during collaboration time. By addressing student strengths and weaknesses during collaboration time, teachers will be better able to address student needs.
References


Kelchtermans, G (2006). *Teacher collaboration and collegiality as workplace conditions.*


Appendix A

Data Collection Sheets

**Reading Test Scores**

<table>
<thead>
<tr>
<th>Student Name</th>
<th>STAR Reading</th>
<th>AIMSweb R-CBM</th>
<th>AIMSweb MAZE</th>
<th>MAP Reading Score</th>
<th>Classroom Reading Grade</th>
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STAR Reading will use student grade equivalent scores. AIMS web provides a student score and percentage. It also provides instructional recommendations. MAP tests for Reading are broken down RIT bands. An average score will be used for placement.

**Math Test Scores**

<table>
<thead>
<tr>
<th>Student Name</th>
<th>STAR Math</th>
<th>AIMS web M-CAP</th>
<th>AIMS web M-COMP</th>
<th>MAP Math Score</th>
<th>Classroom Math Grade</th>
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STAR Math will use grade equivalent scores. AIMS web provides a student score and percentage. It also provides instructional recommendations. MAP math tests are broken down RIT bands. An average score will be used for placement.

Appendix B

Teacher Perception of Collaboration Time

Use + if you agree strongly
Use = if you agree somewhat
Use – if you disagree

_____ My opinions are heard during collaboration time.
_____ I am treated with respect during collaboration time.
_____ Our collaboration time starts and ends on time.
_____ We stay on topic during collaboration time.
_____ Cell phones are ignored during collaboration time.
_____ Other collaboration members do not bring papers to grade or other tasks to complete during collaboration time.
_____ Collaboration time is sacred and excuses are not made to skip this time.
Appendix C

Running Record for Items Discussed during Collaboration Time

Date __________________________________________________________

Members Present
_________________________________________________________________________
_________________________________________________________________________

Members Absent
_________________________________________________________________________
_________________________________________________________________________

Topics and Students discussed
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

Decisions reached
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

Date topic revisited ________________________________________________________
Appendix D

Informal Observation Sheet

<table>
<thead>
<tr>
<th>Student</th>
<th>Collaboration Decision</th>
<th>Dates Tried</th>
<th>Worked or Did not work</th>
<th>Intervention Discontinued</th>
<th>Other Teacher Notes</th>
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Appendix E

Student Survey

Use + if you agree strongly
Use = if you agree somewhat
Use – if you disagree

_____ I understand the skills taught in my group.

_____ I feel the work level in this group is appropriate.

_____ It is easy to stay on task in my group.

_____ I am comfortable working with my group members.

_____ I feel that my ideas and opinions count in my group.

_____ My group members respect me.
Appendix F

Timeline for Giving Tests

September 2013
- STAR Reading
- STAR Math
- AIMS web
- MAP

January 2014
- AIMS web
- STAR Reading and STAR Math as needed for placement adjustment.

March 2014
- State Assessments

April 2014
- STAR Reading
- STAR Math
- AIMS web
- MAP
Informed Consent Form  
Authorization for a Minor to Serve as a Research Participant

Dear Parents,

I will be conducting a study in our classroom to determine how teacher collaboration affects student learning. I am writing to ask permission to use the data I collect from your child during this process. Participation in this study involves only regular classroom activities. You may contact me at any time regarding your child’s participation. The school’s phone number is 785-737-4625. The principal of the school has approved this study.

The purpose of this study is to discover how teacher collaboration affects student learning, whether positively or negatively. The study will take place at Palco Grade School and will last for approximately one school year.

During the study, I will collect various forms of data to determine whether the use of teacher collaboration was successful. Possible types of data I will collect include STAR Reading, STAR Math scores, AIMSweb testing scores, and MAP scores as well as teacher observations.

Benefits of participating in this study include increased grades and student self-esteem. Only the collaboration team, comprised of teachers at Palco Grade School and myself, will have access to your child’s identity and to information that can be associated to your child’s identity.

Use of data from your child is voluntary. You may contact me at any time if you do not wish to have your child’s data included in the study.

Please check the appropriate box below and sign the form.

☐ I give permission for my child’s data to be used in this study. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.
I do not give permission for my child’s data to be included in this project.

__________________________  ________________________________
Student name                        Signature of parent/guardian

__________________________
Date

Appendix H

Project Timeline

June 1 – July 1: Initial Reflection

July 1 – August 1: Literature Review

August 19 – 29: Contact principal, school district, and IRB for permission to conduct study.

September 1 – 15: Send home permission forms; collect permission forms, follow-up phone calls to parents if necessary.

September 15 – 30: Gather baseline data by administering or proctoring STAR Reading, STAR Math, AIMSweb, and MAP tests. Insert this data into a Microsoft Excel spreadsheet.

September 15: Have teachers complete a survey about how they perceive their contributions to collaboration.

October 1 - December 20: Collaboration team will record informal observations about student progress, both positive and negative.

October 1 – December 20: Collaboration team will keep running records concerning student behaviors, including learning styles, keeping attention, non-school issues in their lives, and who works well with whom.

November 15: Students will complete a Student Survey concerning how they feel about their placement in the multi-tiered reading and math groups.

January 1 – 30: Second data collection. Re-administer AIMSweb test and STAR reading and math tests as needed for placement adjustment. Insert this data on to original Microsoft Excel spreadsheet.
February 1 – May 1: Collaboration team continues to record informal observations and running records and outlined above.

February 15 – 18: Conference with students stressing the importance of his/her test scores.

March 1 – 30: Administer Kansas State Assessments

April 1 – 15: Students will complete again the Student Survey concerning how they feel about their placement in the multi-tiered reading and math groups.

April 1 – 15: Have teachers re-complete a survey about how they perceive their contributions to collaboration.

April 1 – April 39: Third data collection. Re-administer AIMSweb test and STAR reading and math tests as needed for placement adjustment. Insert this data on to original Microsoft Excel spreadsheet.

May 1 – 15: Data Analysis. This includes test scores, teacher surveys, student surveys, running records, and teacher observations throughout the school year.

May 15 – 30: Writing Results.

May 15 – 30: Revisions of the paper.