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Putting the "Me" in Team: Examining the Benefits of Cooperative Learning Strategies on Student Motivation and Success

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Abstract

In the classroom today, there is an increased emphasis on teaching students in a way that calls on them to work with each other in order to master content on their own. Cooperative learning, in essence, incorporates models that encourage the development of student-student relationships as well as student engagement and motivation in the classroom. The aim of my research study was to implement several different cooperative learning strategies, specifically Student Teams-Achievement Divisions, in order to measure student success on two different levels. The two levels will be student motivation in the classroom as well as overall classroom camaraderie among students and their peers. These two levels were measured using Likert scale surveys, as well as constructed short-response surveys, in order to gauge student opinions regarding their individual motivation and their level of comfort with their classmates. Additionally, students were observed during class STAD activities and field observations were recorded. The results of the study showed that although students still felt hesitant toward putting their trust in classmates, overall they felt more comfortable working in groups and recognized that working independently did not produce their best work.

Introduction

In society today, there is an increasing emphasis on social networking, forming relationships and connections, and being able to successfully produce positive outcomes while working with peers. Asking students to enter the real world prepared to collaborate with their coworkers is a fair request, but only if teachers are equally prepared to set students up with the skills needed in order to successfully contribute to the workforce. Psychology has proven, over and over, that people are able to accomplish much more working together than they can when they work independently (Slavin, 1997). Thus, it is our responsibility as molders of future generations to place our students in the best position to be prepared to achieve the most success.

. Cooperative learning, by definition, includes any learning situation where students work collaboratively to accomplish learning goals and where they are dependent on each other in order to successfully complete these goals (Panitz, 1999). The implementation of cooperative learning in the classroom is essential to developing the social and work skills that students need in order to graduate prepared for the future. Not only is it important for the academic success of students, but it is also important for students to feel inclined to participate in class and to feel comfortable taking control of their own learning.

Narrowing the scope of cooperative learning even further, the English classroom presents a prime opportunity to facilitate student interaction with both their peers and their own learning. Since this study will take place in an Advanced English classroom, the students will have the opportunity to utilize cooperative learning in order to achieve their own independent goals as well as help their classmates. If cooperative learning is to succeed, students must be working in groups towards one common goal while they are simultaneously working towards individual

goals that can only be met by using the assistance of their peers (Slavin, 1997). These students, being Advanced in the nature of many of their courses, are determined to do well academically and to achieve the highest grades possible. However, I have also noticed in previous observations that there is a lack of motivation to engage with peers from outside their immediate two or three closest friends in the classroom. Additionally, the students that will participate in this research study are not used to engaging in cooperative learning strategies in their English classroom. After having responded positively to the activities when I was teaching the class for a month in the fall, measured by a Likert scale survey, I am interested in reintroducing these strategies for a longer period of time in order to measure the long-lasting effects.

This proposal will begin with a literature review, in which I will synthesize studies that have focused on cooperative learning in the classroom. This review will not only focus on benefits of cooperative learning, but will also detail specific models of cooperative learning that will be implemented for this study. Next, this proposal will outline the methods of the present research study. Using quantitative measures such as Likert scale surveys, as well as qualitative measures such as constructed short responses from students and coded field observations, I will be measuring individual student growth across two units of study as well as comparing overall class growth for two different tenth grade classes. The proposal will conclude with a list of references in order to allow for further background information for this study. Finally, there will be an appendix section where supplemental materials will be available for review.

Literature Review

The aim of this literature review is to synthesize past studies that have been conducted on the effects of cooperative learning on both student motivation and student success in an academic setting. Using a variety of journals in a multitude of subjects, ranging from English to history, and spanning grade levels from elementary schools to college courses, the research reviewed for this study allowed for the most comprehensive analysis of why cooperative learning should be used in the classrooms.

In order to most clearly and concisely summarize the evaluated sources, this review has been organized into several different categories. First, the review will take a look into the history of cooperative learning and those who have had the most influence on the strategy. Secondly, the review will synthesize several different, specific strategies which fall under the title of cooperative learning in order to best explain these strategies and their implementation in the classroom. Next, the review will explain the benefits of cooperative learning on both student academic successes, as well as on student motivation and classroom camaraderie. This section will also exhibit the benefits for both student-student relationships as well as student-teacher relationships.

Methods

In conducting the research for this literature review, numerous studies were analyzed in order to determine the best practices under cooperative learning and their multiple benefits for student learning. Using the University of Mary Washington library databases, EBSCOhost was the most referenced search engine. After reading several studies and noticing common names being referenced in many of the works, I shifted my search by looking up specific names of

theorist, such as Robert Slavin, in order to create a solid foundation for which aspects of

cooperative learning were to be addressed. There was not a set date from which I wished to begin

my search, and I realized that I would have to go back several decades in order to create a

comprehensive work that described the beginning of cooperative learning. Although the study

excluded elementary level students, there was no upper age boundary; some participants were

even students at the college level. The action research I will be conducting is with Advanced

English course students, so therefore it was appropriate to include sources that conducted

research with educated, college students.

History of Cooperative Learning

Although in previous centuries the traditional notion of a standard classroom involved a

teacher standing in front of a group of students and spewing information for them to take in, the

21st century has proved to be a time where students are tasked with taking charge of their own

learning. Implementing student-centered learning has profound benefits on both student learning

outcomes as well as on student satisfaction (Prince, 2004).

The notion of cooperative learning became prominent in our educational system, in large

part, due to the work of Robert Slavin. In the early 1970's, research on the benefits of

cooperative learning seemed to drastically increase, and such began the influx of information on

the educational strategy (Slavin, 1995). Investigations into group work had occurred before the

70s, but seemed to reach a slump in the 1950s because of an increase in the interest of the

individual following the World Wars (Gillies & Ashman, 2003). The work of Slavin has

continued to be the theoretical basis of many cooperative learning studies, as it will also serve to

inform much of the background information in this literature review as well.

As the demands of our society are constantly evolving, thus are the demands of our educational system as well. Not only are schools meant to meet the educational needs of standardized testing and curriculum knowledge, but an informal curriculum simultaneously exists which calls on teachers to educate their students on how to be good citizens and how to treat others in order to be a functioning member of society. "Schooling is meant to socialize our children into adult society, demanding attention to character development and social skills" (Estes, Mintz, & Gunter, pp. 258-259, 2011). In order to best prepare students for these social expectations, teaching them how to work with others while still in grade school is the way to pave a foundation for a successful academic and career-oriented life.

Prince (2004) notes that cooperative learning includes five important facets: individual accountability, mutual interdependence, face- to-face promotive interaction, appropriate practice of interpersonal skills, and regular self-assessment of team functioning (Johnson, Johnson, & Smith, 1998). These basic principles form the foundation of cooperative learning, and whenever the strategy is applied in classrooms these pillars will nearly always be an important function of classroom instruction. Furthermore, under this rather general term of cooperative learning there are several different, specific models that can aid in bringing cooperative learning to life inside of a classroom.

Cooperative Learning Models

Student Teams-Achievement Divisions. One of the most popularly known methods of cooperative learning is the Student Teams-Achievement Divisions model (STAD). Under STAD, teachers first present content material to the students in a direct-instruction type of teaching. Then, in their groups which are comprised of four students of mixed-ability, students are asked

to work together on worksheets and other study tools to master the content which they have just been taught. Third, students take individual quizzes. Lastly, teachers put those individual scores together to form team goals, and students are rewarded based on which teams show the most improvement in their overall score over time (Slavin, 1987).

Based on the research conducted by Slavin (1987), Nash, Ross, and Smith (1996) conducted their own quantitative/qualitative mixed study in the classrooms of third through sixth graders in an inner city school. Observing 27 classroom sessions that were one hour a piece, the researchers were able to record their observations of student responses and behaviors during the STAD model on a self-created form, and then assess those observations using a Likert-type scale: 1=weak, 2=moderate, 3=strong). At the end of the observation period, teachers were given a questionnaire using a Likert scale in order to indicate their feelings towards the effectiveness and practicality of using the STAD model in their classrooms. Ultimately, Nash et al. found that the biggest flaw in the STAD model was that the teachers did not implement the technique as they had been trained, and thus those inconsistencies led to difficulties for the students. However, the researchers also found that students looked forward to cooperative learning opportunities and were "eager to work in their groups" (Nash et al., 1996). With better implementation, the STAD model may have been incredibly effective for student achievement; however, this study showed that even under incomplete circumstances, the attitudes of students and environment of the classroom were both still greatly improved.

Literature Circles. A second strategy that is especially useful in English and Language Arts classrooms is that of literature circles. Literature circles are designed for students to be able to actively discuss a text together while having their own individual roles; these roles include: Discussion Director, Connector, Questioner, Literary Luminary, and Vocabulary Builder

(Ferguson & Kern, 2012). These literature circles prove to not only be a beneficial tool in increasing mainstream student learning, but also assisting students of a diverse background.

In her 2010 study, McElvain implemented Transactional Literature Circles (TLC) with 75 English Language Learners (ELLs) in grades four through six in California schools. This model essentially involved teachers giving whole-class, direct instruction, followed by giving students time to both read silently and then respond in their literature circle groups to the text. Weekly, the teacher would meet with the student groups in order to ensure that they are able to have a successful conversation about what they were reading. Ultimately, McElvain found that students had increased reading comprehension, increased writing skills, and increased engagement with, and motivation to read, texts. In fact, she noted that "students' reading comprehension grew one grade level in 7 months" (McElvain, p. 200, 2010). At a time when the number of ELL students is growing in our American school systems, it is essential that we are able to both engage these students in their learning and also help them to achieve academic success. McElvain proved that through a cooperative learning model, these students specifically were able to show excellent gains in their education.

Jigsaw Model. The Jigsaw model is another important model which falls under the umbrella category of cooperative learning. The model was created by Elliot Aronson in 1971, around the time when cooperative learning was coming to the forefront of educational learning strategies (Mengduo & Xiaoling, 2010). The original method of Jigsaw had students form into groups, where each member of the group was given a different piece of material to learn. These individual students would meet with the member of other groups who had been assigned the same piece of material as their own, and these individuals would form expert groups. Finally, after the expert groups felt they had mastered the material, the members returned to their original

groups and taught their share of the material to their original group members (Mengduo &
Xiaoling, 2010).

In their own 2010 study, Mengduo & Xiaoling studied 95 students in college English
classes, separated into tutorial groups over a period of ten weeks. The researchers had students
read a passage and then broke students into expert groups, assigning each expert group one
paragraph from the passage. Once the expert groups had mastered their assigned paragraph from
the passage, the students met in their original groups in order to teach their fellow members
about the paragraph they had studied. 90 of the students completed a questionnaire following the
Jigsaw activity, using a Likert-scale to measure their feelings about different aspects of the
activity. A majority of the students (71%) noted that the Jigsaw model encouraged them to talk
to classmates and accomplish the task, while 76% also noted that they learned better and felt
better when in groups (Megduo & Xialoing, p. 118, 2010). The Jigsaw model is effective in
heightening the sense of individual accountability among students so that they do not feel as
though they are letting their group of peers down in the classroom by not mastering their portion
of the material.

Small Group Discussion. Often times, small group discussions within the classroom can
lead to more fruitful whole class discussions and thus greater student comprehension of content
knowledge. Studies have even proven that students often prefer small group discussions over
traditional teacher instruction followed by whole class discussions (Hammann, Pollock, &
Wilson, 2012). Not only are groups a natural part of life in school systems – whether in the
hallways, lunchroom, or classrooms – but they are also a useful tool for helping student
academic achievement as well as facilitating social skills (Estes et al., 2011).

In a study conducted in her own classroom, Young (2007) implemented a model she calls Small Group Scored Discussion in her Advance Placement (AP) and Honors courses. After giving her students a reading or several readings, she arranges students into groups in which they will discuss the readings. Before beginning the reading, the teacher is to give students a list of accompanying questions, which range from comprehension or recall questions to questions that are meant to propel discussion among students in the group. The teacher also picks a student leader, who is in charge of making sure their group members participate and also in charge of continuing discussion whenever the group experiences a lull. The teacher then walks around and marks down student contributions during the small group discussions in order to make sure that all students meet their quota and can earn full points (usually between 10 and 15 points). Young (2007) reported that students often found this activity to be enjoyable, and that it also aids in classroom management tactics because students are very engaged in their group work and thus are not able to be disruptive or distract their classmates

Benefits of Cooperative Learning

     Student Motivation. As Slavin, the cooperative learning pioneer, points out, "Students love to work in groups" (Slavin, p. 7, 2010). Slavin (2010) explains that students not only enjoy working together, but they also need that added element of individual accountability towards the success of a whole group in order to facilitate their overall motivation to put forth the most effort toward their learning. Furthermore, Slavin notes that while the learning process is obviously affected in cooperative learning, there are also several supplementary gains that accompany these academic benefits. For instance, the processes of planning and helping peers see an additional increase because of "individuals' motivated self-interest" (Slavin, p.8, 2010).

In their 2012 study of a college class containing 53 students, Hammann et al. set out to distinguish students' perceived benefits of large class, small group, and online discussions. In order to measure the different effects of the various instruction methods, students were asked to take a survey following each of the three different instruction periods. This survey asked students frequency questions regarding their participation, questions regarding the social aspect of the different types of instruction, questions regarding the academic aspects, and finally questions of the overall student satisfaction. Ultimately, Hammann, et al. found that students think "small-group discussions are particularly likely to stimulate student interest and engage them with the material" (Hammann et al., p.72, 2012). The students also noted that overall, small group discussions increased their overall satisfaction with the course as well as their interest level.

Student Academic Success. Although student engagement and motivation is an important part of their education, it is important that students succeed academically and achieve the best scores, grades, and overall level of attainment of content knowledge that they are capable of achieving. Slavin (2010) highlights the necessity for cooperative learning in the 21st century classroom, as it has proven to be a "powerful strategy for increasing student achievement" and therefore aiding student academic success.

In his own quantitative study, Yamarik (2007) used a control and an experimental group of a total of 116 students in his macroeconomics college course in order to determine if cooperative learning positively affected student test scores. Using heterogeneous groups based on student preferences, pretest questionnaires, and pretest scores, Yamarik formed groups in which the students were to work together to solve problems and produce one group answer. For his results, following the experimental period Yamarik measured five different areas of student progress: interest, participation, preparation, attendance, and performance. Although there was

not a statistically significant correlation between student attendance and cooperative learning,

ultimately Yamarik found that test scores of students who received the cooperative learning

strategies improved by an average of five to seven percentage points. Therefore, he saw a

positive correlation between exam scores and cooperative learning instruction.

      Classroom camaraderie. Enabling students to work with their peers will undoubtedly

make them more comfortable in speaking to, or in front of, classmates. Including cooperative

learning as part of classroom instruction makes students feel included as a part of the whole, as

well as creating an overall feeling of mutual respect among classmates (Panitz, 1999). In his

groundbreaking work, Slavin (1995) the element of social cohesion that exists in a classroom

which incorporates cooperative learning activities. Having activities in which the success of an

individual depends on the success of the group encourages students to help each other and to

make sure that everyone is doing their part, which in turn forms stronger bonds among

classmates (Slavin, 1995).

      In the study conducted by Yamarik (2007), his findings showed that his own interaction

with students was increased by cooperative learning because students "seemed less inhibited

about asking questions in the small groups" (Yamarik, p. 275, 2007). When students are in a

group with their peers who validate that their questions are worth asking, they are less scared to

approach a teacher than they would be if they had feelings of isolation as though their questions

about the material were unwarranted. In addition, because in cooperative learning the outcome is

based on several students working together, the attention is often spread out among group

members and therefore there is not one student who feels singled out by the teacher (Panitz,

1999).

Summary

Research studies conducted on cooperative learning inside of the classroom has been plentiful since the beginning of the 1970s. Although Slavin led the way with his pioneer research and theoretical framework of cooperative learning, many scholars have come since his initial efforts in order to continue to prove the necessity of cooperative learning in the classroom. Several specific models under cooperative learning have proven to be particularly successful in the classroom, including those such as the STAD and Jigsaw model. Having students work together in groups where they also have individual responsibilities, and thus personal accountability, tends to create an environment that facilitates student success, both academically and socially.

Such is the case with humans on any level, when students feel comfortable in a situation they will also feel more comfortable speaking in front of, and to, their peers. In addition, students tend to become more invested in their learning during cooperative learning because they are in charge of teaching others, which only adds to their level of responsibility in completing their individual task for the good of a group (Panitz, 1999). With a classroom full of students who are now motivated and engaged in their own learning, camaraderie grows between both students and students with their teachers, thus creating an overall better environment in the school. Although the educational system is constantly developing, so, too, is the need for constant communication skills in our society; thus, the need for cooperative learning in classrooms for both student academic success as well as motivation and social skills is perpetual.

Methods

The aim of this study was to analyze the effects of cooperative learning models on student success in the classroom. In a society where people are constantly asked to interact with others and work in teams in order to accomplish tasks, the researcher wanted to focus her attention on asking students to mimic these same skills inside of the classroom. As an Advanced course, many of the students were academically prepared to respond to a multitude of tasks in the classroom. However, they have been conditioned to work independently and thus the intentions of the study were to improve their motivation and interest levels, as well as overall classroom camaraderie, by implementing cooperative learning through several models.

Site and Participants

This study was be conducted at a suburban high school located in Northern Virginia. The classrooms were two tenth grade Advanced English courses, one consisting of 17 girls and 10 boys and the other containing 15 girls and 12 boys. None of the students in these courses receive accommodations, nor do any students have an IEP or 504 plan. Of the 54 potential students in this study, 39 are white, 5 are Hispanic, 4 are Asian, 4 are black, and 2 are of two or more races or did not specify their race. The students were asked for assent before participating in this study and their guardians were asked for consent since the students are all under the age of 18 (See Appendices A and B). Of the potential pool of 54 participants, the n for this study was ultimately 25.

Data Collection

Using a mixed-methods study, the research placed an emphasis on student opinion and values in the classroom as well as their academic gains. Before beginning my 4 week study, I

asked participating students to complete a survey in order to gauge their feelings toward

cooperative learning (see Appendix C). On one page, the survey consisted of short-answer,

constructed response questions, asking the students to respond to questions about their attitudes

toward working with peers, their experiences in the classroom thus far in the year, and their

motivation levels for participation in class. On the other page, students completed a Likert scale

survey in order to place numerical values to their opinions. Students had completed a survey

such as this one when I was previously placed at the school for four weeks in the fall. At that

point, I had asked them to complete the survey in order to evaluate my performance as a teacher

and to better instruction for the spring placement. Therefore, they did not feel uncomfortable

with the format of a Likert scale and many recognized the familiar format.

My study focused on one particular unit in the classroom. In this unit, I taught *Catcher in*

the Rye by J.D. Salinger over a three-week period. Before beginning my study, I explained to the

students what the STAD model was and how it was going to operate in our classroom. Students

were then placed into teams ranging from three members to five members and were told that

those teams would be known as their "STAD teams" for the rest of the unit. Students took

several different STAD quizzes, and each time the results were given I rewarded the team with

the highest overall average score and the team with the greatest improvement from the prior quiz.

The students were rewarded with candy and/or gumballs. When delivering the results of each

STAD quiz, I never told the students their individual scores and I did not record the scores as an

official grade in the grade book. The purpose of this was to discourage teammates from placing

blame on one another for achieving a low grade, and to instead encourage students to ensure that

each member of the team had learned the material and was able to take the quiz. When students

were working in their STAD teams to master material, the researcher took field notes and made observations on student participation and behavior during the cooperative learning activities.

Following the *Catcher in the Rye* unit, I gave students a survey that was identical to the pre-test in order to measure their responses to the activities in the unit. Students noticed that the survey looked familiar, and I explained the process to them. Students were not shown their previous scores from the pre-test, and were instead encouraged to take the post-test having done the STAD activities as well as supplemental Jigsaw and modified Jigsaw activities.

Data Analysis

Using the surveys as the first measure for data analysis, I was able to look at students' constructed responses in order to measure their thoughts on the cooperative learning process and its effects on their learning. Although conducting individual interviews was considered, because these students are Advanced 10th grade and because of previous interactions and knowledge of student strengths, completing a short answer questionnaire was a more effective way of gaining the most data and honest opinions from the students. Once the data was collected, student responses were then broken down by Likert item and then by individual student in order to show changes from the pre-test to the post-test. In addition, quantitative changes in data were noted by calculating the average Likert response to each individual item on the pre-survey and then calculating the average Likert response to those same items on the post-survey. These averages were then compared to one another in order to measure overall change, showing whether students tended to agree more (A) with the statement in the post-survey or whether they tended to disagree more (D) with the statement.

In addition to this quantitative data, students were also asked to respond to short-answer questions on the pre and post-tests. Their responses were then coded in order to fall into certain categories. For instance, the first question asks, "How do you feel about cooperative learning?" Responses were coded into "Like", "Dislike", and "Depends." All responses were able to be filtered into one of these three categories. For each short-answer question, if a student raised multiple points or made multiple bullets, their responses were recorded multiple times and in several different categories. Once all responses were coded, the number of responses was totaled and compared between the post and pre-tests in order to measure the level of change.

The last piece of qualitative data was the recorded field notes that were taken during in-class STAD activities. These included observing both verbal and nonverbal behaviors of participants in order to note any changes that may occur both on a day to day basis and as a whole from the first survey to the last. Additionally, field observations focused on the environment of the classroom as well, taking note to see how interactions between students changed and developed and how their attitudes seemed to differ throughout the unit. All of these various forms of data were then combined in order to establish the overall findings of the study.

<div align="center">**Findings**</div>

Quantitative Findings

In reviewing the data, the findings were divided up by Likert scale questions and a chart was made for each of the questions in order to show the results. Two questions from the Likert survey were dismissed due to the nature of the question being inconsistent with the study and being inconsistent from the pre-survey to the post-survey. The other Likert questions, along with

More comfortable	28%
Same level of comfort	28%
Same level of comfort, at a 4 or 5	28%
Less comfortable	16%

their results, are discussed in detail in the following section. For each chart, the percentages on the right hand side signify the number of students who felt a certain type of way after completing the cooperative learning unit

Likert Item #1: Comfortable Raising My Hand in Class
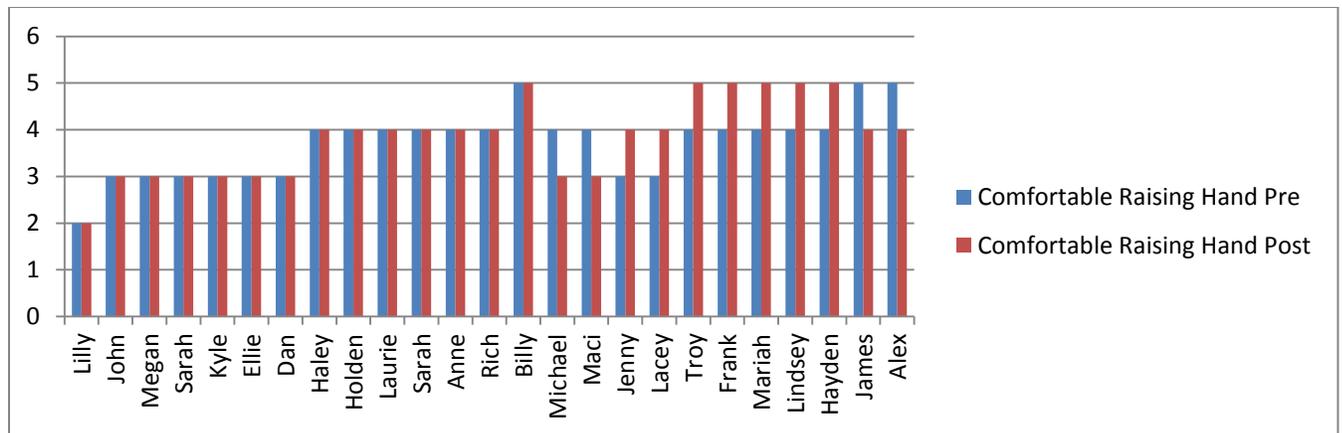
The first Likert question asked students whether they agreed or disagreed with the statement, "I feel comfortable raising my hand to participate in class." This question was intended to measure student comfort in class with activities such as speaking in front of their peers, which often is a vulnerable situation for students. After having worked in small groups through the STAD model, the hypothesis was that students would feel more comfortable around their peers and that the sense of camaraderie would encourage them to participate in class discussions. Studies have shown that students who work in small groups ultimately feel more at ease among their peers and have the sense of mutual respect (Panitz, 1999; Slavin, 1995). The findings for this study showed that students showed that the numbers were fairly even distributed, with only 16% of students saying they felt less comfortable raising their hand. 28% of students already strongly agreed or agreed with the statement, and 28% also experienced no change in their level of comfort. However, 28% also said they felt more comfortable raising their hand, thus lending additional support to the previous work of Panitz and Slavin. Although some students felt less comfortable, they still did not disagree with the statement, but rather returned to a neutral position or merely changed from "Strongly Agree" to "Agree", thus showing that working in small groups did not cause any students to feel drastically less comfortable.

Likert Item #2: Comfortable Talking to Other Students

Same level of comfort, at a 4 or 5	28%
More comfortable	24%
Less comfortable	24%
Same level of comfort	24%
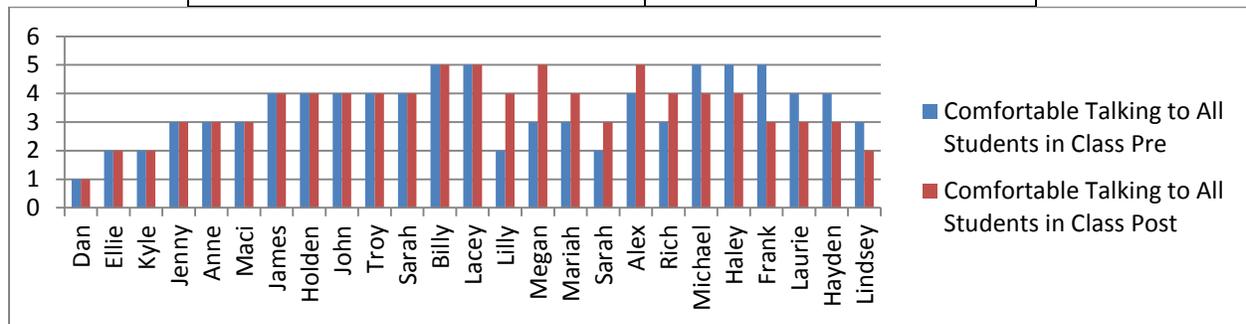
The findings from this particular Likert item were admittedly the least conclusive of the

seven items. At 28%, the largest section of participants felt the same level of comfort; however,

these students also began the study feeling very comfortable talking to all of their classmates.

The majority of participants felt the same level of comfort or less comfortable, at 28%, which

can be accounted for by the deliberate formation of the STAD groups. Students were allowed to

choose the groups in which they sat, which ultimately led to them working with students whom

they had already worked with or knew outside of the class. This type of social isolation in groups

seems to have caused a minority of the students, 24%, to feel less comfortable talking to all of

their classmates, but, based on qualitative data from field observations, these students seemed

more comfortable talking to their immediate STAD teams. These limitations will be further

discussed in the following section.

Same level of comfort, at a 4 or 5	80%

Less comfortable	16%
Same level of comfort	0.04%
More comfortable	0%

Likert Item #3: Comfortable Talking to Ms. Partonen
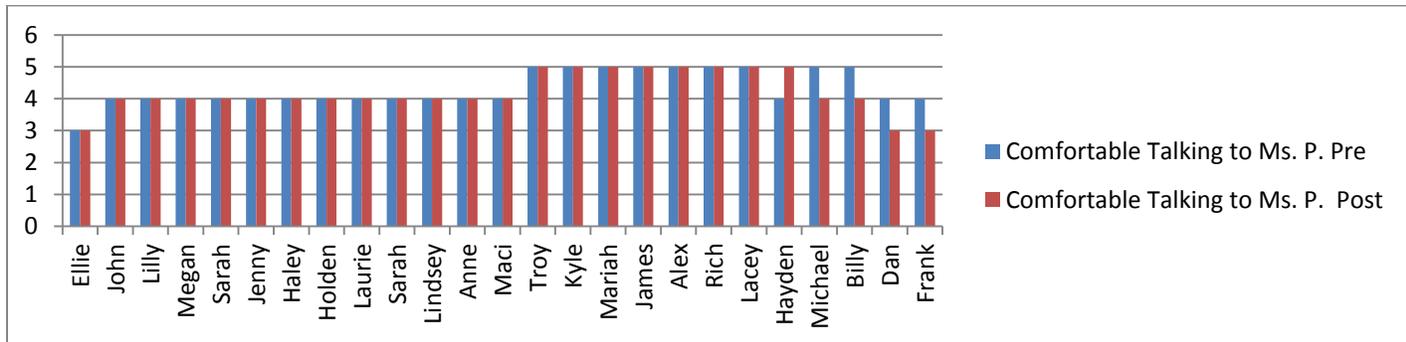
This particular section of the Likert scale was heavily skewed due to the fact that the

researcher had taught the same students for a month period in the fall. Therefore, the

overwhelming majority of the students (80%) already felt a high level (a 4 or 5 response) of

comfort with asking questions and talking to the researcher (Ms. P.). Additionally, because these

students are taking an advanced course, they often times are more inclined to ask questions and

be invested in their learning. Since the aim of this study was for students to collaborate in small

groups, the researcher would often encourage them to ask a group member a question before

having to turn to the teacher. Some students may have felt as though they were not allowed to

ask the teacher questions, and thus that accounts for the 16% of students who felt less

comfortable raising their hand. However, the aim of the study was to increase classroom

camaraderie and that meant, at time, sacrificing the role of the teacher in facilitating students

relying on their peers. However, there were 0 students who said they felt a low level of comfort

(responded with a 1 or 2) in asking their teacher questions or speaking to their teacher.

Likert Item #4: Comfortable Working in Groups

Same level of comfort at a 4 or 5	68%
More comfortable	24%
Less comfortable	0.04%
Same level of comfort	0.04%
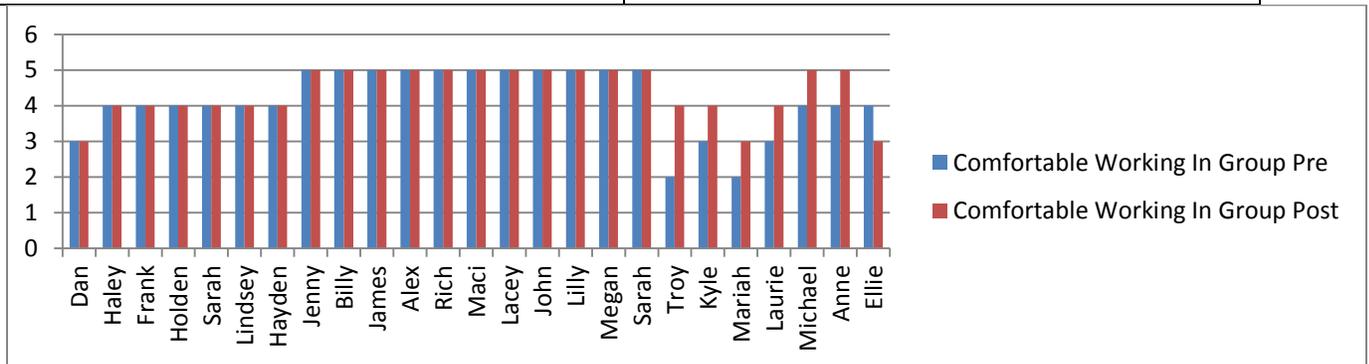
This Likert item served to exemplify how comfortable students felt when they were asked

to work with their peers in a group. By the time of the post survey at the end of the unit, all

students felt either neutral or comfortable when working in groups with their peers. This

demonstrates that no student felt uncomfortable when they had to work in groups, therefore

showing that classroom camaraderie had increased overall.Since they worked together

throughout the STAD unit, it makes sense that they felt this level of comfort since they were

experiencing constant exposure. This data may have been skewed by the fact that students were

able to choose their own groups and therefore most likely chose to work with people with whom

they already felt some level of comfort towards. It is also worth noting that the majority of

students already felt comfortable working in groups before they ever began completing the

STAD activity. However, doing these activities certainly could have made the students feel less

comfortable working with each other, so it is noteworthy that the students did not experience a

negative change at the completion of the study.

Likert Item #5: Best Work Done in Groups

Agree at same level that best work is in groups	36%
Agree less that best work is in groups	32%
Agree more that best work is in groups	20%
Agree same level at 4 or 5	12%
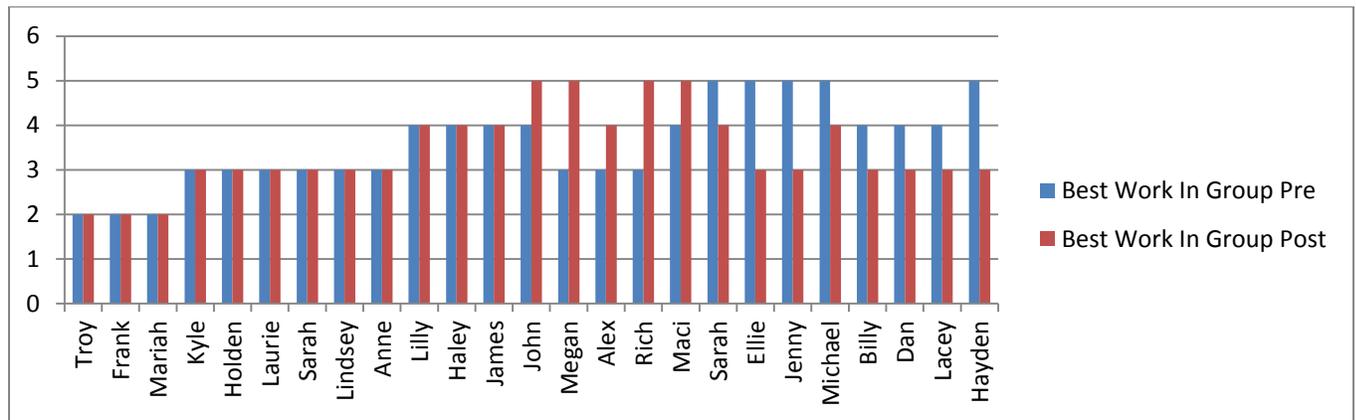
Looking at the results from the particular Likert item shows that while other results imply

that students realize the benefits of working in groups, they were not yet convinced that working

in groups was going to produce their best work. However, similar to results from other Likert

items, the only students who still felt that they did not do their best when working in groups were

ones who felt that way before the unit as well. Other students who experienced a decrease in

their response only dropped to a neutral position. Because students were able to choose their own

groups for the STAD teams, they may have been more likely to get into groups with people who

they are friends with and not necessarily with people who are the hardest workers. Therefore,

after the unit, they may feel as though they enjoyed working in their groups but that the

enjoyment and social aspect sometimes dominated the academic aspect and therefore their best

work was not always produced. However, data from this response seems to be in direct

opposition with the data results from the next Likert item, which will be discussed in the

following section.

Likert Item #6: Best Work is Produced When Working Alone

Agree less that best work is produced when working alone	44%
Agree the same that best work is produced when working alone	28%
Agree more that best work is produced when working alone	24%
Agree the same at a low level	0.04%
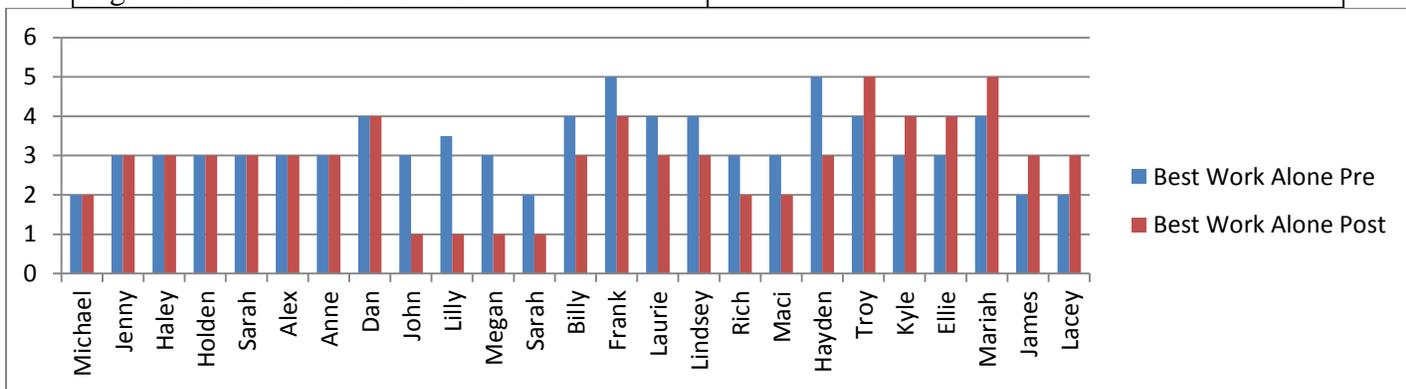
Looking at the second to last Likert Item, it becomes apparent that while students may

have felt some ambiguity in certain areas of cooperative learning, they certainly understood that

working alone was not the best option for them as both a class and as individuals. After

completing the various STAD activities, 44% of students agreed less with the statement "I do my

best work when I am working alone." This shows that nearly have of the participants realized

that their work produced independently may not have been as strong as they had thought. Seeing

as these Advanced students were so very intrinsically motivated, recognizing that their best work

was not produced when they only had themselves to rely on was a huge factor in affecting their

motivation in the class. In addition, recognizing the need for more voices, opinions, and the help

of others also inevitably increases the sense of overall classroom camaraderie.

Likert Item #7: Prefer Working Alone

Prefer working alone less	32%
Prefer working alone more	24%
Prefer working alone the same	24%
Prefer working alone same, at 1 or 2	20%
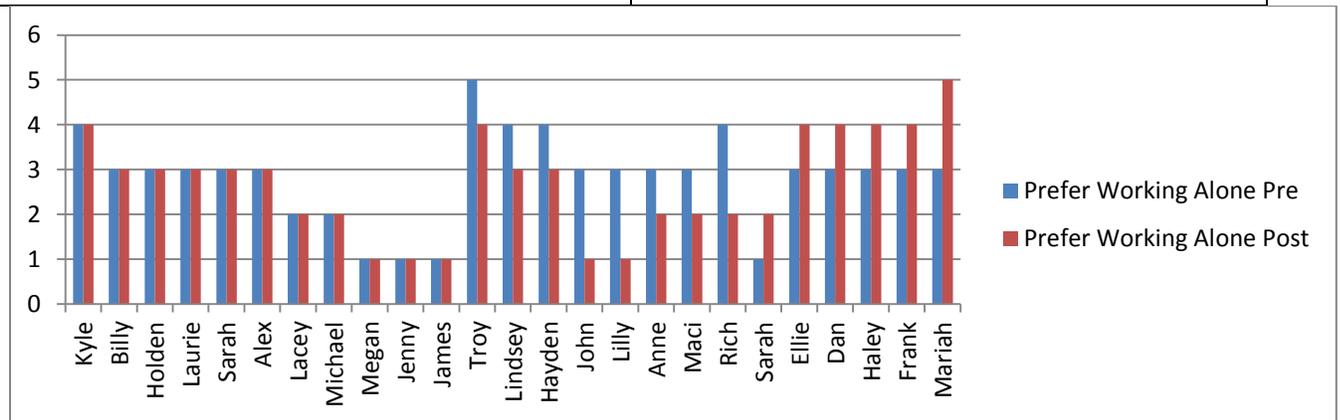
As is evident in both the above table and graph, the largest section of students (32%)

preferred working alone less after they had completed the unit. Additionally, students who

strongly disagreed with the statement "I prefer working alone" did not change their responses,

showing that completing the STAD unit did not make them more likely to want to work alone.

These findings were complemented by the behavior of the students in class, which consistently

showed that students enjoyed working in their groups and seemed to have positive attitudes in

class sessions where STAD quizzes were used. Additionally, reports from the short answer

response of the Likert survey show that students preferred working in groups far more after

completing the STAD unit than they did in the pre survey (see Figure A).

Students who responded that they would choose to work in a group (versus with a partner or alone)	**15%** **(pre)**	**40%** **(post)**	**+25%** **(total change)**

Figure A.

Whereas in the pre survey only 15% of students responded that they would rather work in a

group than with a partner or alone, by the time of the post survey 40% of participants said they

would voluntarily choose to work in a group if they were given the option. Although other data

may have showed that students were not confident that their best work was produced in groups,

they certainly seemed more motivated to work in groups and seemed to think that was the better

option, albeit socially or for the camaraderie, for them as individuals.

Qualitative Findings

      Increased classroom camaraderie. One of the main differences observed in field

observations as well as short answer, qualitative responses, highlights a change in students' aim

when working cooperatively with one another. Initially, students tended to want to rush through

group assignments and use each other for the division of labor, thus lending to not as well-

produced work. Two different students, who will be referred to as James and Holden, both noted

in their pre-surveys that the benefits of cooperative learning included the fact that they could "get

work done faster" due to the fact that each individual person could have their own role.

However, when students were asked the exact same question on their post-surveys, James noted

that cooperative learning was beneficial because you could "make sure your answers are correct and also discuss why you got your answers" while Holden highlighted the fact that you can "learn what everyone's take on the book is."

The differences in the benefits that these two case study students noted show that while students initially believed group work was meant to get one task done more quickly, by the end of the unit students did not mention anything about the time spent on the activity and instead listed benefits that would theoretically take **more** time when implemented. Both students expressed that being able to have group discussions and hear everyone else's opinions made the activities more beneficial and useful for their individual success. Thus, the camaraderie of the class was increased as students recognized their need for one another in order to achieve the most out of their learning.

Hesitance towards camaraderie. While the benefits of working in groups seemed to be plentiful, there were stipulations that came along with the eagerness students felt about working with their peers. Many students reported that the downside of working in groups is that the peers with whom they work will not pull their weight when completing assignments, thus causing them to have to take on all of the work themselves. Often times students said, on both the pre and post surveys, that they liked working in groups when they were allowed to choose their partners. It appeared that this desire to have autonomy in choosing groups was driven for both social and academic reasons. While students seemed to be more engaged during STAD activities and more actively talking with their groups, they also wanted this autonomy because they then felt they could choose peers whom they trusted to pull their weight in the group.

Furthermore, field observations taken during the STAD activities brought to light another potential detriment to classroom camaraderie inside of the cooperative classroom. When results were given for each STAD quiz, students were not told what their team average was unless they were in first place and had the highest total of all of the teams. However, teams were told what place they came in for each quiz (see Figure B)

TEAM NAME	PLACE (BEST AVERAGE SCORE ON QUIZ 3)
BIRDS	1st (95.8%) (T)
RAWK	1st (95.8%) (T)
BEES	2nd
PEAS	3rd
LIONS	4th
PHONIES	5th

Figure B.

The aim of excluding specfic percentages was to discourage students from blaming one another for low grades or the inevitable shouts of, "We lost because of you! You weren't listening!" While encouraging self-accountability as well as peer-accountability is an important facet of cooperative learning, facilitating blaming and teasing are preventable side effects when appropriate caution is taken. However, students still tended to look to each other, regardless of the fact that percentages were not revealed, and place blame on certain students in a joking manner. These jokes could quickly turn to seriousness, however, so it was important to remind students that this was a team effort and that they were responsible for teaching each other and making sure that each member of the team was the prepared for the quizzes. With these constant

reminders, students seemed to stay more on track with encouraging one another and embracing the camaraderie that is necessary to succefully implement cooperative learning.

Increased student motivation. Along the same lines of navigating the ever troubled waters of blaming or teasing students, other field observations combined with short answer responses showed that students felt more motivated, and expected more motivation out of their peers, following the unit of study. Many students listed benefits similar to the ones from James and Holden, noting that they liked being able to hear other opinions and to also check their answers with one another in order to make sure that they were on the right track. Students seemed more motivated in class to make sure that they had mastered the concepts, often engaging in quick speech and hurried summaries in the final two minutes of small group discussion before they were set on their own to take the STAD quizzes.

Inside of the classroom, there was also an overall sense of excitement and engagement when the participants were completing the STAD activities. Each day, more and more students would participate in a whole class drumroll before the researcher revealed the results of the previous class period's STAD quizzes. Additionally, students would ask if there was going to be a STAD quiz on any given activity, and they seemed to buckle down and truly focus on chapters from the book or on any given topic when they knew that a STAD quiz was attached to the assignment. Although the only tangible motivation for students was to receive a piece of candy for achieving high, or improved, scores, the students still seemed to become increasingly motivated during each class period to excel in cooperative learning.

Case Study: Rich

Before the STAD unit. One student that truly took to the cooperative learning model and seemed to benefit exponentially was Rich. When taking the presurvey, Rich responded that benefits of working in groups included the fact that his classmates could tell him when he was wrong. This sense of self-deprecation is one of the recurring themes I saw in Rich in class, where he often did not contribute to his group assignments or seemed much more shy or reserved. Additionally, on the presurvey for the Likert items, Rich recorded a 4 for the question "I prefer working alone," indicating that he agreed with that statement. Also on the presurvey, Rich marked a 3 for the statement "I do my best work when I am in a group," indicating that he felt neutral towards that statement. Both the qualitative and quantitative data showed that he was not comfortable with his classmates nor was he not confident and motivated within himself.

After the STAD unit. Throughout the STAD unit, Rich had multiple changes in both his attitude while in class and even in the informal conversations had before and after class. By the time the study was completed, he was much more outgoing, more likely to say "Hello" upon entering the classroom, and much more engaged during classroom activities. During the supplemental Jigsaw activities, Rich paid close attention to the discussions his group was having and demonstrated increased confidence when he reported back to his home team during the activity. O

In the post survey, Rich stated that the benefits of cooperative learning were: "We can collaborate and put all of our knowledge together so that the answers don't just come from one source." Rich transitioned from viewing group work as "them vs. me" to a more collaborative effort where his opinions are just as valuable as those of his group members. Additionally, Rich recorded a score of 2 for the "I prefer working alone" statement on the post survey, stating that he now disagreed with that statement. Rich also recorded a 5 for the statement, "I do my best

work in groups," showing that he now strongly agreed with that statement. Both quantitatively

and qualitatively, Rich showed that cooperative learning made him a more motivated student,

both academically and in the social aspect of developing a sense of classroom camaraderie with

his peers.

Discussion

In the time dedicated to explaining and carrying out the instructional design of the STAD unit, daily activities as well as supplemental assignments made it very evident that the students in these Advanced courses were often intrinsically motivated. These students worked tirelessly on individual writing assignments and achieved, for the most part, fairly high scores on their individual exams. With that intrinsic motivation, however, comes a lack of comfort in relying on peers to either make or break one's grades. Often, students reported that they would work in partners or groups if they could choose, or that one of the drawbacks of working in groups is that not everyone pulls their weight. Advanced students tend to take responsibility for their own portion of the work, but instead fear that their group members will not do the same. Whereas previous research points to the importance of students having their own specific task within a group and the idea of self-accountability (Johnson, Johnson, & Smith, 1998; Prince, 2004), this research study has proven that trusting peers to do their parts and having that peer-accountability is as integral to the success of cooperative learning in the classroom.

Limitations

Choosing of groups. Due to the inevitable time constraint of snow days placed upon the study by mother nature, the original two novel unit was cut down to just one unit instead. The original plan was to have the students choose their groups for the first STAD unit, and to have the researcher assign groups for the second unit of study. However, since the second unit was never implemented, the data only represents student responses and gains based on being in groups of their own choosing. This can present a problem because students are more likely to choose group members whom they can trust and whom they know will do their part in the given

assignment. Additionally, it limits the opportunities for students to meet and work with students in the classroom that they are not naturally inclined to talk to.

Lack of formal grading. Although the researcher graded each individual STAD quiz and calculated an overall team average, these scores were never entered into the gradebook as a formal grade. This can present a limitation to the research for a couple of different reasons. Primarily, students may have not taken the assignment as seriously and therefore not have put as much pressure on themselves or on their peers as they would have had these grades impacted their overall quarter grade. While blaming and taunting were discouraged in this study, had the grades been entered into the gradebook, students may have reacted differently when their team received a low score and may have wanted to blame a groupmate. In turn, this could have skewed their opinions of cooperative learning as a whole.

Secondly, students may have been more inclined to choose groups with their friends, regardless of their friends' academic abilities in the classroom. Since the students knew these were not formal grades, they may have just wanted to be in a group with their friends, which could undoubtedly skew the data of their opinion towards working in groups. Had students been told that their STAD quizzes were formal grades, they may have been more inclined to choose groupmates who reflected their same work ethic and were going to help them achieve their overall goal.

Suggestions for Future Research

Researcher-chosen groups. In order to conduct more studies on this same topic in the future, researchers should consider choosing the groups themselves for the STAD teams. These teams are meant to be heterogeneous, and can be based on mixed-ability or even on the

researcher knowledge of social ties and peer relations inside of the classroom. By having the

researcher choose the groups, students would be forced to bridge the awkward social gap among

teenagers who come from different social backgrounds. In addition, this would allow the

researcher to clearly establish if students enjoy cooperative learning because they are with their

friends or if they truly find it to be beneficial for their attitudes toward school.

Formal grades for STAD quizzes. As mentioned in the limitations sections, attaching

formal grades to the activities that students do as a part of the research study is a way to

encourage them to take the activties seriously and to try their best. Although for Advanced

students there is truly rarely an issue with students putting their best foot forward, there is still

the added incentive of knowing that each activity could help their grade or give them extra points

that will result in them holding themselves and their peers more accountable. Additionally, there

would be an interesting research study to see if the STAD model would actually deteriorate peer

relationships if formal grades were attached to activities because some students may begin to

blame or resent their partners for their lower grades.

Implcations for Teaching Practices

Trust-building among peers. After conducting this research and examining the data, the

biggest piece of advice for educators is that it is their job to facilitate trust among peers and to

encourage the individual to repeatedly do the right thing in order to gain that peer trust.

Holsapple & Wu defined a term known as knowledge- base trust which is "grounded in

knowledge about another party developed through repeated interaction" (Holsapple & Wu, p. 47,

2008). This type of trust is established based on seeing repeated behaviors from peers and then

using that repetition to form a sense of trust in what their behavior will be and how they will act

in a given situation. In Holsapple and Wu's study, they establish that knowledge-based trust is not simply based on hearing from others that a certain person is trustworthy, or getting outsider recommendations and suggestions, but instead seeing first-hand that a person is able to be trusted (Holsapple & Wu, 2008).

Based on the findings from this research, having students engage in trust-building exercises at the beginning of the year would be especially beneficial in an Advanced classroom where students will be working in groups often. These trust-building exercises do not need to be cliché, but rather giving students group tasks with individual assignments within and having the groups complete these assignments. Although at first some students may not fulfill their roles, after a few exercises, students will most likely learn what is expected and thus be able to prove themselves and their work ethic to their peers. Additionally, having a classroom where students can trust any given student to complete their work will serve to increase overall classroom camaraderie as well as individual student motivation to not let their classmates down.

Conclusion

Although there has been an abudance of research dedicated to the idea of implementing cooperative learning into the classroom, there seemed to be a gap in the literature regarding the effects of groupwork on students that take Advanced courses. By conducting this particular study in an Advanced 10th grade English setting, this gap was accounted for and the results seemed to answer several questions while also opening the door for other researchers as well. The participants in the study experience an increased sense of classroom camaraderie in the sense that they appreciated their peers and the bonds that they formed, while they also gained a new understanding of the benefits of cooperative learning and felt more engaged in the tasks and thus more motivated through working with their peers.

However, this study showed that students must have an opportunity to build trust with their peers in order to foster positive relationships and therefore reach productivity in group work. Students often worry that their group members will not do their part of the work and thus feel hesitation when placed into groups. However, if students are able to be exposed to their peers doing the correct things over and over, then they will gain knowledge-based trust and feel more confident moving forward with their groups.

In the words of Robert Slavin, the pioneer of cooperative learning, "It is not enough to simply tell students to work together. They must have a reason to take one another's achievement seriously" (Slavin, p.201, 1996). With the proper transparency and insight into the benefits of cooperative learning, coupled with the notion of knowledge-based trust and the reiteration of the task at hand, for both the individual and for the group, all students can reach their full potential while simultaneously getting the best out of their group members as well.

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Appendix A

Dear Parent or Guardian,

Hello! My name is Samantha Partonen, and I am the student teacher in your child's 10th grade English class. I am currently enrolled at the University of Mary Washington, where I am working towards obtaining my Masters of Education. As part of the degree requirements, I am to complete an action research study in the classroom where I am placed. Thus, I am asking for your permission to have your child participate in this action research study. Their participation is completely voluntary, so you can certainly choose to have your student not participate. I am now going to briefly explain the study I will be conducting.

My primary focus in this study is to determine how cooperative learning strategies affect student motivation in the classroom, student academic success, and overall classroom camaraderie. Cooperative learning is centered on students working with their peers in order to accomplish one major goal, while still having individual responsibilities in order to contribute to the success of the group. All of the instructional practices for this study will be a part of the daily routine and activities in the classroom. If your student does participate in the study, they will not be required to do any extra work.

I am asking for your permission to give your child a survey to complete that will ask them to respond about their feelings towards cooperative learning and their success in the classroom. I am also asking for your permission to observe your child in the classroom and to take field notes on those observations.

As I previously mentioned, this study is completely voluntary. If a student does not participate, it will not negatively affect their grade. All names will be changed and pseudonyms will be used in the actual study itself. If your child does participate, but then decides throughout the course of the study that they no longer wish to participate, they are free to withdraw from the study. They would still participate in the activities, but none of the data from them would be included.

The benefit of this study is that it will help me learn about how cooperative learning helps students in the classroom, both socially and academically. The only risk of this study is that your child may feel slightly uncomfortable when they are responding to the survey since it asks questions about their feelings towards different areas of class. However, this risk will be minimized by having students complete the survey individually and privately at their own desks.

If you have any questions or concerns at this point or at any point in the study, please do not hesitate to ask either myself (spartone@mail.umw.edu) or my university supervisor, Dr. Antonio Causarano (acausara@umw.edu). Please return this form by January 16th, 2014.

I can't wait for the opportunity to work with both you and your child during my time in the classroom!

Thank you,

Samantha Partonen

I have read the above letter and give my child, _____, permission to participate in this study.

_____

(Parent/Guardian Signature)

I, _____ agree to keep all information and data collected during this research project confidential.

_____

(Researcher Signature)

Appendix B

Hello students!

It is so nice to see you all again and I am very excited to be back in the classroom working with you. I am writing this letter to not only say hello again, but to also ask for your permission in helping me with another study I am conducting for my own school work!

Remember how I was doing the study in the fall about vocabulary, to make sure you all had learned the material I was teaching? Well, I am doing another study this spring! This time, I want to study how cooperative learning affects your motivation in class and how you feel about working with each other. I loved how you guys worked so well in small groups in the fall, so now I want to do a study and see how it affects your feelings and attitudes in school.

If you do not want to participate in my study, it is totally fine. You would still do all of the same activities as the rest of the class, I just wouldn't record any observations or include any of your responses in my data. If you choose not to participate, your grade will not be affected whatsoever. Let's say you decide to be in the study but change your mind halfway through – that is totally fine, too. It is completely up to you!

If you do decide to participate in the study, I will keep all of your information confidential. I will only use the data to help my study. Your real name and private information will never be revealed.

So please take a few minutes and talk this over with your parent or guardian. If you, or they, have **any** questions at **any** point in the study, please feel free to ask me! In fact, I encourage any questions you may have.

By signing this form, you are agreeing to be a participant in my study. Remember, you can always ask me questions!

Thanks,

Ms. Partonen

I have read the above letter and agree to participate in this study.

_____

(Student Signature)

I, _____ agree to keep all information and data collected during this research project confidential.

_____   (Researcher Signature)

Appendix C

Sample Survey Questions

1. If you were assigned a major project, would you choose to work on that project alone, with a partner, or with a group? Why?
2. In your time in 10th grade English, not including the **** unit, did you feel that most of your work was independent or do you feel that it was mostly designed for you to work with your classmates?
3. What are some of the benefits of working in a group with your classmates?
4. What are some of the drawbacks of working in a group?

Sample Likert-Scale Survey

I feel comfortable raising my hand to participate in class.

1   2   3   4   5

I feel comfortable working with a group during class assignments.

1   2   3   4   5

I prefer working alone on class assignments.

1   2   3   4   5

I feel comfortable talking to all of the students in my English class.

1   2   3   4   5

I feel comfortable talking to Ms. Partonen when I have a comment or a question.

1   2   3   4   5

I enjoyed working with my peers during the *XXXXXX* unit.

1   2   3   4   5

I would have rather done the *XXXXX* assignment alone.

1   2   3   4   5

I do my best work when I am working alone.

1   2   3   4   5

I do my best work when I am working in a group.

1   2   3   4   5