THE PENNSYLVANIA STATE UNIVERSITY

SCHREYER HONORS COLLEGE

DEPARTMENT OF CURRICULUM AND INSTRUCTION

# COOPERATIVE LEARNING IN THE ELEMENTARY CLASSROOM

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Spring 2010

A thesis
submitted in partial fulfillment
of the requirements
for a baccalaureate degree
in Elementary and Kindergarten Education
with honors in Elementary and Kindergarten Education

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## Abstract

This thesis is the combination of observations of a fifth grade classroom and background research concerning the topic of cooperative learning. Cooperative learning is an effective tool used to enhance student learning, as well as to boost self-esteem, promote understanding between students, and lessen competitive tendencies in the classroom. By observing the students, one was able to make connections between background research and apply it to actual student involvement in cooperative learning activities.

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# Chapter I. Introduction

## A. Why Cooperative Learning

Upon brainstorming thesis topics, the choices were overwhelming. There was encouragement to choose a topic I felt passionately about; not one that had the most available literary material or observation opportunities. My thoughts were of what had impacted my own classroom learning. At the time, the semester course requirements included group work. This further solidified the distaste for group work that had been experienced since elementary school. I felt strongly about this topic, and when the choice was made, there was an eagerness to begin the research. As a competitive student, my feelings were passionately anti-group work. It seemed that one individual, which was always myself, would take control over any given tasks, because it would otherwise not have been completed by groupmates. Group activities were therefore time consuming exercises that seemed to give my peers the grade I had earned, and therefore did not seem beneficial to my learning.

It is apparent that this research began with a negative outlook on cooperative learning. There had been hope that the findings would discount all of those who had said along the way through my education that group work was worthwhile. Ultimately, I was immediately proved wrong once my research and observations began, and am now enthusiastically pro-cooperative and group work. The reported findings, through classroom observations and background research, reveal how such a transformation can take place.

After research and observations on cooperative learning, I was able to understand why cooperative learning had not been effective in my own classroom experiences. If a teacher establishes a sense of competition in daily activities and then places students once every two weeks or so into groups to complete a task or project, the sense of competition is still there; the students will be unable to step out of the "do better than other classmates" mindset. Therefore, classmates will be competing instead of helping each other learn. In addition, the focus had been on receiving a higher grade than the other groups. This meant that the concentration was not on bettering themselves, but just beating the other "teams."

The idea of implementing cooperative work in the classroom is an important topic to consider. After all, education is not solely about the information being taught, but also whether the manner in which it is presented is the most effective way to teach it. This can determine how a student feels about being in school. Slavin (1990) states that "Evidence has mounted documenting the effectiveness of cooperative learning strategies for a wide array of outcomes, from enhanced achievement to improved intergroup relations and acceptance of mainstream classmates to self-esteem and positive attitudes toward school" (p. xi). By focusing on a cooperative classroom, students are learning with each other, not against each other. Slavin explains that competition in the classroom can oftentimes be unhealthy, because peers reward mediocrity instead of excellence. Therefore, students do not encourage each other to excel and peer pressure can lead students to not achieve their best. In cooperative learning, all students must do well in order for the group to learn and complete the task. This means that students encourage

each other and a student who puts forth effort towards learning is praised by peers. In a competitive environment, an individual's success is measure against their peer's failure, and thus encouragement for another to do well is infrequent.

B. What is Cooperative Learning

It is first important to discuss why cooperative learning would be beneficial in the classroom. By having students learning together they are strengthening their social skills as well as enhancing their learning. According to Kutnick (1994), student learning is supported by having "close relationships" with peers and cooperative learning encourages peer relations.

Reynolds (1994) states that there are three specific reasons to use cooperative learning and these are "motivational, educational, and ideological" (p. 24). Students become motivated by the concept of working together in a social setting because being involved may allow them to enjoy themselves more, thus making learning feel more like play than a chore. This is because group work is oftentimes carried out through the use of games, which is the case in the observed math class. When the students worked together, the task was usually called a "game." However, as an adult, one would observe that the tasks were not games at all. For example, the students oftentimes worked with small paper squares with decimals or fractions on them. They were meant to work out which number was greater than another. Because the task was labelled a game, and was done cooperatively for a few rounds, and then competitively (although they often helped each other out during the competition portion anyway) the students found the work

stimulating, and since play "involves not only the mind" but also "feelings and values" the information was more likely to "stick. (Reynolds, 1994, p. 24).

The second reason to utilize group work as described by Reynolds (1994) is on an educational level. The conventional approach of learning in which a teacher supplies students with information observes information and knowledge as "'truth' to be uncovered" (p. 26) A cooperative approach allows information to be obtained by the students not only from the teacher, but from their peers, and also views obtaining knowledge as a social process that constructs, deconstructs, and then reconstructs knowledge.

Reynolds (1994) explains that another feature of group work is the use for ideological reasons. This encompasses using collaboration to teach individuals about a democratic society and the principles within it. Therefore, students will not only learn better working in a group and learn more sensibly that "knowledge is generated" (p. 27). They will also learn that they must work cooperatively throughout their lives, and will help to participate in a society that believes this to be true and which is practiced by the other individuals within the society.

Theorists have designed various frameworks for learning, such as David Kolb's cyclical framework (Reynolds, 1994). This framework supports cooperative learning because of the experiences, observations and reflections, conceptualized generalizations, and active experimentation involved. According to Reynolds, John Dewey believed "intelligent learning" is developed when students reflect on experiences or observations. (p. 31) This cycle can be represented by thinking of it

in this manner. There is a "group activity of some sort"(experience) which then includes "feedback of observations by trainers or participants" (observations and reflections) (p. 32). This is followed by "a discussion with or without input by trainers (conceptualization) followed by when "individuals plan what they will do in future" (experimentation).

However, one must keep in mined that learning is not always as structured as this framework represents. For example, discussions and reflections may occur during the experience, instead of after, as suggested by Kolb. In addition, the teacher's assigned group work does not always have a specific intended outcome. Therefore, the activity would not fit into a framework when the outcome is for the participants to share their unique experiences.

For instance, the observed group of students were assigned a task where they were to read about owls as a class, and then broke into groups. Each made a poster highlighting the specific points of an excerpt from the reading, and upon completion, utilized the jigsaw method by "teaching" the rest of the class their specific owl facts. In this lesson, the intended outcome was for students to learn facts about owls through their readings, from their own created posters, and from their classmates' posters and teachings.

However, if the teacher asked those students to rejoin their groups and design a plan to teach the kindergarten class about owls, this would represent an outcome that is not predetermined by the teacher. The teacher does not know how the students will present their information, as it could be through technology, a play,

posters, or any other number of ways. Therefore, to limit cooperative learning to an educational design would be restricting what could be achieved through group work (Reynolds, 1994).

One must remember that the individuals who comprise a group working together will have unique personalities, experiences, knowledge, motivations, skills, and goals. The group members will also have different "history of group work, confidence, and understanding of instructions" as described by Reynolds (1994, pg.35). Each group will function differently because of this and may reach separate outcomes.

The backbone of successful cooperative learning is individual accountability (Slavin, 1990). All students must engage in the lesson in order to learn from the group members as well as help their peers in their learning. By holding the students accountable to be active in their learning and participate in the group tasks, the teaching is assuring that all students benefit from the activity.

## Chapter II. Methods

The observations reported in this document were conducted in a fifth grade classroom. They occurred during a sixteen-week period of student teaching in that class. The class had twenty-one students, except during mathematics, when there were twenty-two students who were of the highest ability in the grade. It is understood that the findings from observations are specific to these particular students. This research is not meant to generalize cooperative learning, but to explain how it is used which is unique to this group of students.

Most of the data collected came from observing students as they worked in pairs during their daily activities. Since cooperative learning was utilized in the math class during most lessons daily, math group work accounts for much of the presented observations. Poster presentation observations were also conducted during math class. Other recorded data came from observations during science, social studies, and reading, as well as during independent tasks during the day.

Most observations were conducted while the student teacher circulated the classroom during paired activities. That data was collected through writing in a notebook and then entered into a computer. Video and audio recordings were never used. Because of this, some of the observations are summaries rather than word-for-word accounts of discussions. However, when it was appropriate some exact dialogue was able to be collected. This happened when the student teacher transcribed the discussion as it was happening. This was when both the words were spoken slowly enough to be copied down exactly, and the student teacher already

had the notebook open before the discussion began. If this was not possible, summaries of the events which took place were recorded.

Other data was collected from individual tasks and activities that reflected a cooperative learning atmosphere in the classroom. Some students were also asked during their group tasks how their work was progressing, and whether they liked working in pairs or would rather work alone.

Most of the group work was done in pairs or threesomes and was not highly structured. The work often did not follow a framework such as Kolb's, as previously described in the Introduction. It was simply students working together to complete a task, and thus learn together as well as from each other.

The background information on cooperative learning is incorporated into Chapters III and IV. The analysis and research background can be found within each section of the chapters. This allows the reader to directly discover how observations relate to other findings on cooperative learning research by theorists, experts, and scholars.

## III. Planned Cooperative Learning

### 1. Positive Outcomes from Cooperative Learning

#### A. When Students Combine Learning Styles

During cooperative work, the experience sometimes involves one student assuming more of the teacher role, than the students discussing the material as equals. This does not necessarily mean that one student is not participating. It can be that one of the partners is an "expert" in the area and is able to explain and guide the other student through the task. According to Slavin (1990), within the cognitive elaborative theory "learners must be engaged in cognitive reconstructing, or elaboration, of material" in order for retain any of the information (p.16). This means that those who have information explained to them learn more than those who work alone. However, those who actually do the explaining gain more than their partner from the activity.

The following observation occurred during an activity that worked with animal skulls in order to understand how a dichotomous key works. The task gave a specific student the opportunity to act as the teacher for his partner, which not only helped his classmate but was a boost in self-esteem for himself.

One particular student who had difficulty in math and writing had been interested in skulls and had done his own prior research. He had the chance to display his knowledge, as he explained different parts of certain skulls to his partner as they explored the dichotomous key and moved from table to table. The student

he was paired with is a child with ADD who ordinarily has difficulty staying focused, especially when reading. Because the first student was excited and informed about the topic, he was able to explain the concepts to his partner thoroughly, with enthusiasm. It was boosting his own self-esteem, helping him to further remember the information he was explaining, and allowing his partner to stay engaged throughout the activity by minimizing his need to read, through the aural teaching his partner provided to him.

Although it was previously mentioned that the elaborator learns more than the listener, in this situation the listener learned much more than he would have if he had been working alone, because of his difficulty concentrating when reading. This is a key example of taking into account the various styles of learners in the classroom and addressing their needs. According to Lopez and Schroeder (2008), after they incorporated cooperative learning into a classroom, assessment scores were higher than average in comparison to assessments from when teaching methods had not been varied.

The following observation involves students who have similar ability as they worked together. The gap between how much is gained among the partners when one teaches the other does not have to be vast. In this example, two students were working together during a math lesson. They were investigating growth patterns, and while they were not specifically asked to devise a formula, one of the students had recognized what formula would work for the problem they were exploring.

First student: *Oh! Look! I've figured it out! (x + 5) +1. Oops. I'll use "b" instead of "x". So (b + 5) +1.*

Second student: I thought of it as adding 5 down the line.

First student: *That's right too! But you can see it in a math way my way. Using. . . a . . . formula! Yeah!"*

Second student: How does it work again?

First student: *(b x 5) + 1. See, you put in "0" instead of "b," it works. You put in "1" this time, it works again!*

Second student: Oh, okay! I see.

The first student assumed the role of a teacher as she explained how the formula she found worked. She was able to help her classmate understand the formula through her explanation without simply giving her the answer. It can be noted that the first student did not reject or scoff at her classmate's simpler method of solving the problem. Instead, she enthusiastically provided her peer with a more efficient method. She even stated "That's right too!," which acknowledged her classmate's correct computation, although hers was indeed a more efficient way.

Paired work encompasses Lev Vygotsky's cognitive behavior theories and learning through social interaction (Dixon-Krauss, 1996). A prominent part of cooperative learning is students working within their zone of proximal development. According to Dixon-Krauss,

> "Vygotsky believed that good instruction is aimed at the learner's zone of proximal development. He describes the zone of proximal development as encompassing the gap between the child's level of actual development determined by independent problem solving and her level of potential

development determined by problem solving supported by an adult or through collaboration with more capable peers" (pg. 14).

Vygotsky explained that the adult would shift their speech while guiding the student through the task, as stated by Dixon-Krauss. It would "move from very explicit directives to vague hints and suggestions" (pg. 15). This is called semiotic flexibility. There are three key elements that the teacher uses to support learning. These are:

1. The teacher mediates the child's learning.
2. The teacher's mediational role is flexible.
3. The teacher focuses on the amount of support needed.

The methods depicted by Vygotsky are structured, yet group work enables students to scaffold each other without being directly aware of it. The student may not be purposefully giving their classmate hints, but by leaving them gaps and providing opportunities for their peer to fill in the missing information, they are demonstrating a simpler version of what Vygotsky had described the teacher's role as being.

In this case, the students' zones of proximal development are very close. According to Slavin, a "small gap" such as this is better than a large one. Therefore the student was able to quickly understand that her addition method could be translated into a more efficient formula, which her classmate had used and explained.

B. When Students Combine Learning Styles

It is not necessary to state that there are many different levels of ability in every classroom, and that students learn at different speeds and with various strengths depending upon the subject matter. Because of this, students within the same classroom benefit from learning differentiated instruction, because there will be kinaesthetic, visual, and auditory learners in the class. According to Sego (1991), cooperative learning is re-entering the classrooms of public schools. This is due in part because "students of the television generation tend to lack the social skills required for working cooperatively with others," as well as students believing that learning is a passive activity (p.7).

By bringing students together to work, they are able to combine their abilities to teach others which allows them to reinforce and further understand the knowledge they have all ready obtained. This also means that students learn from the other students who may understand the material in a different way than them, and thus benefit greater than if they had been working independently.

C. Cooperative Learning and Self-Talk

i. Self-talk that Helps the Individual

Vygotsky found that inner-speech influences the thoughts and learning of students (Dixon-Krauss, 1996). There were several students observed who regularly used self-talk during group work, because they were allowed to be vocal

during that time. If the students were working alone, they would be required to be silent, and the student would not be able to talk themselves through the problems and their work.

This is an example of one student and her self-talk. While working with a partner, she was able to talk herself through the problem, even answering herself, by saying dialogue such as

> *"No, that doesn't seem right. . . oh!. . hmm. . . still not right. But If I had a 3, well, okay, if I add a 4, it is much closer. Since it's close, I'll add. . . a 6 and there it is! Okay. Great. Next problem."*

Her speech was not directed towards her partner, but used with a wondering tone, and almost whisper that one would use to try to remember where they had left their car keys, and were merely "thinking out loud."

ii. Self-Talk that Helps Others

While the previous example was of students talking to themselves for their own benefit, sometimes other students benefit. In the observed math class, there was one student who particularly excelled. During every observation he quickly understood the math concepts, almost instantly, as he went through each problem. No matter who he was paired with, whether it be one of the other top students or a peer who struggled, he spoke his ideas aloud.

While he did not necessarily need to coach himself along in order to understand what he was completing, he was aware that he was working with a partner who may need some further explanation. He stated exactly what he was thinking, and why he was doing it, throughout an entire problem. He seemed aware that he was acting as the teacher, often pausing to let the other student think about what he said for a moment. He would also look at his partner's face while he was explaining his ideas, and he seemed to be making sure that they were not confused.

D. Cooperative Learning to Raise Self-Esteem

According to Robson (1994), "to enter into any new learning we need a balance between challenge and support". This means the task must not be unmanageable and support must not be lacking. Through this balance students are able to enhance their self-esteem, which comes from a student's self-image and image of the ideal self. These are the concepts of "who am I" and what they think a valuable person is. Robson elaborates by explaining that what we experience is beneficial to us when investigate and challenge these experiences. When students are able to successfully complete challenging tasks, which can be done with support, students are able to match their self-image with the ideal self. The smaller the gap between these two ideas, the higher their self-esteem. The following observation demonstrates how self-esteem was also fostered through an overall cooperative atmosphere in the classroom, which was enhanced by a lack of praise for competition by the teacher and students.

One day in math was quite different than what was normally observed. The students were instructed to work with a partner to play a "game." It was called "smaller to bigger" and did not seem like a game, since it consisted of small, square cardstock cards with a different decimal on each that were to be put in ascending order. However, the students did not view it as practice, as they were excited to meet their partners to begin the activity.

This is a prime example of using partners in order to create a more animated classroom where drill and practice would often be used. It is also exactly the type of activity that would be classified as using cooperative work as a tool for motivation, as previously discussed in this document. It is meant to teach through play and fun. Students were told that to begin the game, they were instructed by their teacher to "work together, cooperatively to order the numbers." However, they were told that after they had a few rounds and "got the hang" of how to play, they could then play it competitively.

In a classroom with a more competitive atmosphere, the students may have gone straight to playing against each other, to see who was "better" at ordering the decimals. However, in this class it seemed that about half of the groups never moved onto that stage of the game at all. It was not that they did not feel comfortable with the rules or the concepts; one may assume this when thinking about their teacher instructing them to play against each other once they felt sure about the game. It was that it had no purpose to them. They seemed to enjoy

completing the activity as a team, working together, helping each other, and with this they were satisfied.

This classroom did not provide applause and encouragement for being the best during lessons, including those other than math. The focus was on how well they explained an idea to their partner. When students were working together the attention was not directed to one of them solely, but to the both of them. Grades were only emphasized when an individual had done much better than they had previously, and the teacher was proud of them, not because they received a certain amount of A's. Therefore, the praise was genuine, and a student could be congratulated by the teacher for getting a B, for example, if they had been receiving D's regularly.

As the student teacher, there have been many observations of students individually, in partners, and as a whole class. There have also been the experiences of correcting homework, grading tests, and leading discussions with students as an entire class, as well as by themselves. Therefore, there was an awareness of who the students with the top grades were.

However, most students participated equally in class, took part in discussions, and were given the chance to explore and develop their own ideas. No particular student had been dwelled on or given special treatment. When a student figured out a solution to a difficult problem, the other students congratulated that peer.

Because of these factors, it does not seem that students in the math class would even know which classmates did most well. This is especially true since tests were put in a "Friday folder" that the students put into their backpack at the end of the day on Friday. Therefore, they had not had the chance to look through them and compare scores. By the time Monday came around, students would have most likely forgotten about the test they took the week before. It was a great way for students to keep their test grades to themselves. This is important because they did not compare themselves with another student, which in turn will make sure self-esteem is high and helps lessen competitive tendencies.

E. Students Who Work Well with Others

Of course, an individual's cooperation and the ability to work with others is successful at varying degrees based on their personality. Some people may simply be more aware of what a person is feeling or thinking, and whether someone will simply volunteer their ideas or need some coaxing. One student constantly asked for the opinion of others not because he felt unsure, but more out of courtesy.

For example, when it was his turn to write on the poster, he asked his partner what color he thought he should use. When he wrote the heading, he then asked his partner if he wanted to add anything or change the way he wrote it. While he was completing any part of the activity, he said exactly why he was doing a certain thing or what he was thinking about it, so his partner would know his thoughts and be involved at all times, even when the other was actually doing the

physical part of the task. The two then finished their poster by literally writing on it at the same time. One would write in pencil and the other would trace over with the marker.

2. Flaws in Cooperative Learning

F. When Cooperative Learning Lacks Cooperation

i. Students Who Take Over

It is interesting that even when some students "took over" the activity, they most likely thought they were including their partner. For instance, there was a workshop involving animal skulls in order to understand how a dichotomous key works. Students worked in pairs to investigate the skulls. In a particular group, one of the students took control of the exploration. He held the skull, while hovering over the desk they were working at, and made every decision as the pair moved through the dichotomous key activity. However, that student continuously talked to his partner, sharing every idea and thought about the skull and the choices they could make. Therefore, taking into account that he "discussed" his ideas the duration of the activity, if he were asked whether he and his partner worked as a group, one could consider that he would say yes, he had worked with his partner to find their answers. As an observer though, it is apparent that he did all of the work.

However, some days students who normally worked as a team would barely discuss what they were doing with one another. For example, two students who would normally speak over each other trying to explain to the other what they

thought about the problem or task, just filled out the worksheet next to each other. One was confused, and his partner simply let him look at his worksheet to figure out the problem. One had exclaimed "I'm confused," so the other said "Look here." He slid his paper so his partner could see his work, while he continued working towards the bottom of the page. His partner's eyes scanned the problem for a few moments, then with an "ohhh" he returned to his paper and continued the work.

This interaction between the two students could bring up two separate ideas about cooperative work. The first idea concerns the ability of the students. For instance, if the pair had been lower ability (these two were both top in the class) then one could believe that the students would not have been able to complete the task in the manner they did. They might have needed to work together to find the answers. Another student may have needed the peer who understood the activity to explain his work to him. One may wonder whether the student who pushed his paper over was aware that his partner would understand the math problem just by looking at it. Had he simply been too "into" his work to bother explaining the work? Had he planned on helping his classmate if after a minute he still was unable to understand? It could have been either of these.

This idea reveals that one cannot generalize and cannot assume that because students usually work well together and cooperate, that they will always operate this way. Another question is whether the students did the task alone because it was simple for them, (which is most likely not the case because one student was confused at the start), or whether they were having an "off" day, possibly an

impatient or "cranky" attitude that morning, and simply did not want to work with others. After observing these two students, there were so many possibilities that it became obvious one must never assume or generalize why a certain event took place. The observer must not look too deeply into situations, but sometimes simply take them for surface value.

It is interesting to note that the original title for this sub-section had been "Students Who Take Charge." However, after one particular observation of a group of eight students, it was apparent that there is a vast difference between taking "charge" and taking "over." The following account reveals "taking charge" as a positive and helpful aspect to large group activities.

There were eight or nine students who had ten minutes to share their book projects with each other before lunch. It truly was a time crunch, and one particular student realized it. As soon as all groupmates had sat on the carpet, one student "took charge" by declaring that they complete the task by going clockwise around the circle. Then he stated "Okay, you start." He then urged each student along, making sure that they did not digress or give too lengthy of an explanation, by saying "Okay, next person's turn." He was not being pushy, he was being efficient, and his classmates seemed to recognize this. He even checked the clock as they continued the activity, and announced, "Two minutes left" when the time had come.

This encounter seemed to make a distinction between "taking charge," which is assuming leadership and has a positive connotation, and "taking over," which is disregarding others and being in control. This student had immediately become the

group leader and it benefited the activity by ensuring the task was completed in the allotted time.

### ii. Students Who Refuse to Work with Others

Observations revealed that cooperative learning will not work if students do not have the mindset to work together. For example, one student asked every day before an activity if he could work alone. Each day the teacher explained that this was partner work, and that he was meant to learn with a partner, since that could help a person understand ideas and come up with new concepts. He would then find a partner, but take over the task.

His desire to work alone meant that he would take complete control of the activity, and need to be in such command that he would refuse to let his partner even hold the marker. Other times, he would sit next to a partner and convince that group member to do the work alone. They oftentimes had different results, which made it apparent that they were not working together.

When it would be pointed out that he and his partner were not working together as instructed, he would justify his choice to work alone by saying they were going to compare their work afterwards. While this is of course another form of cooperative work, since it allows students to explain their reasoning and hear the reasoning of another individual, this did not qualify in the classroom as partner work, since that is what the groups would do as a whole afterwards. All pairs would

meet on the carpet to explain, discuss, and explore each other's methods, observations, and solutions.

According to Piaget, an important aspect of learning from experiences develops from conflict with a peer concerning experiences and concepts (Foot, Thomson, Tolmie & McLaren, 1994). This occurs through dialogue and is different from a discussion with an adult, because the student will argue with a peer, instead of simply accepting what an adult says as truth. Through challenging each other's thinking, students devise concepts through conflict and idea forming. When a student refuses to collaborate with a peer and allow thinking to be shared and discussed, the student is robbing themselves of valuable learning and development.

### iii. Students Who are Free Riders

One of the pitfalls of cooperative work are the "free riders" (Slavin, 1990). These students are those who do not take part in the group work, but simply watch and copy their partners' work. Observations reveal that this may not be due to laziness, but could be because they are unsure of the answers. Their partners may be moving too fast for their ability to follow, so they allow them to find the answers and discuss what is being explored.

The following example is a dialogue between two students, who were working in a group of three.

First student: *Do you think we should start with the harder one?*

Second student: We should write that one first.

First student: *Well, I'd say it grew at a steady rate.*

Second student: That's what I would say too.

The third partner looked on during the five minutes of observation, and simply copied what the other two students wrote.

It can be concluded from the collected findings that students who were "lost" during the task or did not want to be part of the activity, did not ask the others what they thought. They would simply follow along and watch what the other wrote, or sit back and not participate. Those who asked questions such as "what do you think?," "how should we do this?," or "do you think this is right?" were students who understood the task at hand as well as what working in pairs was all about.

The questions were more so discussions, exploring together, explanations, and finding out what the other was thinking. In essence, working together and valuing each other's opinions. In many observations it was found that those who did not know what step was next would not speak up to ask a question, but actually wait for the other person to give them suggestions. After working together and understanding how partnered work operates, they seemed aware that their partner would notice they did not know what to do, and would help them with whatever came next.

### iv. When Partners Just Aren't Good for Each Other

During this skull dichotomous key activity previously explained, there was one pair that had a difficult time. While it would not particularly be considered "free

riding," although one student normally did, the two had difficulty during the task. The one student always copied the others work during math, or just followed along, never taking charge. The other student has difficulty with reading material. She could understand concepts when they were explained to her quite easily, but when she read, she was often clueless about what was being stated. This pair needed constant help, and their peers were eager to give them assistance. They would not even have to ask for help, which was often an observation in the classroom; if a student heard another say "I'm confused" or "I don't get this," even if it was not directed towards anyone to hear, a peer often stepped right in to offer their expertise on the subject.

It seems that the pair would have been much more successful if they had been split up and worked with different partners. Essentially, this is what happened, since a peer would take time out of their own activity to guide them through the part of the activity that they were having trouble with. Yet instead of having one person to help the pair, such as if they had been a threesome, several students throughout the class period left their work to help the two students.

This raises another feature of cooperative learning, which is how groups are formed. According to Sego (1991), groups are either chosen by the students, randomly assigned, specifically picked by the teacher, or assigned on the basis of particular criteria. In this classroom, the students most often got to choose their own partners, especially in math. This was not normally problematic, but situations such as the one described above reveal that there were activities where the students

may have benefited if the teacher had assigned the partners. The teacher may have been able to foresee difficulties with certain students being paired together, and thus could have chosen more suitable partners for them. Some researchers have concluded that the teacher choosing partners for students during cooperative activities is best, since the teacher can think about skills and motivational levels of those involved and pair classmates accordingly (Haywood, Kuespert, Madecky, & Nor, 2008).

It is interesting to note that off-task behavior was not observed during cooperative learning. This does not mean that it did not occur, but there were rarely moments when the teacher would have to address that students were not completing the assignment. In a study it is reported that cooperative learning actually improved off-task behavior (Pate-Clevenger, Dusing, Houck, & Zuber, 2008). A group of students were surveyed before and after group activities had been implemented in their lessons. The second survey revealed that 85% of the students agreed or strongly agreed that they were more able to stay focused on their tasks since cooperative learning had been incorporated.

# Chapter IV. Atmospheric Cooperative Learning

## A. Cooperative Learning Reflected in Daily Activities

### i. During Individual Work

Cooperative learning had become so second nature for the observed class that they would speak up to help each other during individual work. The student who was being helped always seemed appreciative, and never as if the other student was talking out of turn.

During math, the students helped each other understand concepts and ideas in pairs, but as this example shows, also as a large group. After the students had completed math work, they were meeting on the carpet to discuss what they had discovered during their task. A student began to explain what she had found.

First student: *Then I multiplied 5 x 6 to get 30.*
Teacher: (Pause) I don't see where you're going with this.
First student: *Well. . . I multiplied 5 and 6.*
Teacher: I'm not following why though.
Second student: *I see what she's doing! Can I help her explain?*

The student then explained to the teacher what his classmate had done, and the first student thanked him, agreeing that she had been thinking that during the problem. The teacher "ah-ha"ed and also thanked the student for helping his classmate out.

Because the classroom was not of a competitive nature, students were accepting of other's help. As this observation reveals, this cooperative atmosphere allowed for spontaneous aid to fellow students, which was appreciated by classmates.

ii. During Other Activities

The observed students each have access to a laptop computer and have opportunities to use them throughout the week. While circulating the room this is what was seen and heard.

> First student: *My computer is stuck.* (Two students jump up to help him.)
>
> Second student: Let's see. . . control-alt-delete usually works. To get out of that page maybe. (The first student performs control-alt-delete, but nothing happens on the screen.)
>
> Third student: *I think you should try to reboot it. I've seen that before.*
>
> First student: I think you're right. I'll just restart it.

The importance of this observation is that throughout daily activities the students were in tune to their fellow classmates' successes as well as their need for assistance. This student's peers could have easily ignored the comment "My computer is stuck" and waited for the teacher to help out. The students were eager to help him figure out the problem though.

The students were prone to automatically help each other, since it was an accepting and non-competitive environment. They had a difficult time when they

were not allowed to help one another, such as with a spelling worksheet. Although they were being productive by helping each other, it was not what they were supposed to do, and were instructed to sit in silence to complete their work. It was hard for them, since they instinctively turned to their partner for assistance, who naturally helped them understand directions or gave hints. This coordinates with Vygotsky's idea of the zone of proximal development and previously discussed, since the student is leaving gaps by giving hints, and allowing for the their peer to enhance their learning by discovering the answer on their own.

B. Cooperative Learning as an Atmosphere

i. When Cooperative Learning Becomes an Instinct

During their math lessons, students often created posters to explain a certain mathematical concept in partners. During this particular task, students were given a division problem, and were to write an imaginative word problem to display their understanding that the meaning of a remainder varies upon the circumstances, such as some being left over or the need to round up to the next whole number. The students were to then present their poster to their classmates when all groups had finished.

Poster presentations seemed the most interesting cooperative learning activities in the math class. When the first group stood in front of their peers, it was of three boys. The student in the middle automatically held the poster, and one of the boys read their word problem that was written in marker on the sheet. The student in the middle then began to explain the math problem which was written

below it, and how they reached their answer mathematically. The third student began speaking as soon as the previous student had finished, and explained what the remainder meant in their created word problem.

The three students spoke in a fluid manner, picking up on each other's brief pauses and understanding it was their turn to talk, without making eye contact or giving gestures. Also, the teacher never prompted them beforehand by suggesting they decide who would talk when, or to take turns while explaining. It simply happened during their presentation, which they gave calmly and confidently.

The next group was comprised of three girls, and the presentation closely mirrored that of the previous partners. The students took turns speaking without the need to let the other know it was their turn. It seemed instinctual. The only difference was that one of the students rephrased what her partners had said when they explained their reasoning. It was not to discredit her peer, but to emphasize what they had intended to display with their word problem.

The next presentations from the students also followed this pattern, aside from one. Two of the three students did not seem to be paying attention while the other spoke, and were actually poked by their partners when it was their turn to explain the poster.

Because the math class was small, being comprised of only twenty-two students, the classmates had many chances to work with each other throughout not only this school year, but years in the past.

The students' work was reminiscent of being on the varsity soccer team. By senior year, the same girls had been playing together for nine years. This meant that on the field, teammates often relied on instinct instead of verbal communication; everyone simply knew each other, and their playing strategies, well enough to know where one would be on the field at a given time.

The cooperative learning in this classroom seems to have created the same type of communication without the need for words. Students were able to pick up on each other's feelings and thoughts, knew that their partner was finished talking or that it was their turn, and would pick up exactly where their group member had left off in the explanation. It simply flowed.

However, it was noted during one presentation that two students who were usually most excited about their findings during math, found it difficult not to talk over each other. They had to be told to stop and decide who would speak.

Another example of instinctual cooperation is when the students were working on polygon math in pairs of two or threes. Some groups would collaborate and help another having trouble, or would comment on each other's progress if they saw that a group had a unique shape or had progressed fast. One student saw that another group was having trouble so directed them to look at their work to help them see that theirs needed to be fixed. He said "Look! This is double this! See? You are going too far."

ii. A Welcoming Atmosphere

At the beginning of a math activity involving partners, a student was working alone. The student teacher approached him and the following ensued.

Student teacher: *Who is your partner?*

Student: No one wants to be my partner.

Student teacher: (Speaking to everyone) *Class, who is willing to work with a third person?"*

Four hands shot up in the air, without even looking up to see who the "third person" the student teacher was talking about was. The event was brief and simple, yet an incredible experience. The students did not care if the person being spoken of was one of their close friends or the person they liked least in the class. There was a peer in need so they offered their help, which in this case was providing a group for them to join.

C. Cooperative Learning Outside the Classroom

With the observed students cooperation was not limited to academics. For example, during a volleyball tournament, two of the fifth grade teams made the play-offs, and members from both teams were in the same class. These teams wore their jerseys in school during the entire week of the playoffs, and they and their peers were buzzing about it. They wrote encouragements on the board at the end of the day, and some even stayed in during recess to draw up posters in support of the teams.

During my observations throughout the day, I took special care to note whether there seemed to be a rivalry between the two teams. One must take into consideration that they are only fifth grade recreational teams, and would obviously not feel as serious about it as, for example, a high school travel team would. However, this does not mean that it is not a competition, as there is a winning and a losing team.

Throughout the school day, whenever students brought up the tournament during a discussion, I was listening with particular attention to hear an exclamation similar to "Our team is best!" or "We scored more points than you last night!" However this did not happen.

It was the opposite. The morning after a game, a student burst into the door and ran up to tell me that the night before they had been first in their bracket, and the other team had won second in their bracket. She revealed excitement for both teams. Most of the students who entered the classroom told each other about the games and never failed to mention how the other team faired, even though one had come in first and one had come in second. There was no bitterness or jealousy in the voices of those who came in second, and no superiority in what was said from the team that had come in first. It would seem that the support the students learned within their classroom was applied to the sports they played, even for the other team.

D. Cooperative Learning as a Whole School Experience

When asked about how the school environment differed from other school districts she had taught in, a teacher at the observed school stated “our school really has a feeling of cooperation and celebrating each others’ accomplishments.” She explained that the students are more supportive of each other than any school she had experienced. In past teaching positions, she found that jealous children would "bad mouth" others who had done well. She further commented that her co-workers themselves are more cooperative than those where she had previously taught.

While this may seem to be digressing from the cooperative learning of the students being discussed, it seems that it may play a role in a school’s success of working together. The particular school observed seemed free of competition. Observations had never included students nor teachers comparing classes during the time spent there.

During a student teaching seminar, there had been a discussion of the concept of school culture and “toxic” environments and what this could do to the overall atmosphere of the school. According to Peterson (2002), “School culture is the set of norms, values and beliefs, rituals and ceremonies, symbols and stories that make up the ‘persona’ of the school.” School cultures can be positive and can determine a school’s success or be negative which can “hinder growth and learning” and is unhealthy for staff and students.

Fellow peers at the attended seminar made connections the high schools they

had attended, where administration and teachers oftentimes had disputes which lead to opposing views concerning academics and school rules. Several stated that the students themselves were aware of the negativity and hostility between teachers and administration.

During the seminar, there was an immediate connection between the school within this document and what was being discussed about school culture. This was because there seems to be a complete lack of toxicity in the school. Throughout the months of observation, between the teachers' lounge, recess duty, hallway encounters, and any other interactions between faculty and staff, all involved were friendly and seemed comfortable with each other. This cooperative environment is so strong that while discussing toxic cultures, the connection was made to a school which was not toxic. It was strongly the opposite.

# Chapter V. Conclusion

## A. How Students Feel about Cooperative Learning

When reflecting upon my original dislike for working in a group, from elementary years through my college education, there was a curiosity to investigate the attitudes of the students being observed. During most activities the classroom would be buzzing with excitement about the task, and it was not common for students to say that they did not want to work with others. There was only one student with an apparent dislike for group work, which had been previously discussed as the student who refused to work with others. However, one must never assume what someone is thinking. The students were therefore asked during their activities what their thoughts on the task were.

The students were reading an article in a science magazine in pairs or threesomes. The topic was about strange plants and was something they had no prior knowledge of. They had composed questions beforehand of what they wanted to learn after they previewed the article. They were working in pairs so they could discuss certain parts of the reading as they went along and to help each other see whether their questions were answered. The class usually worked individually on these types of magazines. The students were engaged and seemed to be enjoying the activity. This is the discussion that ensued while the student teacher was circulating.

Student teacher: *How do you feel about reading in pairs today?*

Student: It was fun.

Student teacher: *Would you like to read in pairs more, or do you like reading alone better?*

Student: I like them both.

Student teacher: *Do you sometimes like one better than the other?*

Student: It depends. But I think more in pairs. We get to share the reading then. And it makes reading fun if you don't like it so much. Because you are with friends.

The following is a similar discussion with another student during the same reading activity.

Student teacher*: Do you like reading in pairs, or do you like reading alone?*

Student: I feel much. . . more. . . comfortable doing reading work with other people. 'Cause I can check my answers with others and see what people, well, I mean, what I've done right or wrong and they can help teach me when I'm wrong. It's like working with a teacher. It's fun in partners.

This discussion revealed that the student uses group work in a productive manner. While she may not understand that group work is intended for her to learn from others and discuss answers and ideas, she likes working in pairs for this reason. For her, cooperative work is a way to reassure that her findings and understandings are correct, like having a one-on-one teacher.

After observing the daily, paired math work in my class, it was noticed that students acted differently about the math and reading when they were discussing the literature from the reading, compared to discussing math problems with a partner. One student who was calm during math class was excited and animated while discussing the plant article with his partner during the reading lesson. It was

wondered whether he consciously felt different about working with a partner for reading compared to working with a partner for math.

Another student had a similar feeling towards math paired worked. When asked what he thought about working in groups, he said:

> "Pairs is great because you can help each other and ask questions and learn. Unless it's easy work because I can do it faster alone. And I like being fast. But if it's hard stuff, I can always learn it better with a partner I think! Yeah. . . that's what it seems in math. . . definitely. I can learn a ton with partners."

One may believe that the effectiveness of groupwork would be greatest when the student enjoys working with others more than working alone. Yet, it was surprising to interview one particular student. She was a student who got along with all of her classmates and seemed engaged during group activities. She participated, gave her opinions, listened to the opinions of others, and seemed to take them into consideration. She did not simply work alongside her partner, as some students may did but worked with her pair. She gave explanations for her ideas and assumed the role of the teacher when her groupmate was confused.

When analyzing the observations of her group work, one could consider her "the perfect groupmate." However, when she was asked how she felt about working with others, this was her reply: "I like working alone better. I'm independent. It's more fun to figure it out all by myself." When she was asked to further explain, she said that when they work in groups, she got help to find the answer. She liked finding the answer by herself and knowing that she was capable.

This discussion took place during a reading activity. It was a great feeling for the students to be aware of how working with other can be beneficial to them, and to hear that they found it fun when they worked with others. It also demonstrated cooperative learning as a "valuable tool to help students learn comprehension strategies while encouraging positive reactions among peers" (Hollingsworth, Sherman, & Zuagra, 2007).

> First student: *Miss Mason! Listen to what we've learned! (reads). . . "This sneaky tree steals water from other plants."*
>
> Second student: All three of us said we never heard that before!
>
> First student: *Yeah. We heard of weird plants. Like a Venus flytrap. Well, (she) didn't, but we explained to her.*
>
> Second student: Yeah! But that was the weirdest plant we knew of. . . (Turned to partner.) Okay, you can read another paragraph since yours was so small last time.
>
> First student*: Thanks.*
>
> Second student: Wait, before you read. Miss Mason, I like doing our reading in groups like this!
>
> Student teacher: *Why's that?*
>
> Second student: We can talk about what we read!
>
> First student: *It's much better than one person reading aloud to the class or reading by ourselves. See? We get to explain a Venus flytrap!*

B. Conclusion

My original feelings towards writing a thesis were of confusion. What was I to look for? How does one actually conduct thesis research? What will actually be gained or found from countless days, weeks, months of research and observations?

Ultimately, would there be anything truly worthwhile for me to learn by the end of the experience?

It is alarming to think that before this research was conducted that as a future I felt strongly against cooperatively learning. This encounter has changed that belief drastically, but there is a more crucial lesson within what was found. One must not believe that their mind cannot change. Years of negative group work experiences had developed such a dislike for group work, that I had believed it was not an effective tool in the classroom, but it is truly the opposite.

While it seems naïve to stick to a feeling that I had not researched, it was an easy thing to do; so easy, it would seem that many individuals feel the same way about some aspect of education because they had a negative experience. Research changed the entire outlook. I believe this thesis has made me a better scholar, and improved my teaching career for myself and my students; I will not simply "go with the gut feeling" or allow my emotions to control my classroom actions. Instead, research will be conducted in order to reach the best conclusion and utilize the most effective methods, in the classroom and all areas of life. Lopez and Schroeder (2008) stated that they "advocate cooperative learning groups whenever possible" after completing research involving the effectiveness of this method, and I fully agree.

Because I chose the topic of cooperative learning to base my research upon, I believe I was more attuned to notice group and paired work in the classroom in comparison to other student teachers; after all, I have been specifically looking for opportunities to observe and record it's effectiveness. I have therefore been

exposed to ideas of how to incorporate paired and group work into lessons and classroom activities, which I explain in the following paragraphs.

The weeks of student teaching have brought about the discovery that investigative-based activities are the most inviting lessons for group work to be incorporated. Therefore, many hands-on science activities can easily become opportunities for self-esteem boosting, idea sharing, and discovery when students work in pairs. There were several students well informed in areas of science who were "in their element" more so during science than any other lessons; they beamed with pride when they shared information or elaborated on concepts that sometimes the adults in the room were not aware of. Science lessons can therefore be a great time for students to work with each other in order to share their previous knowledge and spread their science enthusiasm and excitement.

Using group work as a whole class was very beneficial in a cross-curricular social studies unit, which I intend to utilize a variation of in the future. Each student received a bare book during the Oregon Trail unit of history. Students created pioneer personas and even simulated packing their wagon as the class began their journey in Independence, Missouri and made their way to Oregon City. They mimicked the route the pioneers took, and each day they reached a new stop along the trail. They were to write diary entries in their bare book for each stop, and include all the required parts of a diary entry, including details about how they were fairing on their journey and what they had encountered based upon what we had discussed as a class. Each day when the students were gathered in a circle, they had

the opportunity to read one of their entries. Three classmates would then comment on what they thought was good about what they had written. This provided the opportunities for a self-esteem boost to those who had read. This cooperative learning also encouraged fellow students to engage in higher levels of thinking which are part of Bloom's Taxonomy, as described by Sultana (2001). Students were to listen to a classmate's entry, and then analyze it using the knowledge they had learned about a correct diary entry. They would then evaluate their classmate's entry based upon their analysis, but only provide their peer with positive feedback. They would then be able to apply what they had learned through analysis and evaluation when they created, or used synthesis, in their next diary entry.

The school district where I student taught had a math program appropriately entitled *Investigations*. Students were not introduced to long division until the fifth grade. Students were encouraged to develop their own methods to solving problems and devise their own mathematical understandings. This provided me with the experience of seeing how group work really is beneficial in math. Students were able to discuss any concepts with partners in order to explore various ways to complete their understanding of the work. Before my observations I would not have utilized cooperative learning in math lessons, but I am now aware of how beneficial it is during most activities. To simply have students turn to each other and discuss their ideas for a minute or two is an easy and effective way for students to share information and ideas. By exploring math with a partner they exchange thinking, and this provides students with the opportunity to learn from their peer while they are also teaching their peer. It also allows the class to investigate and be creative

and curious. It can enhance how fun math is for a student by encouraging them to discover and learn a concept without being taught directly by the teacher. Students are granted the chance to figure it out on their own, albeit with a classmate who helps make it possible.

From highly structured work in large groups to informal discussions with the person seated next to them, cooperative learning activities take many forms and have various features for students. However, the reason behind utilizing cooperative learning remains the same; to enhance the learning environment in the classroom. This may happen through increased motivation, scaffolding, social skill development, or any number of outcomes from working with peers. Yet no matter the specific outcome, it will be a positive one, and through observations and research I have found that cooperative learning should be incorporated into the classroom and in my future classroom it will be.

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