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Does Cooperative Learning Increase Participation in the Classroom?

Amanda Saunders
St. John Fisher College

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Abstract

This Capstone Project analyzes literature and research to prove whether or not cooperative learning increases student participation in the classroom. The literature supports that cooperative learning does increase participation within the classroom. The literature also supports positive social interaction, academic achievement and instructional effectiveness. Research was then conducted in a 6th grade social studies classroom to determine whether or not the use of various classroom strategies were effective in increasing participation. This study found that each cooperative learning strategy has its own purpose, depending on the lesson it is used with. Overall, cooperative learning is an effective teaching strategy. Students need to be exposed to a variety of ways to learn, and these strategies allow teachers to meet the needs of all students.

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What is Cooperative Learning?

Cooperative learning is a teaching strategy in which small groups of students use a variety of learning activities to improve their understanding of a subject. Usually students of different levels of ability are grouped together and act as a team to complete a given task. Each member of the group is responsible for learning the concept being taught as well as helping each other learn the specific material (Kennesaw State University, 2007).

Cooperative learning is expected to include specific elements or conditions in order to be a productive teaching strategy. These five elements include *positive interdependence, face-to-face interaction, individual & group accountability, interpersonal and small group skills,* and *group processing* (Kennesaw State University, 2007). These five elements are interchangeable and one element often includes parts of another. The first element, *positive interdependence* is where each group member has to contribute to the activity in order for the entire group to be successful. Each member has a specific role or responsibility and they need to follow through with that specific role. The primary characteristic of cooperative learning is interdependence (Berry, 2003, p.40). The rewards received from this type of interaction are based on the overall work and effort of the group. Each individual receives the same reward or grade and the group is affected by each member's contributions.

Face-to-face interaction is where the students are promoting each other's success. With this interaction, students are able to explain to each other how to solve problems, teach each other the new concepts and discuss what they are learning (Kennesaw State University, 2007). Often times, children are able to explain concepts to each other better than adults can. The teacher is ultimately presenting the new concept to the class as a whole, but children have a more simple way of looking at things. Their explanations might be easier to not only understand but

also remember. Peer teaching is an essential component of cooperative learning. Over time, students will be able to depend on each other for instruction, after learning and listening in cooperative learning situations (Box & Little, 2003). The face-to-face interaction also allows students to make connections between what they already know and what they are beginning to learn.

Individual & group accountability is another very important component of cooperative learning. In order to keep high accountability among groups and group members, the size of the group should be small (Kennesaw State University, 2007). Having a specific job for each student in a group will help to keep students on task. For example, student jobs could include a reader, recorder, presenter and task manager. Group jobs can be created according to the activity. Assigning jobs to each group will help prevent one student from doing all of the work or having other students not participating at all. Assigning jobs as a strategy parallels the cooperative learning element of *positive interdependence* as well. Another way to hold students accountable would be to randomly call on a student and have them share their group's work to the class or have one group teach another group what they have just learned (Kennesaw State University, 2007). If the students know that they could possibly be asked to share their ideas at any time, they are more likely on stay on task and complete their work. Also, when the students are teaching each other, not only are they being held accountable for their work, they are experiencing the *face-to-face interaction* component of cooperative learning as well.

Interpersonal and small group skills are another component that is necessary for cooperative learning to be effective. It is extremely important for students to be able to work together in the groups that they are being assigned to. In order for group work to be a positive experience, students need to be taught what small group work looks like and sounds like. For

example, specific social skills that need to be taught include leadership, decision-making, trust-building, communication and especially conflict management skills (Kennesaw State University, 2007). The classroom teacher plays the key role in the cooperative learning experience. It is up to the teacher to teach students how to express themselves and ask for help in a small group setting. Cooperative learning is beneficial for those students who have difficulty asking for help. Once in the small group setting, teachers need to teach their students to be active in the learning process and ask questions (Gillies & Boyle, 2005, pp.244-245). These students should be persisted to be active until they get the help they need. For those students who enjoy helping others, they are able to be involved in the active learning experience and help their peers understand new material.

The social skills that these children learn through small group work in school will carry on through in their future experiences. It is important for children to learn to work with other children that they would not choose to work with on their own. Group work is about working with other children who might have different ideas, different level of abilities and even conflicts of interest. Cooperative learning helps students manage conflict and learn appropriate interpersonal skills. Such experiences are crucial to preventing and alleviating many of the social problems children will face (Gillies & Boyle, 2005, p. 243). It is important that children work together and learn to make decisions as a team. If they are having trouble with other group members, they need to learn how to work out the problem.

Group processing is the last of the five important elements of effective cooperative learning. This element is where the students take the time to reflect on their cooperative learning experience within the groups they were working. As a group, the students discuss how well they worked together in completing the given task. They decide if they have met their goals and they

discuss what each group member has done to contribute to the group, both positively and negatively (Kennesaw State University, 2007). It is very important to know the students personalities within a group before requiring them to have this type of evaluation discussion. Sometimes having the students share with each other what a certain member has negatively contributed is not the best way to handle this component. An alternative to the group discussion could be to have each member of the group fill out an evaluation of their members' efforts and turn it in. This way the teacher can read over the comments first and facilitate a group discussion on improving group member behavior. Eventually, the students should get used to the evaluation process of group work and be able to hold the discussion on their own. The five elements are necessary for cooperative learning to be effective. Once teachers incorporate these elements into their group activities and students understand the way cooperative groups work, teachers can see the variety of outcomes cooperative learning has in the classroom (Kennesaw State University, 2007).

Cooperative learning can be used in classrooms for several reasons. This type of classroom strategy promotes student learning and academic achievement. It increases student retention, develops students' social skills, promotes student self-esteem and helps students develop skills in oral communication. Cooperative learning is also used to enhance student satisfaction with their learning experiences as well as helping to promote positive race relations (Berry, 2003).

<div align="center">Social Interaction</div>

According to Berry (2003), there are three types of student-to-student interactions. Competitive interaction is where someone wins and someone loses. Students compete against each other and accept the results and challenges. Individualistic interaction is where each student

works alone and his or her accomplishments do not affect another student. Lastly, cooperative interaction is where students work together toward a common goal. Each type of interaction has its own advantages depending on the learning situation it is being used.

Cooperative learning has several advantages and can help to improve students' social skills. Working in small groups can reduce tension especially for those students who experience anxiety in a large group setting. When working in small groups, students have the opportunity to participate and express their ideas among each other. Students are able to increase their verbal communication skills as well in this type of group setting (Berry, 2003, p.40). They are learning to communicate effectively, take on a leadership role and make a commitment to a group of peers. According to Brown (2003), "Teachers should keep in mind that Vygotsky contended that learning should be a social activity in which students work together often, talking with each other, exchanging ideas and providing feedback" (p. 102). Students are also able to learn to listen to other group member's ideas and then share their thoughts. If there is a disagreement on a particular idea, students are learning how to solve the conflict and come to a group consensus. Researchers Box & Little (2003), have also conducted a study and found that students who received only small-group instruction gained in self-esteem. They found a decrease in self-esteem among those students who did not experience working in cooperative learning groups.

On the other hand, it is very important that teachers understand that cooperative learning is not the same as small group work. Small group has been argued to be the same as whole group instruction because the students are often alone, with no specific requirement to work together (Gillies & Boyle, 2005, p. 244). Cooperative learning groups can serve as a disadvantage to students' social skills if it is not implemented in the classroom correctly. Teachers need to pay close attention to the chemistry and personalities of the students in the groups. If there is a

conflict and the teacher dismisses a student's feelings, it could seriously hurt that child's self-esteem. They might then be afraid to express themselves in another situation.

Another particular study investigated teachers' verbal behaviors during whole-group and cooperative learning settings. The researchers concluded that when teachers work within a cooperative learning setting, they change the way they interact with their students. The study found that teachers' language is friendlier, supportive and more personal, than during whole-group discussion (Gillies & Boyle, 2005, p.244). When speaking to a group of three to six students, their attention is likely to be more focused and on-task and the teacher is constantly disciplining. The effectiveness of cooperative learning ultimately depends on the teacher and how he or she chooses to implement the strategy in to the classroom.

<div align="center">Academic Achievement</div>

Creating learner-centered classrooms can contribute greatly toward ensuring students' success in learning and increase academic achievement. Researcher Ghazi Ghiath (2003) conducted a study to examine the relationship between cooperative, individualistic and competitive forms of instruction, academic achievement and perceptions of classroom climate. More specifically, the method of the study of academic achievement was based on truth statements and questions to the participants. The participants were divided into a high cooperation group, where participants were involved in a high level of cooperative group work and a low cooperation group, where participants worked in a low level of cooperative group work. The findings revealed that the participants in the high cooperation group achieved better than the low cooperation group. Students working in small groups are able to share information and support each other's learning (Brown, 2003, p. 102). This study confirms that students experienced a higher level of academic achievement in a more student –centered group. Working

in cooperative learning groups creates learning communities in the classroom with ongoing support (Brown, 2003, p. 102). This type of support provides the security students need to be academically successful.

There are several studies that show a positive increase of academic achievement through cooperative learning in the classroom. Research has revealed data that supports academic self-concept as a predictor of academic achievement. In one study, the Jigsaw cooperative learning approach was used with Social Studies materials to see if academic achievement among elementary school students was positively affected. There were five different groups of third grade students used in this study. Four of the five groups used the Jigsaw approach, while the fifth group served as the control group (Box & Little, 2003). The Jigsaw approach is where students are placed in small groups. Then the material they are learning is divided among each group member. The students then move into another group where each member is learning that same specific section. The group discusses the section they are responsible for. Then the students go back to their original groups and take turns teaching the section they were responsible for, to the other students in their group. The control group was involved in a regular large group instructional setting. The results of this study support the use of cooperative learning in the classroom. The groups who participated in the Jigsaw activity showed improvement in their self-concept as well as their academic achievement on the Social Studies assessment. The results also indicated that the students and teachers who participated showed a high level of motivation (Box & Little, 2003).

Teachers must also consider specific factors when placing students in cooperative learning groups to ensure academic success. Teachers should first consider learner-related factors before content related factors. For example, students' needs, prior knowledge, interests and

cultures are a few learner-related factors. Once teachers understand these factors, they will understand what content their students are able to learn and benefit from the most. In a learner-centered environment, teachers must believe that all of their students will learn (Brown, 2003, p.101). They need to strive to ensure that all students will develop and grow to be successful individuals. Teachers must also consider their low level students compared to higher level students when grouping them together. According to one study, differences in on-task behavior during small-group and large-group instruction depended on students' achievement levels. Low achieving students were significantly less active during small group instruction than higher level achieving students. One reason for this passive behavior was due to the higher level achieving students acting more dominant in small group activities (Peterson & Miller, 2004). This is why it is crucial to include the necessary components of cooperative learning in order for it to be beneficial to student learning.

<center>Instructional Effectiveness & Student Participation</center>

Cooperative learning has been shown to have a strong impact on student achievement and has several positive effects on student learning. This strategy is highly effective when students are actively engaged using hands-on activities. Higher-order thinking needs to be included in a cooperative learning situation as well. Research has shown that when students are able to use information to solve problems, analyze ideas, and make predictions, they are more likely to show long term improvements in achievement (District Administration, 2005). Students are also able to transfer the information to other disciplines.

In order for cooperative learning to be effective, teachers must clearly see the difference between "small group instruction" and placing students in groups to work together (Abrami, Lou, Chambers, Poulsen & Spence, 2000). Once students are working in groups, the necessary

components (i.e., *positive interdependence, face-to-face interaction, individual & group*

accountability, interpersonal and small group skills, and *group processing*) need to be included.

When the cooperative groups are successfully working, several other things can happen in the

classroom. For example, cooperative learning first emphasizes peer learning. While this is

happening within groups, teachers may have more time to work with students who need extra

assistance or work with students that have already mastered the concept on enrichment activities

(Abrami, et al., 2000). Another advantage of cooperative learning is that teachers have greater

flexibility in adjusting the pace of instruction and learning objective to meet the needs of each

student.

Abrami, et al., (2000) found in one study that students in all primary and secondary

grades benefited from with-in class grouping. Regardless of student ability, students benefited

from small group learning. Each level of ability, based on a scale of low, medium or high,

showed significant gains for learning. When asking high school students what motivates them to

learn and participate in school, they responded with, "Good relationship with the teacher, clear

expectations, hands-on activities and assignments related to real-life experiences" (District

Administration, 2005, p. 68).

On the other hand, it is important to also take in to consideration the students' level of on-

task behavior (Peterson & Miller, 2004). Even though cooperative learning groups have resulted

in positive learning outcomes, students' experiences in different instructional settings need to be

compared. The different settings and the affect they have on the varying abilities of students need

to be looked at, as well. Peterson & Miller (2004) designed a study to compare the quality of

students' cognitive, affective and motivational experiences during cooperative learning and large

group instruction. Results concluded that the instructional context played an important factor in

the quality of students' experience. Results also concluded that prior achievement levels also affect the quality of students' experiences. During cooperative learning, students were likely to be thinking about something related to what they were learning when interrupted by the teacher. On the other hand, during large-group discussion, students were more likely to be thinking about something off task or unrelated to the material being discussed. This study confirms that students are more actively involved in cooperative learning groups.

Cooperative learning groups in the classroom have been shown to increase student motivation which increases student participation. When students are involved in hands-on experiences and working with their peers in small groups, they are actively engaged in their learning. One reason for this increased motivation is because students have a greater chance to become involved with their groups and share their ideas (Peterson & Miller, 2004). When students are motivated to learn, they will become active learners and naturally increase their participation in class discussions and group work. As students are given the opportunity to express themselves within small groups, they are able to gain more confidence among their peers. This gained confidence will soon improve students' participation during whole group discussion. The small groups offer them a chance to explore and take chances. Once they trust in each other and feel comfortable in a safe learning environment, they will likely open up outside of the small groups.

<div align="center">Classroom Strategies</div>

There are several classroom strategies that use cooperative learning. One particular strategy that includes the elements of "think time" and peer interaction is called, *Think-Pair-Share*. This is a strategy where students are given the chance to talk about content and discuss their thoughts and ideas with a peer, before sharing as a whole group. This strategy begins with

the teacher asking the students a question that they have to silently think about, allowing students the necessary think time. Next, the students' pair up and exchange their thoughts with each other, experiencing peer interaction. Finally, the pairs share their answers with other pairs, or to the class as a whole. The advantage of such a strategy is that is promotes communication skills and more importantly allows students the opportunity to process information (Intel Education, 2007). Often times, teachers do not allow enough time for the students to answer the questions they are asking. Students need that time to think about what was asked and develop a sufficient answer using their prior knowledge. Sharing with peers in a small group also encourages students who are less likely to participate in a whole-group setting, the chance to express themselves.

Another popular strategy is called *Jigsaw*. This particular strategy can be used with any kind of reading material, textbook or article. First he reading is divided into reasonable sections. Students are divided into Home groups depending on how many of the sections of the material are to be covered. Once students are familiar with the people in their Home groups they are then moved into an Expert group. In this group, the students will read and discuss the reading section they are assigned. They are required to complete any other assigned task in this group as well. After they have completed their task, students return back to their Home groups and teach their section of the material to their other group members. Everyone in the class must become an Expert and present to their members, so the groups and reading sections need to be planned accordingly (Elliot, 2007).

Three to six people in a group work best for the Jigsaw strategy. The number of students in the Home group depends on the number of students in the class and the number of reading sections. For example, if there are three sections of the reading, there should be three members in a group. Home groups then count off by the number of reading sections. For example, for 3

reading sections, the group members count off 1, 2, and 3. For the Expert groups, all of the 1's will go to an area and work, all the 2's in an area and all of the 3's in another area. To close the Jigsaw activity it is important to conduct either a formal or summative assessment. Whether it is a "Ticket out the door" and students have to write down what they learned or complete a short quiz, it is necessary to hold students accountable for what they are learning.

Numbered Heads Together is another popular strategy to use in cooperative learning situations. With this strategy, students are put into groups of about 3 to 5 students depending on class size. Then each member of the group is given a number. The numbers range from 1 up to the number of students per group. The teacher asks the groups a question. The groups are required to work together to discuss the question and come up with a reasonable answer. After a certain amount of group discussion time, the teacher will call a specific number. Whoever was assigned that number in the beginning of the activity is responsible for presenting the answer to the whole group (   ). This strategy is beneficial because it requires all members of the group to participate. They will all have to listen to the questions, pay attention to the discussion along with the final answer the group comes up with. Since the students do not know what number will be called at the end of the discussion, they all have to be prepared with the group response.

<div align="center">Implementing Cooperative Learning into the Classroom</div>

In order to effectively implement cooperative learning into the classroom, certain guidelines must be followed. The five elements of cooperative learning must be included: *positive interdependence, face-to-face interaction, individual & group accountability, interpersonal and small group skills,* and *group processing.* Often times, teachers are confused or do not clearly understand the elements of cooperative learning and how to implement such a

strategy in the classroom (Vermette & Foote, 2001, p. 26). This confusion results in a decrease of the effectiveness of the strategy. Each element needs to be fully explained to the students and they need to be taught how to work in these cooperative learning groups.

When students are put into their cooperative groups, they must have clear goals explained to them so that they understand what the expectations are going to be. Students need to know if they are being graded as a group, if there are going to be any rewards, if they are going to be individually assessed and what role they will have in the group (Berry, 2003, p.41). Once the goals are stated, the guidelines of working together in a group must be explained. It is extremely important that the students know that they are all required to participate. This will especially decrease any misbehavior that may arise. Students working in groups often get frustrated when one group member is doing most of the work or another member is doing nothing at all. If a group seems to be showing unequal contributions, students need to know that there can always be an individual test of their knowledge on that particular lesson. Group rewards can also be changed to individual rewards if there is still a problem of equal work contribution.

Organizing the groups is the next step to effective cooperative learning. In general, the groups are small and contain 3 to 6 students depending on the task. The groups should be mixed and vary in levels of motivation and student ability (Berry, 2003, p.42). It may be beneficial to keep groups of students working together for a few weeks at a time, in order to give students time to learn the structure of group work and improve their skills as a team.

Once students are working cooperatively in their groups, it is important to give them a certain amount of time to complete the given task. This will help to keep the groups on task because students will begin to understand that if they are off task at any time, they will not be able to complete the task.

There are many necessary components of cooperative learning. In order to make sure students fully understand the strategy, the techniques need to be modeled several times (Berry, 2003, p.42). The activities will have to be demonstrated in order for the groups to understand how cooperative learning works and how they will be able to accomplish the given tasks. As the groups of students get used to the idea of cooperative learning, they will be able to take on more of the responsibilities within their group. At first, the teacher needs to be very involved and directive. Eventually teachers must learn to become the facilitator and become less directive. As facilitators, they should guide students in discovering the concepts being taught. It is important to let students explore new concepts and ideas and understand the answers might not always come from the textbooks (Brown, 2003). However, the students should be permitted to make their own decisions, add ideas, and come to conclusions within their groups. Pushing students to analyze information and form their own opinions will help students better understand what they are learning at a higher level of thinking. If there are any disagreements, it would be a great opportunity for the students to figure out to come to an agreement, while understanding that other people have their own ideas and feelings (Berry, 2003, p.42).

Cooperative learning does not just happen in the classroom. It must be taught in a structured learning environment that allows students to work together to cooperate with each other. This strategy must also be practiced and re-taught over and over again to ensure that the students understand the idea and are learning. Students will eventually improve their cooperative learning skills in their small groups. They may have a difficult time adjusting to this particular strategy but the outcomes of the student learning experience are much more positive once they are able to learn in cooperative groups.

Perceptions

According to one study, researchers found that there is a moderate positive correlation between cooperative instruction and learners' perceptions of fairness of grading, class cohesion and social support. As participants worked in cooperative small groups, they felt that everyone in the class was receiving the grades they deserved. They also felt that they all had an equal opportunity to learn and be successful if they worked hard together to achieve their goals. Most learners that worked together felt they were working in a positive classroom climate that was supportive and fair (Ghaith, 2003). Other research findings support the positive role of cooperative learning in the classroom as well. Students feel in charge of their learning and can explore new concepts and ideas with their peers (Peterson & Miller, 2004). Students benefit when the strengths of one student complement the needs of another. Each student involved in cooperative learning experiences are able to increase his or her knowledge base (Coke, 2005, pp.396-398). Another reason to support this learning strategy is that students feel that what they learn during cooperative groups is more important than what they would be learning in a whole group lecture.

There is much research that supports cooperative learning and the positive effects it has in the classroom. However, much of this research has argued that the positive effects vary depending on cultural background and is highly seen among African American students. Understanding the learning preferences of such an increasing diverse population of students in our schools is critical. One study sampled White American and African American elementary school students from low-income backgrounds to investigate their learning preferences (Ellison, Boykin, Tyler & Dillihunt, 2005, pp.700-703). Studies found that both White American and African American students preferred cooperative learning, over competitive and individualistic

learning. The study also showed that even though both preferred cooperative learning, White American students had a higher preference for competitive and individualistic learning, over African American students. Researchers conclude that African Americans considerably higher preference for cooperative learning is connected to their cultural values.

On the other hand, it is important to realize that some student perceptions vary depending on how well cooperative learning groups are implemented in the classroom. If the groups do not have clear expectations and are not sure how to work together in a group, they often feel that the group work is "busy work" and they would rather complete the work independently. Many students are concerned with their grades on classroom assignments and assessments. Cooperative groups are also insignificant if students have had bad experiences in groups before. Many times students complain that they cannot complete a given task due to group members' behaviors. If this is the case, it is the teacher's responsibility to re-teach cooperative learning groups and explain again what this type of learning strategy looks like.

Cooperative learning has many advantages when used correctly in the classroom. Research has supported cooperative learning and its effectiveness on students' social interaction, academic achievement, instructional effectiveness and student participation. There is not much research to support cooperative learning as being ineffective. Most research studies conclude that studies often brought up new questions to research. For example, the issue of race, ethnic backgrounds and learning preference would be useful for further research. Cooperative learning has been proven to be a useful learning strategy and is very beneficial to students and their learning.

Research

The purpose of this research was to determine whether or not the use of various cooperative-learning strategies increases student participation within the classroom. I believe that performing this research in my classroom helped me to improve my teaching abilities and teach so that all students learn. This was a purposeful study to see what strategies I should use when teaching, in order to gain full participation from each individual in my class. This study showed me that when students participated, they became actively involved in my lessons and were able to retain more of the information.

Methodology

I first developed the research question: Does cooperative learning increase participation in the classroom? As a first year teacher, I thought this would be a beneficial topic to study because I wanted to see what strategies I could use in the classroom that would help gain full participation from each individual in my class. I chose to observe my 6th grade Social Studies classroom for my research. This particular middle school is part of a city school district. I used my first period class where I co-teach with a Special Education teacher. I chose my first period class because they are a quieter group of students and it is also their first class of the day. I wanted to make sure that they were actively involved in Social Studies like the students in my other class periods. These observations were made during typical activities on a regular school day. I only changed the delivery of instruction through the use of cooperative learning strategies. This practice takes place regularly in my classroom in terms of my colleague and me providing informal observations and reflective feedback to each other as we work in a two teacher classroom. This research was a practice that consistently informs our instructional and planning practices, which in turn informs how we then monitor and adjust our instructional facilitation.

I conducted my research over a two week time period. I began my observations on November 8, 2007 and finished my observations on November 19, 2007. I took field notes during my first period class which is 40 minutes in length. I only observed four particular students in my class, two were male and two were female. These students were chosen because they were the only four students to turn in their permission slips for this study, on the day I needed to begin my observations. I have six tables in my classroom with three students sitting at each table in their "table groups". The four students being observed sit at four different tables. I began my observations after I explained the directions for each activity. My observations of participation were based on student-to-student interaction, staying on-task, hand raising, asking questions and completion of the activity within the allotted time. I compared the level of participation during three different cooperative learning strategies and two other days that included a teacher lecture/whole group setting. I compared the participation during each strategy and then compared the cooperative learning strategies to the level of participation I saw during whole group lessons. I used each strategy randomly two times throughout the two weeks.

I used the following 3 strategies: *Jigsaw*, *Think-Pair-Share* and *Numbered Heads*. I chose these strategies because I could incorporate these strategies within my lessons for the two weeks. These strategies would also be appropriate to use with the material that was going to be covered day to day.

Prior to my observations, the students had written their Benchmark Document Based Question (D.B.Q.). Since this was their first time writing a D.B.Q. this year, I did not give them much assistance in writing a D.B.Q. besides the directions and the guidelines. I began my observations on the day I taught the students how to grade a D.B.Q. essay, using the New York State Rubric. The strategy I used for this lesson was the *Jigsaw*. I gave each student a sample of

a D.B.Q. essay from the prior year that was written by a 6th grade student. I divided the class into groups of four because the essays were broken down into four paragraphs. Once they were in their Home groups I had students count off by 4's. All of the 1's were placed at a table; the 2's, 3's and 4's, each at their own table. These were now their Expert groups. The number that they were given in their Expert group was the paragraph of the essay they were responsible for reading. Not only did they have to read the paragraph in their group, they had to use the rubric I handed out to them, read the criteria for each score and then grade that paragraph on a scale of 1-5. They also had to be able to defend their score and tell why they thought the paragraph earned the given score. They were required to write down the information they discussed on their paper so that they had something to refer to when they were sharing with their Home group. When the Expert groups were done, they returned back to their Home groups. Then it was time for students to share with their Home groups the grade given for each paragraph and how they came up with that grade. As the Home groups worked together and discussed the grades, they had to then decide what the overall grade would be for that essay. When the Home groups were done giving the essay an overall grade, each group shared their grade. Finally, there was a class discussion about each group's grade for that essay and the students shared their own opinions.

During this activity *Student #1* was the first one to start reading in her group. I heard her ask who was going to read the next paragraph and no one else in her group offered to read. She read one more paragraph and then another group member started reading. I watched her follow along with the reading by looking at her paper. I heard her make a few comments such as "there is not a lot of outside information" and "that seems to be copied from the document" while she looked at the copy of the D.B.Q. Rubric. The other students in her group were responding with their opinions as well. When it was time to go back to the Home group, *Student #1* had to share

her grade first because her group was responsible for the first paragraph. After she shared, she sat and listened to the other group members share. She did not offer any more information or opinion in this part of the activity. Another member of the Home group had volunteered to share with the class as a whole in the end of the activity.

Student #2 sat in his Expert group and let another student in the group take on the leadership role. I noticed this because the direction was given to begin reading the paragraph and he looked at his group members and another student started reading. He sat there and was not following along with the reading. He sat back in his chair and the paper was not in front of him. He was prompted by the Special Education teacher to stay on task and follow along. When this student moved back into his Home group, he did not talk much. He shared what his Expert group had done when it was his turn. He did not interact with the other group members when it was time to decide an overall grade for the essay nor did he offer to present.

Student #3 was the first person in his group to begin reading. When this group was done reading, *Student #3* picked up the D.B.Q. scoring Rubric and began talking about the information in the first paragraph. The other students were responding to him and another group member picked up the copy of the D.B.Q. to look through. *Student #3* was the first student to offer his opinion about the grade the paragraph should receive. He also asked me to clarify the directions so that he knew what his group was supposed to do next. When he had returned to his Home group he waited until it was his turn to share. After he shared, he listened to the other group members share. I heard him make comments about agreeing with the other members' grades they gave each paragraph, as they shared. He was the one who spoke to the class about his groups' grade for the essay at the end of the activity.

Student#4 was the second student in her group to read. She also had the D.B.Q. Rubric in front of her as she listened to her group members' finish reading the essay. She kept asking me to check their work as they graded each paragraph. She also asked me to re-sate and clarify the directions as they worked through the activity. When in the Home group, this particular student shared her information but did not share to the class as a whole group. Another member in her Home group shared.

I had the students do the *Jigsaw* activity again three days later; using a lesson from the chapter we were working on. After I put them in their Home groups, I divided them up into their Expert groups and assigned each group a section from the chapter. The sections of reading were longer than the paragraphs they used before, so I required that each student write down five important pieces of information their group found from that section. In *Student #1 's* group, they decided who was going to read what paragraphs within their assigned section. After reading, *Student #1* began sharing three of the five important pieces of information. The group members came up with the last two to write down. When returning to the Home groups, *Student #1* shared her information with the group. She did not just read the information she wrote down on her paper, she summarized what her group had discussed as well. During class discussion, she did not offer to summarize what their group learned and another member had volunteered.

Student #2 was the first to choose the paragraph he was going to read and then the other group members selected the paragraph they wanted to read. He read his paragraph and then I noticed his eyes on the textbook as the rest of his group read. *Student #3* chose to read the third paragraph in the assigned section. He followed along with his eyes on the text as his group members read. He asked me if each student in the group had to write down the five important ideas. I told him yes and each group member took out a piece of paper. He offered the first idea

while he looked back at the section in his textbook. When returning to his Home group he shared his groups' ideas. He presented the summary to the class during whole group discussion.

Student #4 began reading in her group. She then took out a piece of paper while another group member was still reading. She began writing down her ideas before her group was done with the reading. She then shared her ideas and the other members copied them down. Another student in her group came up with another idea to add to their list. When she moved back to her Home group she shared her groups' ideas and listened to the other students share theirs. She was making eye contact with the student that was talking and nodding her head.

The next strategy I used was *Think-pair-share*. For this strategy I had the students read the next section in their textbook as a class. I called on students who volunteered to read, paragraph by paragraph. At certain times of the reading, I stopped the reader and asked comprehension questions and higher level thinking questions. After each question, I would give the students some time to think about the answer and then asked them to share their answer with their "table groups." After they had shared with their groups, I asked for one student in each group to then share his or her answer to the whole group. *Student #1* looked to her table group but did not say anything. I watched her listen to the other two students at her table and she did not say anything. By the second time I asked a question, I noticed her interacting with her group by leaning in towards the other students and sharing her thoughts. *Student #2* looked at the other students at his table. He did not share an answer nor did he volunteer to share the group's answer. *Student #3* shared his thoughts with his table group and raised his hand when the Special Education teacher called for someone to volunteer to share. *Student #4* also participated in this activity; however I was unable to hear her response to the question. She did not raise her hand to share her group's answer.

The second time I had the students involved in the *Think-Pair-Share* activity, I observed similar behaviors from each of the four students. *Student #2* interacted with his table group this time by sharing his thoughts. However, he still did not volunteer to share his answer with the whole group. *Student #1, Student #3* and *Student #4* were each in close proximity to their table group members. *Student #3* and *Student #4* both raised their hands to share this time.

The last cooperative learning strategy I used in my classroom was the *Numbered Heads* strategy. I had the students read the next section in their textbook with their table groups. I gave each student in a group a number 1, 2 or 3. I told them to pay close attention to what they were reading. They had to list 5 important things from that section. When they were done, I randomly chose a number, 1, 2 or 3 and the student with that number, was required to share what their group had written down.

Student #1 read one part of the section because her group broke it up into paragraphs that each of them would read out loud. I did not pick her number, so she did not have to share her group's facts. *Student #2* was the one who had to present his group's facts. I noticed that he was participating in his group's discussion of the section because he had all of his facts written down. *Student #3* also was given the number I picked and he was required to share his group's facts. He also had his facts written down on a separate piece of paper. I noticed that *Student #4* was writing down her five facts as well as communicating with her group members during their discussion of the section. She was not chosen to present the facts; another student had the chosen number.

The second time using the Numbered Heads strategy I had the students again, read a section from their textbook. This time they had to fill out their Reading Notes that went along with the section they read. Each student was given a number. The Special Education teacher

chose a random number and those students were required to share. I told the Special Education teacher the number to pick because I specifically gave the four students involved in this study the same number. I wanted these four students to be the one in their group to share for the sake of my observations. *Student #1* was interacting within her group. She was involved in the reading, and she filled in her notes completely. She was prepared to share her answers when her number was called. *Student #2* was also involved in the reading and was completing his Reading Notes with is group. When he shared, he was prepared as well. *Student #3* read a short section in his group and was working at the same pace as the rest of his group when filling out the Reading Notes. He shared his answers correctly. Lastly, *Student #4* showed levels of participation by reading, interacting with her group and filling out her Reading Notes. She was also ready to present with correct answers.

Throughout the two weeks of observation I also wanted to observe the students behavior during a lecture or whole group instructional setting. Then I could compare observations from a cooperative learning setting to a whole group, lecture type setting. On the first day using this type of teaching, we graded a student's D.B.Q from last year as a class. It was an essay with a score of a 5, which is the best you can get on this assignment. We used the rubric and graded each paragraph as they had done previously in their Jigsaw groups. I then passed back their essays and they read them over and decided if their grade was fair according to the rubric.

During my observations, *Student #1* showed no eye contact at first but then followed along with the D.B.Q. example in front of her. She volunteered to read one of the paragraphs of the student essay example that was on the overhead projector. Once I passed back their graded D.B.Q. to look over, they were directed to look them over. *Student #1* had to be prompted again to look through her D.B.Q. and compare her grade to the rubric. *Student #2* looked at the D.B.Q.

while students were reading out loud. He did not follow directions the first time they were given.

He had to be asked to look through his D.B.Q. and read over the rubric. *Student #3* volunteered

to read out loud. He offered his opinion of a grade for the example essay and stated his reason

why when he was prompted. When other student was reading he took out a mini skateboard and

started playing with it. The Special Education teacher asked him to put it away. He looked

through his D.B.Q. when it was passed back and asked what he was supposed to be doing.

Student #4 raised his hand to read but was not called on. He followed directions when he was

told to look through his graded D.B.Q. and compare it to the rubric.

The second time I observed the students in a lecture type setting they read a section in

their textbook. I called on students to read each paragraph and then we completed the Reading

Notes as a class. This class period consisted of students raising their hands and the Special

Education teacher and I calling on them. I filled out the answers on the overhead projector and

they copied them down. *Student #1* and *Student #2* did not volunteer to read or share any answers

for their Reading Notes. *Student #3* and *Student #4* both raised their hands to read. They were

actively participating, giving answers to their Reading Notes. I called on *Student #1* to give me

an answer to one of my questions. She responded with the correct answer. During this type of

setting, there was not a lot of opportunity for students to interact with each other.

Discussion

After analyzing the field notes from the observations of the four students, the overall

study showed that cooperative learning increased participation. More specifically, participation

was seen the most during the Jigsaw strategy and the Numbered Heads strategy. I observed

increased on task behaviors such as student-to –student interaction, hand-raising and questioning

during both of these strategies. Overall, each cooperative learning strategy has its own purpose.

depending on the lesson it is used with. Students need to be exposed to a variety of ways to learn and these strategies allow teachers to meet the needs of all students.

During the Jigsaw activity, the students were interacting with each other in their groups. However, since this was the first time the students had done this type of group work, it was kind of confusing for them as to what exactly they were doing. The second time the students were involved in the Jigsaw, they knew what they were supposed to do and what the expectations were. The second time went much smoother and the students were ready to teach their Expert groups the material they had learned. The students also seemed to interact more the second time around and were eager to teach their part in their Expert groups. The students knew they had their own responsibility in the group and that no one else would be able to help them to their job. This type of pressure is where the motivation to participate came from. The students had to take ownership and present to their peers.

The Think-Pair-Share strategy was somewhat successful because the students that wouldn't usually volunteer their answers in front of the entire class had a chance to share their thoughts in a smaller group setting. This type of strategy takes the pressure off of those particular students and they are able to feel more comfortable voicing their ideas. Participation during this strategy seemed to be based on the knowledge of the answer. I noticed if they did not know answer to the question they would wait for someone else at their table to offer the answer and then not volunteer to share. The students might not have known the answer to the question I asked, which would be a reason for not sharing with their table group. This shows that Think-Pair-Share might not be the most beneficial way to fully increase participation. However, the study did show higher signs of participation than when compared to the whole group/lecture

setting. The benefit of this strategy on the other hand, would be supporting those students who face anxiety in a large group setting.

The whole group lecture seemed the least effective because the students were engaged the least amount of time. Although three of the four students I observed did volunteer, I noticed that they became off-task after they shared an answer. It was almost as if they tuned in to the class discussion, gave a response and tuned back out again. It was also harder to get the students to answer oral questions within a reasonable amount of time. I continuously allowed wait time as well as restating of the questions until I had more than a few hands raised.

The study also found that among the four students observed, the personalities and social skills of each student played an important part in their level of participation. Three of the four students have a more outgoing personality. However, they are not always on task or actively engaged in the lessons. Even though they are fairly bright students, they do not always participate. These three students also tended to take on the leadership role during the cooperative learning activities. They are not afraid to share their thoughts with a whole group or read out loud in front of their peers. These three students particularly showed that they are more engaged in the lesson when they are working in cooperative learning groups, acting as a leader or the teacher, compared to when they are volunteering one or two times in an entire period of whole group lecture.

The observations from this study also showed that the student who is usually quiet, waited for the other members of his group to take initiative most of the time. This is one of the negative effects of cooperative learning. He only shared when he was called on and did not interact very much with his table group. This particular student only spoke up when the group was deciding who was reading what parts of the text. This supports the fact this particular child

needs to have a specific role within his group in order to increase his participation. He also might have a confidence issue with reading out loud, which is why he might have only been concerned with the paragraph he was going to read. During the Think-Pair-Share strategy, Student #2 increased his levels of participation within his table group, however still was not willing to share as a whole group. This type of activity is beneficial to a student who is shy or who faces anxiety in a large group setting. For this specific child, The Numbered Heads strategy was the most beneficial in engaging him into the activity. He knew that at the end of the activity someone in the group was going to have to present and no one knew what number was going to be called. Like the Jigsaw, Numbered Heads was a way to motivate not only this student, but the other students to participate. Some students might not be able to handle the anxiety of not knowing if they will be called on, however, they have the opportunity to discuss their answers as a group. The come up with the answers as a group, so if the answer is not correct, at least it was from the entire group, not just a particular student. This strategy was the most successful among all of the students observed. The students were interacting with each other and all completing the assignment. They were also ready to share when it was time to tell the magic number that would be picked. The students were more motivated to work together, knowing that one of them would have to be ready to present.

Further Research

Further research could be conducted to observe an entire class, instead a few individual students. It was difficult to observe four individual students working in four different groups and see exactly what happened the entire time those students were working together. It was very beneficial to have another teacher in the classroom so that accurate observations and field notes could be taken. At times, the focus had to move from the students being observed to the other

students in the classroom, due to behaviors and/or other student needs. Overall, the cooperative learning strategies were successful in increasing participation within the classroom. Further research could look to compare male versus female. Investigating the personality aspect of students and what other strategies would be most beneficial for individual needs could be further studied as well.

Conclusion

Research has shown cooperative learning to be effective in the classroom as long as it is used effectively. The five elements that make this a productive teaching strategy incorporate positive interdependence, face-to-face interaction, individual & group accountability, and interpersonal and small group skills, all of which are important elements in the lives of developing children. Each element was seen in the Jigsaw strategy and the Numbered Heads strategy, which supports the reason why these were the most successful strategies used in the study.

Literature also supports the recent study's conclusion of students' personalities and social skills playing a role in their participation. One of the advantages of cooperative learning is the fact that students are able to increase their verbal communication skills as well as express their ideas among their peers. This type of setting can also reduce tension for those students who experience anxiety in a whole group setting (Berry, 2003). The recent study supports these advantages. There was one particular student who did experience anxiety in a large group setting. After being involved in several activities using cooperative learning strategies, he showed more participation and comfort within his group. He was also willing to present for his group when he was asked to. He began to take responsibility for his learning and was paying attention more. Working in these types of groups helped create a learning community in the classroom with

ongoing support. This type of support offered security to this particular student as it does for students similar to him.

According to one study, when the Jigsaw strategy was used, students showed improvement in their self-concepts as well as their academic achievement. It also showed that these students also showed a high level of motivation (Box & Little, 2003). Results from the current study also showed higher levels of motivation, when the four students observed, were working together. They were especially motivated during the Jigsaw and Numbered Heads strategy. The Jigsaw strategy, specifically, gave the students the opportunity express what they know or what they are learning, to their peers. As far as motivation among students, research can support that when students are working with their peers in cooperative learning situations, they are actively engaged. Students have a greater chance to become involved with each other as well (Peterson & Miller, 2004). The current study showed similar support. The four students being observed showed increased levels of participation and were actively engaged in the activities. Each cooperative learning strategy has its own purpose and can be successful depending on that purpose. They should all be included within a classroom to offer students a variety of settings in which to learn. They should have to opportunity to work in groups, share ideas, work independently and also as a whole class. Teachers must clearly see the difference between small group instruction and placing students in groups to work together (Abrami, et. al., 2000). They should have experience in all of these types of settings and one strategy should not be used more than another.

There is much research to support cooperative learning and its effectiveness in the classroom. However, there is little research that has investigated whether cooperative learning is preferred over competitive and individualistic learning, among all populations of students. Also,

research has yet to examine cooperative learning preference as far as race of ethnic background of students (Ellison, et. al., 2005, pp. 700-706). Cooperative learning is a positive way to actively engage students as well as take responsibility for their learning. It is a chance for the students to become the teachers and the teachers to become the facilitators. It should be included in all classroom settings at one time or another because the advantages outweigh the disadvantages.

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