Cooperative Learning

Module 9

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Roberta, Sam, and Kardia have all been designated as students with learning disabilities and placed in an inclusion fifth grade self-contained classroom. In the past, these students have exhibited behaviors that reflected lack of motivation and self-esteem. In her attempts at maximizing student engagement, their teacher, Ms. Murphy, uses a number of cooperative learning techniques with all of her students. She places Roberta, Sam, and Kardia in heterogeneous groups because she believes that all students have something to contribute. Ms. Murphy often uses the groups during math. Each student is numbered one to four and they work on the designated problem together. She often places a trained student coach in each group to make sure everyone gets to contribute to the problem solving process. She will also ask a different numbered student to complete each step of the problem. Once the problem is solved, Ms. Murphy will choose a random number between one and four to give the answer for their group. The students with learning disabilities spend more time engaged in their work because of the encouragement of team members and individual accountability. They also exhibit more confidence since they are able to answer questions correctly.

Sally is a seventh grade student identified as Autistic. In her American History class, Sally has struggled with waiting her turn to speak and staying on topic during class discussions. Mr. Robins, the teacher for Sally's general education history class, uses group work for all his units. In an effort to help Sally participate appropriately, Mr. Robins uses the Jigsaw Cooperative Learning technique. He writes down for Sally her subtopic for her group as well as the steps the group will go through. Sally is able to contribute in the expert group as the student's share what they have learned about their subtopic. The other members of the expert group are able to help keep Sally on topic. When she returns to her home group she is able to sit and wait for her turn to speak because she knows her

turn to speak will come soon. Mr. Robins has noticed that the other students have become more accepting of Sally because they know her contribution is part of the whole and will be included on the test.

Description of the Cooperative Learning Strategy

Many students with disabilities struggle in inclusive classrooms. Often, they do not have the self-confidence, social skills or self-control to participate effectively with their classmates (O'Brien & Wood, 2011). However, we know that with appropriate instruction the vast majority of students can improve their social skills and cooperative behavior (Gut, 2000). If inclusion is to be successful, students must learn to value the contributions of all students and students with disabilities must be given the tools necessary to participate fully in daily classroom instruction.

Cooperative learning is a strategy that divides students into small heterogeneous groups from which students engage in learning activities using structures designed to require each group member to contribute with the assistance and encouragement of other team members (Balkcom, 1992). Cooperative learning is a widely accepted strategy for increasing academic achievement, improving classroom conduct, and promoting greater acceptance of diversity. Cooperative learning can be divided into four broad categories. Jigsaw designs emphasize the need for each participant's knowledge to complete the problem. Cooperative Investigations focus on teamwork to investigate an interesting concept. Mastery Design focuses on group activities to assist with memorization of important information necessary for higher order thinking. Learning Together is a principle driven concept designed to give teachers the five basic guidelines for cooperative learning. The guidelines are: (a) positive interdependence, (b) face to face interaction, (c) individual accountability, (d) interpersonal skills, and (e) group processing (Kagan & Kagan, 2009).

Cooperative learning strategies have proven to be effective because of the increased levels of student engagement. Students spend more time actively involved in learning and giving and receiving feedback. However, to be effective, cooperative learning requires independent work and accountability (Schul, 2011). Students are held accountable for their participation because they are required to function as teachers as well as students (Haydon, Maheady, & Hunter, 2010). The more time students spend actively engaged in the teaching and learning process the greater likelihood of positive outcomes.

Teachers in inclusion classrooms find cooperative learning attractive for additional reasons. Cooperative learning helps to build student relationships across ethnic, socio-economic, and ability lines. When placed in structured cooperative groups, students learn to interact and appreciate persons from different backgrounds (Balkcom, 1992). Although cooperative learning strategies have been used effectively in mainstream and gifted classes since the late 1970s, there is increasing evidence that these techniques can be used effectively with students with emotional disabilities. Not only is there improvement in peer acceptance, motivation, social skills and

achievement of students without special needs, but also that of students with disabilities in inclusion classrooms (Belland, Glazewski, & Ertmer, 2009).

Research that Supports the Cooperative Learning Strategy

Extensive research has been conducted on the effectiveness of cooperative learning which has become widely accepted across ability and grade levels. In the following discussion we will focus on studies with under-achieving students and students with disabilities. Cooperative learning is considered by many authorities to be an effective instructional tool used in heterogeneous classrooms comprised of students with and without disabilities (Thousand & Villa, 1999).

Belland, Glazewski, and Ertmer (2009) conducted study in a middle school with 36 teachers and 600 students. Their sampling group was taken from a seventh grade science class of 20 students. The group of students they observed contained two average students and one student with disabilities and attention deficit hyperactive disorder (ADHD). On the first day, the teacher gave goals for the project and explained the group process. The teacher then gave a lecture followed with a class discussion on the Human Genome Project. Students were given the opportunity to express their own ideas about the subject during this discussion. Then, they were divided into small groups and assigned the perspective of one of the stakeholders in the Human Genome debate. The students worked together to create a brochure and display to present and defend their assigned position. From videotaping, interviews, and surveys, Belland et al. (2009) drew three conclusions. Each group member approached the problem with a different level of thinking, each group member fulfilled a different role that was needed, and each group member helped fill in where other group members were weak. Although not without some struggle, the group was able to work together and produce a quality presentation. The student with learning disabilities also indicated a significant increase in self-confidence and ability to speak in front of others.

Haydon, Maheady, and Hunter (2010) looked at the results of a cooperative learning strategy known as Numbered Heads Together (NHT) with a class of students with special needs. This study was conducted in a seventh grade, self-contained classroom with eight students with a variety of disabilities. Three of the eight class members received consent to participate in the study. One student was diagnosed with a mild intellectual disability; one with emotional disabilities (ED), and one with ADHD. The teacher began each lesson with a reminder of the rules and an explicit statement of the goals for that particular lesson. Then the instructor read the passages to the students followed by one of three different teaching strategies. Baseline or hand raising included asking the students questions and allowing for individual responses. For the second strategy – Numbered Heads Together, the students were placed in heterogeneous groups and numbered one to three. When the questions were asked after reading, the students were instructed to work together to come up with the best answer and write it on a white board. The students were then called upon by number to give the answer for the group. The third strategy was the same as NHT except that incentives were given when group members gave the correct answer. After each 50-minute lesson, the students were individually administered a ten question quiz. The results of the 20 two-day study showed an increase of 29, 28, and 23% in quiz scores for the three students. Observations conducted during the study showed that student on-task behaviors increased as much as 60%.

Shihab (2011) conducted a comparison study with 50 tenth grade students with learning disabilities. In this study, students were divided into a comparison group and an experimental group. Using the assigned math book, the teacher in the experimental group used cooperative learning activities in every class for eight weeks. The instructor in the control group used traditional teaching methods. The researcher sought to discover if there was any significant difference in the achievement of tenth grade students with learning disabilities in mathematics using cooperative learning strategies. The pre-test given to both groups showed the groups to be essentially equal. The post-test scores revealed significantly higher scores for students in the experimental group than the control group. Therefore, cooperative learning strategies were extremely effective in teaching math to tenth grade, learning disabled students.

Although the majority of studies on cooperative learning has been conducted on fifth graders and above, there are several interesting studies done with early elementary students. For example, Perihan (2009) conducted a study with 34 kindergarten students divided into a control group and an experimental group. These children could neither read nor write. The teachers of both groups indicated that they did not use group work because the students would not stay on task. After a five hour training in cooperative learning, the teacher in the experimental group began incorporating a variety of cooperative learning strategies into her mathematics lessons. An observer took notes in each of the classes and received feedback from the teachers at the end of the study. Data analysis revealed four changes in behavior in the experimental group that did not occur in the control group. The students in the experimental group increased in cooperative, sharing behaviors and improved in their listening skills. There was an increase in student participation by all the students in the experimental group. There also was increased student awareness for the needs and problems of others. Finally, the teacher in the experimental group indicated that the students improved significantly in their math skills.

There are a number of techniques under the heading of cooperative learning. One specific technique studied by Gocer (2010) is called the Jigsaw method. Sixty students in eleventh grade language arts classes were divided between a control group and an experimental group. Both groups were given a Genre Questions list as a pre-test to determine their knowledge of literary types. For three weeks the instructor in the experimental group used the Jigsaw method to teach literary genres and the teacher in the control group used a conventional lecture format. For the Jigsaw method, the instructor divided the students into small groups and gave each member a number. Then each numbered student was given a specific subtopic to explore and they were gathered in expert groups to research and discuss their assigned areas. Then, the experts returned to their home group and taught their group about their subject area. The results of the post-test showed higher scores for the experimental group than the control group. The teacher also observed that the students showed significant growth in cooperation and empathetic behaviors. The students in the experimental group indicated that they never got bored and enjoyed the classwork much more than traditional lessons. They also felt there was improvement in class communication.

When to Consider Cooperative Learning

Cooperative learning strategies are applicable in a wide variety of classroom settings. Studies indicate that complicated cooperative learning strategies such as the Jigsaw method are most commonly used in 3-12 grade classes. However, simpler cooperative strategies are being

used in K-2. The techniques can be adapted to fit any grade and subject matter. They are particularly helpful in heterogeneous classes. Teachers will find cooperative learning strategies particularly helpful if their primary goals include student achievement, better acceptance and understanding of diversity, and assisting with inclusion of students with disabilities (Balkcom, 1992).

Guidelines for Implementation

In order for cooperative learning strategies to be effective, they must take place in a structured environment. Too often cooperative learning is mistaken for any lesson that allows students to work together. For cooperative learning to be effective, time must be devoted to training students to perform their respective roles, clear goals, and both individual and group accountability. After reviewing the literature on cooperative learning, Murphy, Grey and Honan (2005) identified the following essential components for effective use of this strategy:

1. Teacher training in cooperative learning techniques.
2. Student training in cooperative learning techniques.
3. Student training in social skills where needed including modeling and rehearsal.
4. The strategy is preceded by adequate teacher instruction on the content.
5. Specific goals and outcomes are identified and explained to the students.
6. Clear and precise directions of the steps of the chosen cooperative strategy are given. This is especially important with complicated strategies such as Jigsaw.
7. Careful selection of group members by the teacher in order to create heterogeneous groups with the potential for cooperation.
8. Constant teacher monitoring and reinforcement of cooperative behaviors in groups.
9. The strategy must include a component for independent work.
10. Individual and group accountability through the use of daily reflection and evaluation sheets.
11. Continue using the same groups long enough to allow for group maturity and cohesiveness.
12. Complete quantitative and qualitative assessments in order to check effectiveness of the chosen strategy.

When working with students with disabilities, it is important to provide adequate time for social skill instruction and "booster" training sessions, as needed. For these students, it is also important to provide written structures and frequent worksheets to check their progress. If the groups are heterogeneous, it also is beneficial to assign one student as coach in each group. This student is trained to encourage and assist group members, as needed.

Cautions Regarding the Use of Cooperative Learning Strategies

Problems associated with the use of cooperative learning strategies mainly relate to the lack of teacher and student knowledge/skills necessary to make the strategies work. Asking students to work together without first introducing the necessary structures for individual and group accountability may result in students not contributing successfully to the group work. Without

individual responsibilities and teacher monitoring students can choose to not participate (McCoy, 2005). There must be adequate time in the class schedule for training, individual student accountability, and group maturation or the strategy will not be effective. Further, if one student dominates the group or is allowed to push their work off on others, the group work will suffer. Likewise, if the teacher intercedes too often or steps in to control the group then the efforts to promote student independence will be thwarted (Murphy, et al., 2005). The single most important factor in the success of cooperative learning strategies is teacher training. Teachers must not mistake cooperative learning with students simply getting together to complete classroom assignments.

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