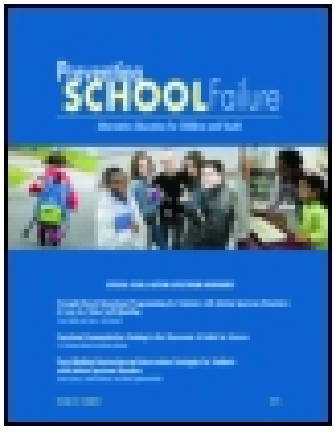

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Cooperative Learning
What Special Education Teachers Need to Know

DAVID W. JOHNSON and ROGER T. JOHNSON

Consider two special education students. Ralph walks into the school knowing that today he will learn more about English and math but that no one would miss him if he were absent, no one would care if he were sick, and no one would care if he could not do the required work. Fred walks into the school knowing that he has friends who are waiting to see him, who truly care about him as a person, who would miss him if he were absent, who would feel bad if he were sick, and who will give him the help he needs to succeed.

The Importance of Long-Term Caring Relationships

It is difficult to overemphasize the importance of the relationships special education students form with peers and teachers. If these pupils are isolated individuals who have no meaningful and lasting relationships with peers or teachers, school is less than wonderful and their future may be less than promising. If special education students form caring, committed, and permanent relationships with peers and teachers and are part of an ongoing support group, then school is terrific and their future is bright. Lonely, isolated, and alienated students do not do well in school. Popular, liked, accepted, and respected students do. Although learning academic material is important and should not be deemphasized, the relationships built with peers and teachers dominate the school life of special education students.

In order to create caring and committed relationships among students, cooperative learning has to dominate the classroom. Competitive and individualistic learning experiences do not promote caring and committed relationships among students, nor do they provide a context in which social skills may be learned, practiced, and perfected. Relationships and social skills are built out of working together to get the job done.

At least one cooperative group, the base group, should last for a number of years. Most schools assume that relationships are either undesirable or of no consequence. Students and teachers are

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usually assigned to classes as individuals as if it does not matter who a student's classmates and teachers are, especially in secondary school. Teachers and classmates, for example, usually have a temporary, 1-year relationship with any one student. It is important for special education students to have a base group made up of nonhandicapped as well as special education students that stays together for a number of years.

Social skills training has to be emphasized for both special education and nonhandicapped students. Working in cooperative learning groups takes leadership, decision-making, communication, trust-building, and conflict-resolution skills. Building and maintaining long-term caring and committed relationships require the same skills. These skills have to be systematically taught, used, reinforced, and emphasized.

Finally, although mainstreaming is preferred, when it is not possible, cooperative learning should dominate special education classes. The advantages of cooperative learning exist in the self-contained as well as the mainstream classroom. Cooperative learning, furthermore, needs to be used within special education classrooms in order to prepare students for cooperative learning in regular classrooms. When mainstreaming is possible, nonhandicapped members of a cooperative group should be waiting in the regular classroom to "claim" the special education student as "one of us," to welcome him or her into their group and class, and to provide the student with ongoing social support.

In order to create the constructive relationships and social support system so necessary for special education students' success and well-being, special education teachers need to understand the meaning of cooperative learning, the essential elements required to ensure that cooperative groups are productive, the teacher's role in structuring cooperative learning groups, the impact of cooperation on learning outcomes, the variety of ways cooperative groups may be used, and how to solve some of the common problems in integrating special education students into cooperative learning groups with nonhandicapped peers.

What Is Cooperative Learning?

"I want to be able to hear a pin drop in this room." "Don't copy." "I want to see what you can do, not your neighbor." "Save the talking for the hallway." These are familiar teacher statements exhorting students to work by themselves without interacting with their classmates. In many classrooms, in every part of the country, these statements are becoming passé. In classrooms with cooperative learning and in schools with collegial support groups, we are returning to the North American tradition of cooperation.

What is cooperative learning? Cooperation is working together to accomplish shared goals, and cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning. Within cooperative learning groups, students are given two responsibilities: to learn the assigned material and to make sure that all other members of their group do likewise. Thus, a student seeks an outcome that is beneficial to him- or herself and beneficial to all other group members. In cooperative learning situations, students perceive that they can reach their learning goals only if the other students in the learning group also do so. Students discuss the material to be learned with each other, help and assist each other to understand it, and encourage each other to work hard.

Cooperative learning may be contrasted with competitive and individualistic learning. In the competitive classroom, students work against each other to achieve a goal that only one or a few students can attain. Students are graded on a curve, which requires them to work faster and more accurately than their peers. Thus, students seek an outcome that is personally beneficial but detrimental to all other students in the class.

In the individualistic classroom, students work by themselves to accomplish learning goals unrelated to those of the other students. Individual goals are assigned, students' efforts are evaluated on a fixed set of standards, and students are rewarded accordingly. Thus, the student seeks an outcome that is personally beneficial and ignores as irrelevant the goal achievement of other students.

We, the authors, know a great deal about competition. As brothers 1½ years apart in age, we competed intensely with each other for about 18 years. Having experienced firsthand what competition can do, we decided to cooperate when we became colleagues at the University of Minnesota in 1969. We combined expertise in social psychological work on cooperation with that in classroom teaching. Ever since, we have been reviewing and synthesizing the existing knowledge about cooperative, competitive, and individualistic efforts; building theoretical models about how each may be used appropriately; conducting a systematic program of research to validate the theory; creating operational procedures for teachers and administrators to use; and building a national and international network of school districts implementing cooperative learning in the classroom and collegial support groups in schools and districts on a long-term basis.

Basic Elements of Cooperative Learning

Simply placing students in groups and telling them to work together does not in and of itself promote higher achievement and more positive relationships among students. There are many ways in which group efforts may go wrong. Less able members may "leave it to George" to complete the group's tasks (i.e., the free-rider effect), more able group members may expend less effort to avoid the sucker effect, or the group may engage in all the explanations and elaborations (i.e., the rich-get-richer effect) (Johnson & Johnson, in press). Group efforts can be characterized by self-induced helplessness, diffusion of responsibility and social loafing, ganging up against a task, reactance, dysfunctional divisions of labor, inappropriate dependence on authority, destructive conflict,

and other patterns of behavior that debilitate group performance (Johnson & Johnson, in press). It is only under certain conditions that group efforts may be expected to be more productive than individual efforts.

Suppose that in a Minnesota fifth-grade classroom, a teacher gives her students a set of math story problems to solve. She assigns students to groups of three, ensuring that there is a high-, medium-, and low-performing math student and both male and female students in each group. The instructional tasks are to solve each story problem correctly and to understand how to do so.

In order to make this lesson cooperative, five basic elements have to be included. The first is positive interdependence, wherein students perceive the lesson as a "sink or swim together" situation. Students need to feel that their work benefits their groupmates and their groupmates' work benefits them. Teachers structure positive interdependence by requiring each group to agree on what the answer to each problem is and how it is derived and assigning students the complementary roles of reader (reads each problem aloud to the group), encourager (encourages all members of the group in a friendly way to participate in the discussion, sharing their ideas and feelings), and checker (makes sure that all members can explain how to solve each problem correctly).

The benefits of cooperation are not maximized unless there is considerable face-to-face, promotive interaction—the second element—among students. Group members need to encourage, support, help, and assist each other's efforts to learn. There are cognitive processes and interpersonal dynamics that occur only when students become involved in explaining their reasoning to each other.

The third element is individual accountability, which exists when the performance of each student is assessed regularly. Group members need to know who needs more assistance in completing the assignment. Members should perceive that they must fulfill their responsibilities in order for each individual and the group to be successful. Because students are required to certify that each group member has the correct answer written on his or her answer sheet and can correctly explain the answers, individual accountability is structured by picking one answer sheet from the group or randomly asking one member to explain the group's answers.

Fourth, the social skills emphasized in the lesson are checking and encouraging. Learning groups are not productive unless members are skilled in cooperating with each other. Cooperative skills include leadership, decision making, trust building, communication, and conflict resolution. These skills have to be taught just as purposefully and precisely as academic skills. Procedures and strategies for teaching students social skills may be found in Johnson (1986, 1987); Johnson and F. Johnson (1987); and Johnson, Johnson, and Holubec (1986).

Finally, at the end of the period, the groups process their functioning by answering two questions: (1) What is something each member did that was helpful for the group? and (2) What is something each member could do to make the group even better tomorrow? Group processing is the discussion of how well group members are learning and maintaining effective working relationships among members.

These five elements represent a conceptual approach to cooperative learning that allows teachers to become educational engineers who structure their existing lessons, materials, and curricula. Teachers can tailor lessons to their instructional needs, circumstances, subject areas, and students. Thus, teachers who have learned a conceptual model of how to make lessons cooperative can use cooperative learning within all subject areas, and they can adapt and modify cooperative lessons to take into account the specific social, emotional, and learning problems of special education students.

Besides understanding the five basic elements, teachers also need a set of procedures that define their role in structuring cooperative lessons.

The Teacher's Role in Implementing Cooperative Learning

Imagine you are a principal walking down the halls of your school during a normal school day. In one classroom, students sit in rows, quietly working on individual worksheets and taking notes while a teacher lectures. In another classroom, students busily work in triads, encouraging each other and explaining and elaborating to each other the material they are working on, while the teacher moves quietly from group to group to see which ones may need assistance in understanding the material or in working together effectively. Which classroom is more productive?

For years, the quiet classroom has been perceived to be the productive classroom.

For years, the quiet classroom has been perceived to be the productive classroom. Noise level was an informal index of classroom control and on-task behavior. No longer. We now know that working together to achieve joint goals has numerous advantages over competitive and individualistic efforts. But how do you do it? How does a teacher structure learning situations so that students cooperate with each other? Theory can only guide practice if theory is translated into a set of concrete and practical procedures that teachers can use to implement cooperative learning.

When using cooperative learning, you, the teacher, function as both an academic expert and a classroom manager to promote effective group functioning (Johnson & R. Johnson, 1987; Johnson, Johnson, & Holubec, 1986, 1987). First, you specify the objectives

for the lesson. Second, you make a number of preinstructional decisions, such as how large the groups will be, how students will be assigned to groups, what roles should be assigned to students, and what materials each group needs. Third, after the lesson is planned, you explain to the students the learning task, the positive interdependence, and related instructions for working with each other. It is at this point that you teach the academic concepts, principles, and strategies that the students are to master and apply. Fourth, while the students work in groups, you monitor students' effectiveness in completing the assignment and in working together cooperatively. You provide task assistance (such as answering questions and teaching math skills and strategies) and assist students in increasing their interpersonal and small-group skills. You instruct students to look to their peers for assistance, feedback, reinforcement, and support. You expect students to interact with each other, share ideas and materials, support and encourage each other's academic achievement, orally explain and elaborate the concepts and strategies being learned, and hold each other accountable for learning. Finally, you evaluate students' achievement and help them process how well they cooperated with each other. A criteria-referenced evaluation system is used. Detailed descriptions of each of these steps may be found in Johnson, Johnson, and Holubec (1986) or Johnson and R. Johnson (1987).

Implementing cooperative learning is not easy. It takes considerable effort and time to gain expertise in it. With special education students, furthermore, the specifics of how cooperative learning is structured may need to be adapted. There must be careful consideration of which students in a mainstreamed classroom work with the special education student, what roles he or she is given, which criteria the special education student's performance is based on, and which social skills are emphasized within a lesson. Once teachers gain some expertise in structuring lessons cooperatively, such modifications become easy and natural.

What Do We Know About Cooperative Learning?

Working together to maximize one's own learning and the learning of other group members can have profound effects on students. In trying to understand how cooperation works, and in continually refining our understanding of how to implement cooperation most effectively, we have conducted a 20-year program of research that has resulted in over 80 published studies. These studies have included lab-experimental, field-experimental, field-evaluation, and large-scale survey research. From these studies we can conclude as follows:

1. More caring and committed relationships between special education and nonhandicapped students tend to result from working together to get the job done than from competing to see who is best or working independently from classmates.
2. The positive relationships and social support found within cooperative learning situations tend to increase students' self-esteem and healthy psychological adjustment.
3. Cooperative learning experiences, compared with competitive and individualistic ones, tend to increase students' social skills and competencies.
4. Cooperative experiences promote higher achievement, more frequent discovery and use of higher-level reasoning strategies, and greater critical thinking than do competitive and individualistic ones.

Whether special education students are taught in self-contained classrooms or mainstreamed into regular classrooms, the primary goal is to involve them in constructive relationships with nonhandicapped peers. When cooperative learning is emphasized, that goal is accomplished along with a number of other important instructional outcomes such as higher self-esteem, general improvement in psychological adjustment and health, greater social skills, increased achievement, and higher level reasoning skills. With the amount of research evidence available, it is surprising that classroom practice is so oriented toward individualistic and competitive learning.

Types of Cooperative Groups

There are three types of cooperative learning groups that special education teachers may use. Ad hoc cooperative learning groups consist of brief and temporary tasks such as "turn to your partner and answer the following question." Formal cooperative learning groups are carefully structured to complete assignments that last for several hours, days, or weeks. Base cooperative groups are long-term groups whose role is primarily one of peer support and long-term accountability. It is especially important for special education students that they are members of an ongoing base group that is permanent and, preferably, lasts for several years. To be truly caring and committed, relationships have to be more than temporary "shipboard romances" based on a single assignment or unit. Students need to know that their relationships are permanent and that they have to work together and get along for years. This diminishes anonymity and increases accountability to peers who have a long-term investment in a student's well-being and success.

Working in any cooperative group takes social skills. Whereas competitive and individualistic learning situations require students to work quietly without interacting with classmates (thus preventing the learning, use, and refinement of social skills), cooperative learning is based on the appropriate use of leadership, communication, decision-making, and conflict-resolution skills. Teaching students these skills and then encouraging their use become important responsibilities of the special education teacher.

Finally, in order to sustain the long-term implementation and in-classroom help needed to gain expertise in cooperative learning, special education teachers need support groups made up of colleagues who are also committed to mastering cooperative learning. Good collegial relationships require as much careful structuring and monitoring as do cooperative learning groups.

Cooperative learning is based on the appropriate use of leadership, communication, decision-making, and conflict-resolution skills.

Integrating Special Education Students Into Cooperative Learning Groups

When special education students are mainstreamed into cooperative learning groups, there may be a number of problems that both special education and regular classroom teachers need to attend to. By carefully structuring positive interdependence, individual accountability, face-to-face promotive interaction, the use of social skills, and group processing, teachers can prevent or reduce problems that special education and nonhandicapped students have in working together. Three of the most common problems are the special education students' fear and anxiety, the nonhandicapped students' concern about having their grades affected, and special education students' passive uninvolvement. Some suggestions for dealing with such problems follow.

When Special Education Students Are Anxious

Many special education students may be fearful and anxious about participating in a cooperative learning group with nonspecial education peers. The following steps may alleviate their anxiety:

1. Explain the procedures that the learning group will follow.
2. Give the special education students a structured role so that they understand their responsibilities. Even if students cannot read, they can listen carefully and summarize what everyone in the group is saying, provide leadership, and help to keep the group's work organized. There is always some way to facilitate group work, no matter what handicaps the students may have.
3. Coach the special education students in the behaviors and social skills needed within the cooperative group. Pretraining in social skills and periodic sessions to monitor how well the skills are being implemented will increase the special education students' confidence.
4. Pretrain the special education students in the academic skills needed to complete the group's work. Try to give the special education students a source of expertise that the group will need.

When Nonspecial Education Students Are Anxious

Many nonspecial education students may be concerned that the special education student will lower the overall performance of their group. Three major ways of alleviating their concern are as follows:

1. Train nonspecial education students in helping, tutoring, teaching, and sharing skills. The special education teacher may wish to explain to the group how best to teach the special education group member. Many teaching skills, such as the use of praise and prompting, are easily taught to students.
2. Make the academic requirements for the special education students reasonable. Ways in which lessons can be adapted so the students at different achievement levels can participate in the same cooperative group are to
   a. use different criteria for success for each group member;
   b. vary the amount each group member is expected to master;
   c. give group members different assignments, lists, words, or problems, and then use the average percentage worked correctly as the group's score; and
   d. use improvement scores for the special education students. If it is unclear how to implement these procedures, consult with the special education teacher to decide what is appropriate for the specific special education student.
3. Give bonus points to the groups that have special education members. This will create a situation in which nonspecial education students want to work with their special education classmates in order to receive the bonus points.

Passive Uninvolvement by Special Education Students

When special education students are turning away from the group, not participating, not paying attention to the group's work, saying little or nothing, showing no enthusiasm, or not bringing their work or materials, the teacher may wish to jigsaw materials so that each group member has information the others need. If the passive, uninvolved student does not voluntarily contribute his or her information, the other group members can actively involve the student. Another strategy is to divide up roles and assign to the passive, uninvolved student a function that is essential to the group's success. Or the teacher may reward the group on the basis of their average performance, which will encourage other group members to derive strategies for increasing the problem member's involvement.

Summary

Caring and committed relationships are derived from cooperative efforts, not from competing to see who is best or from working alone. The heart of school for special education students is the relationships they form with their classmates and teachers. Lonely and alienated students do not learn well. Students who are liked and accepted by their classmates are much more likely to acquire the skills and competencies needed to learn and to maintain their relationships.

Just placing students in groups and telling them to work together does not usually result in a cooperative effort. To be a cooperative learning group,