

Cooperative Learning at the College Level

By Laura M. Ventimiglia

If the United States is to be competitive in the global marketplace, we must first teach our students to be cooperative with one another. This irony must be addressed. The changing workplace of today is relying more and more on the interdependence of individuals in work teams for higher productivity.

Employees, from factory line workers to CEOs, are being expected to work cooperatively in their own specialized areas as well as in the areas of creative problem-solving and decision making (Loewenwarter, 1988; Offerman and Gowing 1990; Sundstrom, DeMeuse, and Futrell, 1990; Ward and Pearce 1990).

Students in cooperative and collaborative learning classes recognize that learning how to work with others will be extremely advantageous to their careers. Yet, according to Kohn (1986), such cooperation is contrary to the addictive socialized behavior of competition in the United States.

Given such an obstacle, it becomes critical for our educational system to produce students who are able to work with others. With the increasing need for college degrees in preparation for the workforce, college professors become the last link between young people and the workplace.

Those Who Do

Professors where I teach have shown, in both introductory and

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upper level courses in the disciplines of history, political science, English, math, and chemistry, that cooperation and collaboration are effective teaching and learning strategies. In fact, whole programs at these colleges—Writing Across the Curriculum, Freshman Seminar, and many others—are built around these concepts. Faced with the responsibility of providing students with new skills for new times, faculty are initiating cooperative experiences in their classrooms and in their own practice with colleagues.

Their cooperative and collaborative teaching and learning strategies also have the advantage of improving student learning and retention. The research on cooperative learning shows an increase in student achievement (Slavin 1989/90¹; Johnson, Johnson, and Smith 1991a, 1991b). Research also indicates that meaningful learning—learning that connects new information to existing cognitive structures of an individual—is more effective (Johnson, 1975).

The shift from a professor-centered to a student-centered learning situation allows students to construct new knowledge by building on existing schemas. Students also share in the ownership of course content, making it more meaningful and useful. The role of professor is transformed from one of deliverer-of-information to one of colleague and mentor. Belenky, Clinchy, Goldberger, and Tarule (1986) refer to this role as one of a midwife.

Midwife professors “assist . . . students in giving birth to their own ideas, in making their own tacit knowledge explicit and elaborating on it” (p. 217). Freire (1970) and Sizer (1984, 1992) support this approach to education with their descriptions of educators as co-investigators and coaches.

The methodology of cooperative and collaborative teaching is also important because of the skills students develop from this process approach to education. The two skills we will all need to be successful in the workforce 2000—neither of which is taught as the content of a course or from a textbook—are the ability to work together cooperatively and the ability to be a life-long learner.

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Industrial/organizational psychologists point out that in our fast-changing society people will need to change or relearn their careers eight to 13 times during their lifespan (Schultz and Schultz, 1990).

Both cooperative and collaborative learning, in any discipline, give students the opportunity to learn these skills by completing the course as designed and by imitating the academic behaviors modeled by the professor. In the cooperative and collaborative learning patterns, we model our actual work processes—students can see us struggling to solve a problem, interpreting a primary source, or revising a paper.

Different Models to Education

The *traditional* approach to education, described as the banking model by Freire (1970), has been the lecture format where information is “deposited” into students. The professor, one who considers himself knowledgeable, dictates both the form and content of course requirements by bestowing on those he considers to know nothing, the students, the information that he determines is appropriate for them and society. Freire points out that, in this model, students are expected to adapt to their world, not transform it, by passively receiving this information.

Jane Tompkins (1990) describes another, more contemporary approach called the *performance* model. Even though students may become more involved in the process of their own education by choosing their own topics for research papers and by suggesting topics and readings for class discussion, Tompkins suggests that professors are basically concerned, as she was, with how well they perform in the classroom. A professor who teaches under the performance model generally wants to show students how smart she is, how knowledgeable she is, and how well-prepared she is for class.

I would like to suggest yet another approach to education: the *collaborative* model. The collaborative model builds on cooperative learning strategies but extends beyond having the students work together to complete a pre-determined task. In collaborative learn-

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ing, professors and students actively and mutually engage in the learning process. Together, they define and create a body of knowledge that informs and transforms our world. In this approach to education, professors are, in fact, midwives, co-investigators, coaches, who together with their students construct the knowledge for the course.

As a psychology professor at both a community college and a comprehensive liberal arts state college, I want my students to be empowered to change the world in which we live. To do this, they need to learn to use their minds well while critically learning the content of the course. They need to learn to respect themselves and respect others.

Cooperative and collaborative strategies accomplish this and, at the same time, develop a culture for quality work. As mentioned above, cooperative and collaborative techniques are not particular to any one discipline.

Faculty seem committed to the concept of cooperative and collaborative learning, but many do not understand that success at these approaches is grounded in the structure designed by the professor. Using cooperative and collaborative techniques requires a tremendous amount of work before, during, and after actual class time.

Cooperative and Collaborative Techniques: Past and Present

During my first semester of teaching, I structured my classes to actively engage students in the learning process. Students generally came to class excited and ready to learn, but something was missing. I realized that students evaluated themselves and others according to "intellectual abilities."

Those who were "smart," who stayed focused on the task at hand, who gave reasonable answers, and who spoke quickly and clearly, were valuable. Those who were less focused, less accurate, and had trouble speaking were worthless, and in some cases not even

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tolerated. Students openly made derogatory comments and inappropriate facial expressions towards other students.

In addition, the expectancy rule was in effect. Students responded to fellow students' expectations and behaved in the fashion in which they were perceived. Students who were smart by their peers' standards continued to perform well in class, and students who were less acceptable, performed poorly.

I could see the strengths and weaknesses of every student within my classes, seeing in each something worth valuing. But they couldn't see this value in each other, sometimes not even see this value in themselves. As the professor, I observed their behaviors in the classroom, read their academic journals, and talked to them individually. I was, therefore, exposed to their work, their thoughts, their feelings. I could appreciate and recognize the contribution each student could make to society.

Since my goals were to encourage students to learn and respect themselves and others, I would need to find a way to provide knowledge of self and others to all students. I was sure this would raise the level of respect as students came to know each other and see in each something worth valuing.

My initiation of cooperative learning in the classroom, therefore, stemmed from the educational shortcomings of my own classes—the absence of a mutual respect that included an appreciation for each other's contribution to society.

At the conclusion of my first semester of teaching, I determined that second semester would be different. I turned to the literature on cooperative learning and found three common areas of concern: group formation, group composition, and assessment of student work. Using that information, I began experimenting with cooperative learning groups.²

Group Formation

Group formation refers to the number of students in each group, the assignment of students to each group, and the length of time

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groups stay together. Aronson, Blaney, Stephan, Sikes, and Snapp (1978) believe that groups can consist of three to seven members, with five to six being the ideal. Johnson, Johnson, and Smith (1991a, 1991b) suggest that groups consist of two to four members. They further suggest that the professor assign students to groups or use random assignment.

If students select their own group members, they recommend a modified student selection process be used. Students may list the people they want to work with, but the professor arranges groups so that students are placed in a group with one person they have selected and others that the professor has selected. Groups should stay together long enough for students to be productive, but every student in the class should have the opportunity to work with every other student sometime during the semester.

For several semesters, students in my courses were assigned to groups either randomly or by matching people according to abilities, both intellectual and interpersonal. During other semesters, students assigned themselves either by choosing a topic or by choosing the students with whom they wanted to work. The size of groups in my classes has always ranged from three to five students and, presently, I use a variety of assignment methods during one semester.

I begin the semester by allowing students to choose their own group members for work that is introductory to course content. During the second or third week I begin using random assignment.

Depending on classroom dynamics, students work together to complete one, two, or more tasks, work that is topical in content. For example, students may stay in the same group to complete assignments related to families and gender roles or learning and memory, but then group membership would change for the next topic or topics. I strive to complete a series of assignments for two topics, but often find it counterproductive to remain focused on the selection process of the group and not the needs of the class.

One semester, for example, students in one developmental

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psychology course worked well when assigned to groups randomly and completed two sets of topical tasks. Yet students in another developmental psychology course were not productive using that same design.

In the second case, students had the opportunity of working with every other classmate via random assignment for the completion of one set of tasks. They worked the rest of the semester in stable groups and with members of their choosing.

Producing quality work is my expectation of students, but often students cannot develop—in one semester—the skills needed to work productively with a range of other people.

Group Composition

I also pay attention to *group composition*. Group composition refers to the make up of the group in terms of skill levels, gender, race, and personality traits. Both Aronson et al. (1978) and Johnson, Johnson, and Smith (1991a, 1992b) believe that a diverse group membership is most productive. During the semesters that I assigned students to groups by matching abilities, I observed the productiveness of diverse skill levels and personalities within each group.

I found that matching students by intellectual and interpersonal abilities drew more attention to those areas of strengths and weaknesses in students and was ineffective. I tried, for instance, to arrange group membership so that males and females were balanced, or groups were either predominately male or female, or were all male or female. I found that individual student characteristics were more influential than gender in producing quality work. I am only now becoming aware of the impact of ethnic diversity within group membership. I am observing students in intraracial as well as interracial groups.

I rely on random assignment to produce effective group membership, but I will interfere with the process occasionally. If random assignment hasn't brought people together who may benefit from

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working with each other, I will arrange groups for that purpose. Or if I notice that unhealthy dynamics are interfering with a group's productiveness, I may also arrange groups.

Running Interference: Two Examples

Debbie was a young wife and mother living in a four-room apartment with her husband, daughter, parents, and sister. Her home environment was hostile towards her role as a student and her potential as a woman. Her confidence and self-esteem were very low. Alice was a middle-aged woman who had worked hard to rear a family. She was a nurse's aide in a prison hospital. She was pursuing a career change and was excited about her future. She was self-assured. I arranged groups so that Alice and Debbie worked together, believing that Alice would be an appropriate role model for Debbie.

Ted, a clever manipulator, intimidated other group members into always accepting his point of view. Very subtly and without dominating, he managed to convince the others by dazzling them with his academic lingo that he was more intelligent and, therefore, knew what he was talking about. Regardless of the assignment, his work was accepted as the group's. Most often, he was wrong. Ted was assigned to several groups, exposing him to a range of interpersonal situations. When he could control, he did; when he could not, he complained that he could not help the others either grow personally or produce quality work. Unwilling to acknowledge the value of other people's work, he eventually stopped attending classes and did not complete the course.

Assessment of Student Work

This area seems to produce the most confusion among my colleagues. It is no wonder, given the range of descriptions one finds in the literature. Johnson, Johnson, and Smith (1991a, 1991b) believe in individual accountability. Students are held responsible for learning the material themselves and then helping others learn.

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Aronson et al. (1978) believe in individual testing. Kagan (1989/90; cited in Brandt, 1989/90) and Slavin (1989/90) discuss the benefits of group goals and individual accountability.

Group goals or positive interdependence require group members to work together for rewards based on group success. One measure of group success could be the total of individual group members' test scores. McDougall and Gimple (1985) also refer to group rewards. But Jackson (1986) refers to group grades.

The discussion here raises the question of individual versus group grades for the novice cooperative learning professor. And, does the type of work students do influence whether they receive an individual or group grade?

To help answer these questions, I have also experimented with the type of work done by each group and the evaluation of that work. Group work has included class presentations, group tests, applying concepts to a given situation, and group-to-group presentations. Assessment of student work has included grades that were based on an individual's work and grades that were based on the group's work.

Students in my introductory psychology courses, for example, have worked in groups both in and out of class to prepare a class presentation on a psychological disorder. The assignment remained the same for three semesters, but the grading changed from an individual grade, to a group grade, to a combination of both. Presently, students receive only individual grades for the work they do in my courses.

Some students are not able to commit to group work on a consistent basis and in such a way that would make group grades equitable. These students are either incapable of such total commitment or their personal lives interfere with the responsibilities of being a student. It is not uncommon for students to be called away from their school work because of their own job commitments, family responsibilities, or personal dilemmas.

In all my classes, however, course requirements are built on

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interdependence and individual accountability. Class participation grades are based on attendance, individual preparedness, and the degree of cooperation, which includes helping others learn the material for the course.

Journal work is a record of the individual's learning process, but is enhanced by the work of classmates. Final exams in developmental psychology courses are comprehensive and reflect the work of the entire class throughout the semester. Final exams in introductory psychology courses are self-evaluative but include an assessment of the student's ability to work with others. Individual competency is achieved, therefore, through cooperation and collaboration.

The type of work done by groups depends on the type of group to which students in my classes belong. There are now two types of groups in my classes: cooperative learning groups and collaborative learning groups. I often hear colleagues use these terms interchangeably, but I recognize two very major distinctions in the type of work each group does and the resources each group uses.

Cooperative Learning Groups

Cooperative learning groups take their direction from and use sources provided by the professor. Because I recognize cooperative work as a precursor to collaborative work, students in my introductory level courses are exposed to cooperative group work.

From theory to practice—The direction takes the form of established questions to direct student discussions and established activities that require students to apply concepts. Sources include only the textbook or materials prepared by the professor.

For example, before a lecture on psychobiological processes, students are presented with the question: Do you believe psychologists should be concerned with the nervous system?

Students are expected to justify their position and be specific in their rationale. They prepare for their small group discussions before class by critically reading their textbooks and developing

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their own arguments. They bring those arguments to class and, using each person's work, they develop a group position to present to the class. These presentations become the basis for the class lecture and discussion.

Taking notes—The natural response of students in classrooms not cooperatively based is to take notes only when the professor speaks and outlines salient points. In my classes, students are instructed to take notes when each other presents but to leave plenty of “white space” in their notebooks.

I take notes as well, recording mine on the blackboard. The white space in student notebooks is later filled with additional points, clarifications, or implications derived from the whole class discussion.

Students take peer presentations very seriously. They are told from the beginning of the semester that what anyone says in class is as important as what I say. If they aren't quite convinced, they realize this soon enough when I do not repeat what students have presented, yet hold the class accountable for that information through testing.

Lectures—Cooperative learning groups may also function after a lecture. Following a lecture on classical conditioning, students are given the group task of identifying the elements of classical conditioning in a variety of situations presented to them on an activity sheet. For example, students are asked to identify the neutral stimulus (ns), unconditioned stimulus (ucs), unconditioned response (ucr), conditioned stimulus (cs), and conditioned response (cr) in the following situation:

Two-year-old Andrew is in his playpen in front of a big picture window. A thunder and lightning storm is brewing outside. A bolt of lightning flashes across the window, followed by a loud thunder clap. Andrew jumps at the noise. This continues for quite some time and then stops. As the storm moves away, a bolt of lightning flashes again. Andrews sees the flash and jumps.

Cooperative learning classes take their direction from the professor; collaborative learning groups provide their own direction.

Students quickly move into groups perceiving this as a fun activity. They are surprised at how difficult it is to actually apply the information they have just heard in the lecture. Among them, though, they arrive at the solution:

ns = lightning, ucs = thunderclap, ucr = jump,
cs = lightning, cr = jump

Cooperative learning classes take their direction and receive sources from the professor, as opposed to collaborative learning groups, which provide their own direction and sources. These students are working on a higher cognitive level.

Students set the topics—Students in my developmental psychology classes work collaboratively and begin initially by setting the priority for topics to be covered during the semester. During the first class, each student is given 100 points to spend before the next class. Using the table of contents in their textbook, they assign points to those topics they wish to study. I compile the results and give students the course outline and reading assignments at the third class.

As each topic comes up in class, students work in small groups brainstorming questions they have about the topic. Each group develops at least three questions that are then written on the blackboard. In an adulthood and old age class, for example, a group raised the following questions under the topic of families:

Do children of divorced parents tend to get divorced themselves?

What are the effects on children reared in gay or lesbian families?

In choosing a mate, is it better to pick one who is similar or opposite?

Do people consciously or unconsciously choose someone who is similar or different than their opposite sex parent?

Do couples who marry later in life and get to know each other before the marriage stay married longer than couples who marry young?

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Once students have listed the group questions on the board, we categorize them. These questions, along with questions from the other groups in class, were categorized into:

choosing a mate,
marriage,
gay, and lesbian relationships, and
marriage and divorce.

Each group then chooses a category to investigate and which questions will direct the group's work.

Students work with their small groups to prepare for the whole class discussion on each topic. Preparation involves planning the coverage of the topic, developing strategies for each group member's work, researching a variety of sources, and putting together a presentation for the whole class discussion.

Resources—Sources include scholarly journal articles, textbook readings, and monographs. Media stories or pamphlets from legitimate agencies such as pamphlets on menopause or child abuse may be used to provide examples in support of group findings. Periodicals such as *Psychology Today*, *Newsweek*, or *Time* are not considered scholarly sources.

The textbook is treated as a resource and not a definitive text. Students are involved with their text by using the index to look for information that they can read or access on their chosen topic. The value of using a textbook as a resource is that students learn to think for themselves and understand that textbooks usually represent a singular point of view.

I work right along with my students. I choose a topic to investigate, do research in the library, and present my findings to the class. I work with students in and out of class, although my out-of-class sessions are not scheduled. I often see students when I am working in the library.

One day, three of us converged in the same aisle looking for the same journal and article. We had all used the Infotrac computer for our search and had very similar printouts of possible sources. The

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journal we were all looking for was missing from the shelves.

In response to their complaints of not being able to find any of the material in the library, I ran through the drill: Did you check with the reference librarian? Did you check the re-shelving carts? Did you walk around to see if anyone was using it? Did you check to see if it was on microfilm?

Having given them some direction, we divided the remaining list of sources and went searching again. We met half an hour later and between us had all of the articles we wanted. At the very least, when I see students in the library, we compare notes and offer each other help. I notice a difference in students' attitude and participation in class after I have met them in the library. They are more open, interested, and committed to the collaborative process.

Thorough involvement—During class, I visit every group, engage in small group discussions, listen to students talk about their process, and offer suggestions to help facilitate their work. I also share resources and offer other perspectives they might want to consider. The level of interaction with those groups working on the same topic as I is somewhat more intense.

Students seem more willing to include me in their discussions because we are both dealing with the same material. Our discussions are more substantial. Because of this higher level of academic discourse, I choose my topics to investigate according to which students I need to work with in this way. By working with students in the library and in class, I believe I both instruct in and model the behaviors of critical scholarship.

Testing—The questions that direct our work set the foundation for class discussions and become questions on essay tests. The students and I sit in a large circle and listen critically to each other's presentations. We take our own notes and challenge points that seem unreasonable. It is not uncommon, for example, for anyone to challenge the findings of a research study based on the date or design of the study.

It is also not uncommon for us to challenge each other's point of

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view using data to support our position. In fact, students challenge much more freely than I do. Bringing whole class discussions to a conclusion involves agreeing on which information we accept as course content and are thereby responsible for knowing.

Where Did It All Begin?

All of the cooperative and collaborative behaviors described here grew out of my research in the literature and my own field experimentation. But I was also influenced by the work of Freire (1970) and Sizer (1984, 1992), whose theoretical positions seem most useful to those professors considering cooperative and collaborative learning.

I realized that my goals of encouraging students to learn and respect others called for transforming their world, their reality. In order to do this, students had to engage in what Freire calls a dialogical education for “without dialogue there is no communication and without communication there can be no true education” (p. 81).

The dialogue of education in the college classroom begins when the themes of the content reflect those realities that students want to know more about. Once presented with these themes, professor and students—acting as co-investigators—can explore their realities and share their views.

The educational reform work of Ted Sizer (1984, 1992), whose Coalition of Essential School’s philosophy, while outlined for high schools and used in middle schools, can easily be adapted to the college classroom. Sizer argues that students need to use their minds well, need to learn how to gather their own information with the help of their teachers, and need to learn less superficial information in favor of acquiring a more in-depth knowledge. He also argues, as does Freire (1970), that every student has the right to learn and learn well and has the responsibility to produce authentic work.

Such an education, according to Sizer, begins with the development of essential questions that guide student work and invite

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dialogue. His colleague, Grant Wiggins (1987, 1991), provides a practical model for this theoretical framework. He offers a design for the questioning process that promotes critical thinking, but more importantly, he articulates the criteria for authentic work. Student work is authentic when it is purposeful, gratifying and fulfilling, challenging, meaningful, engaging, and generative.

The Key: Healthy Group Dynamics

Theory and practical models aside, putting students together to work on a common assignment does not guarantee that cooperative learning will occur. Cooperative learning is dependent on interdependence—the ability to work well together, using each other's strengths and weaknesses in a complimentary manner that gets the job done at maximum potential.

The success of a group's work is contingent, therefore, upon a healthy interaction between students. David W. Johnson and his colleagues (1990, 1991, 1991a, 1991b) provide group dynamic formats that set the tone for productive, authentic work.

A healthy interaction begins with an awareness of the social skills needed for successful cooperative work: leadership, shared decisionmaking, trust, effective communication, and conflict management. These skills are developed through the use of warm-up exercises, social tasks, group roles, and the processing of group work once the assignment is complete (Johnson, Johnson, and Smith, 1991a, 1991b).

Warm-up exercises are directed towards the whole class during the first week of the semester. I explain to students that the course structure of group work requires us to know each other enough to work well together and warm-ups help "break the ice." Depending on the exercise, we will spend five to 20 minutes at the beginning of the first two, maybe three classes of the semester.

A favorite exercise of mine and the students is the "ethnic line activity." The students and I form a line, standing across the room.

Student familiarity through self-disclosure transcends the stereotypical first impression that students have of each other.

We do this four times lining up in alphabetical order according to the ethnic heritage of each of our maternal and paternal grandparents with whom we have either a familial or legal bond. I ask a student to save my place in line, and I record the countries on the board as we sound off. I prepare a handout with this information and pass it out at the next class. The last two times we sound off, I ask students to state their name—first, then first and last, before they state the country of origin.

These activities help build community both in and outside the classroom. Recently, one student told me that, as a third semester student at the college she met more people during the first week of that class, than during her two previous semesters combined. As a result, she felt more comfortable and more connected to the college. In class, I notice that students are relaxed and freely engage in small group work.

The assignment of a social task at the beginning of each group session further breaks down the barriers between students. Social tasks range from introducing each other by name, the meaning of their names, or a memory cue that helps others remember their names to a sharing of their academic strengths, academic weaknesses, or style of conflict management.

By learning more about each other, students find a common ground that gives them something to identify with and connect with in each other. Students frequently refer to the social tasks as the “bonding” process. Many times, when I have noticed students spending more time than I would like on the given social task and encouraged them to move on to the academic portion of their work, I have been met with the comment, “But we are still bonding.”

Whether students are serious or not when they refer to their bonding, they recognize its value. This familiarity through self-disclosure transcends the stereotypical first impression that students have of each other and helps them to begin to recognize each other’s limitations and potential. I find that this knowledge leads to an appreciation and acceptance of the other. This familiarity also

induces students to accept more responsibility for their contributions to the group.

Assigning Roles

Appropriate social skills are further developed through the use of group roles during the small group session. Besides the academic task, each student takes on added responsibilities. Johnson, Johnson, and Smith (1991a, 1991b) suggest a number of group roles that create social interdependence among students. Table I contains the roles used in my classes.

TABLE 1.
Group Roles

RECORDER	Takes notes during the group discussion and compiles a presentation for the whole class.
REPORTER	Presents the group information to the class.
CHECKER	Monitors the group members' understanding of the topic under discussion and stops the group work for clarification when someone is confused.
ENCOURAGER	Ensures that everyone has the opportunity to participate in the group's work and praises members for their contributions.
OBSERVER	Monitors and records the overall behaviors of the group according to an agreed upon checklist of behaviors.

The use of group roles encourages equal participation of group members where everyone has the opportunity to participate without one person dominating. Equal participation may not occur, but the structure is there, and, as a result, students recognize that everyone has valuable contributions to make to the group, which, in turn, helps it run efficiently and effectively.

Students choose roles among themselves but are encouraged to take a turn at each role throughout the semester. When I check in with each group, I ask who is functioning in which role. Frequently, I will also ask which roles each student has taken on so far in the semester and make a note of those students who need to move on to other roles. The next time group roles are chosen, I will remind those students of what roles they need to try.

Students are encouraged to look at the behaviors of others, not personalities, and to identify those that facilitate group work.

Developing appropriate social skills continues even after the group work is finished through the processing of group work for evaluation purposes. The same format is used for small groups and whole class discussions. Following Johnson, Johnson, and Smith's (1991a, 1991b) model, students are asked to list three things they found helpful and one thing they would like to see improved. Students are encouraged to look at the behaviors of others, not personalities, in an effort to identify those specific behaviors that facilitate group work and those that hinder it. This information is then shared with either the small group or the whole class.

Students are encouraged to be constructive and communicate with each other appropriately by using language that is non-threatening and nondefensive. In other words, students are instructed to describe a behavior rather than judge it, to remove the words "you should" from their vocabulary and replace with "could you" or "you might," and to take responsibility for their thoughts and feelings by using the word "I" instead of "we," "you," or "they."

A typical group member's feedback might look like this:

Helpful:

I find it very helpful that Sarah comes with several articles because it improves our discussion by increasing our pool of resources.

I like the way Mary records our comments. She says just what I want to say but says things better than I could.

I feel stimulated the way we discuss a point back and forth. It really makes me think.

To be improved:

I get frustrated when everyone doesn't come prepared.

Sharing in small groups occurs in a round-robin fashion. Students go around the group and each one reads that individual's list. After all the lists have been read, students are free to engage in a discussion.

The presentation of the three helpful behaviors results in positive, reinforcing statements that offset any defensiveness that

I obtain feedback on the course structure directly by asking students to evaluate the small group work using this format.

could be associated with the need-for-improvement statement. Because of this, discussions have been friendly and respectful. Students tend to recognize and own their behaviors without further discussion from the other group members.

The mechanics of processing group work in whole class discussions occurs somewhat differently. Students are asked to turn in lists of three helpful behaviors and one improvement. Before the next class, I compile the information and share it in a whole class discussion. I usually separate the suggestions for improvement into two groups—behaviors for which I am responsible and behaviors for which students are responsible.

Feedback from one class included the following:

To be improved by the professor:

Facilitate the group more effectively. Be sure that everyone who wants to speak has the opportunity, but do not allow discussions to drag on.

To be improved by the students:

Be better prepared to speak so the time is used more efficiently.

It's Almost Perfect

Student feedback from both introductory and developmental psychology courses has been extremely positive. I obtain feedback on the course structure directly by asking students to evaluate the small group work using the above format. I receive indirect feedback by periodically asking students to anonymously respond in writing to the question: "What is the most significant learning that has occurred as a result of this course?"

In both cases, students report that they learn more information and learn it better, that their own perspective broadens because they have the opportunity of hearing others' points of view, which forced them to rethink their own, that they learn how to work with others, and they learn to respect others. Students in the collaborative

This provides a format for dealing with diversity, both in terms of a multicultural curriculum and student skill levels.

learning groups additionally report that they learn how to use libraries, do research, interpret primary sources, and question nonprimary sources.

Race Relations Improve

Johnson, Johnson, and Smith (1991a, 1991b), Kagan (cited in Brandt, 1989/90), and Slavin (1989/90) have found that group work also improves self-esteem, interpersonal relationships, and race relations. I agree.

Cooperative and collaborative learning provide a format for dealing with diversity, both in terms of a multicultural curriculum and student skill levels. As students begin to feel safe in a classroom environment that is respectful, their questioning process becomes more open and honest.

Confronted for the first time perhaps with lifestyles other than their own and influenced by the media's coverage of society, students express interest in African-American, Hispanic, gay/lesbian concerns, and others. In cooperative learning classes, I respond to these interests by helping students access the information they are looking for. Students in collaborative learning classes respond to these interests by introducing studies on their particular concern or concerns into the course content via their small group investigations and presentations during whole class discussions.

Studying course content, hearing other students' perspectives, and getting to know students of diverse backgrounds while working with them influences attitudinal changes. Students also recognize in themselves and others their strengths and weaknesses and how these complement the working of a group. Students then report a change in attitude towards themselves, people of varying skill levels, people of color, gays and lesbians, and people of all ages.

Tolerance Increases

Influenced by these attitudinal changes, students have also reported a change in their behaviors. They report being more

Learning to respect others is a function of a student's academic situation and the respect students feel from their professors.

accepting and respectful. These behaviors are noticeable in the classroom and in student conversations. These changes will help students live more productive, useful, and healthy lives in the workplace, but also in their families, neighborhoods, and communities.

Learning to respect others is a function of both a student's academic learning situation and the respect students feel from their professors. This influence is noticeable in the unsolicited letters often received from students at the end of a semester.

The following excerpt from one such letter reflects the recognition of mutual respect:

Your teaching methods are refreshingly innovative, and I appreciate your obvious dedication to your students. It is really nice to feel respected by a professor, and I have a great deal of respect for you in turn.

Students demonstrate a high level of interest in the cooperative and collaborative course structure. Despite the above average demands on students to produce quality work, an average of 75 percent of the students who begin my courses complete them. Those students who drop the course report that they do so because of the workload and not because of the requirements of group work.

Grades Improve

Student success can be measured from student self-reports, both solicited and unsolicited, plus their grades. Students in cooperative and collaborative learning courses experience a higher rate of above average grades. The percent of students in my courses receiving a grade of "B" or better has risen from an average of 60 percent to 85 percent for those students who complete the course. This scholastic success seems to be due to the ownership students share in the course content.

The material is covered in a way that is meaningful and useful to students, their work is authentic. These grades do not reflect simple grade inflation. A comparison of my syllabi indicates that students

Students have a difficult time at first accepting the notion of providing their own information for the “meat” of the course.

are doing more work, being challenged more intellectually than students in my earlier classes, yet earning higher grades. In addition, students report that the skills they learn in my courses help them to be more successful in their other courses regardless of that course's structure.

A Lot of Hard Work

As rewarding and successful as group work is, facilitating group work can be very difficult. It is tedious work to visit each group, explaining and re-explaining the tasks at hand, reminding students of their roles, modeling those roles when necessary, and prodding everyone along.

It is also time- and energy-consuming to be involved in reflective teaching, with its constant need for observation, interaction, and analysis of student progress, the classroom environment, and my own behaviors. Yet this is a crucial element in both the cooperative and collaborative learning structures because what works with one class or one student may not work with everyone. Often the energy consumed by reflective teaching and the flexibility required to produce a successful learning situation precludes implementing, in each course every semester, all of the social skill processes.

During a recent semester, for example, one class did not evaluate small group work at all or follow through consistently in group roles. I was not concerned, however, as these students, having been exposed to the process of group work, were closer to developing the necessary cooperative skills than they were before.

Tackling the Unknown

The most frustrating aspect of cooperative or collaborative work, however, is moving students from the familiar product-oriented education to the unfamiliar process approach to education. Students involved in collaborative learning groups have a difficult time at first accepting the notion of providing their own information for the course, providing the “meat” of the course, as they have called it.

Less really is more and the time involved in developing appropriate relationships and social skills is time well-spent.

Some students also have difficulty accepting the effectiveness, on a continuous basis, of the three social skill processes: social tasks, group roles, and the processing of group work. These students believe that knowing about group process and experiencing it once is enough. They do not realize that they could be more productive if they improved their group effectiveness and that improving group effectiveness takes time and practice in developing the appropriate relationships and social skills.

Re-envisioning Content

Finally, facilitating group work is difficult because it takes time away from course content, although learning the process is part of the content. Given the short amount of time and the amount of material that is expected to be covered in any given semester, however, I am always faced with the tension of balancing group work with content.

I have come though to two conclusions: less really is more and the time involved in developing appropriate relationships and social skills is time well-spent. Students may cover less topical material but cover it more in-depth. They are, in fact, covering far more material than would normally be anticipated, and they are able to make connections between topics.

I have noticed, for example, that class discussions in my courses have moved from static, segregated topical discussions to broad-ranging, all-encompassing discussions that flow more smoothly and represent the students' ability to make connections and synthesize ideas. When students develop the appropriate working relationships, they work more efficiently and are more productive.

Try It, You Might Like It!

My use of cooperative and collaborative learning may not be appropriate for everyone, but it at least provides an experiential model for some. Because professors are so involved in the learning

process of their students when engaged in cooperative or collaborative learning, it is critical to follow a design that is comfortable and works for the individual. The best way to know what works for you is to experiment with cooperative or collaborative learning techniques in your own classes. Read the literature, gather your own data, and know that your students benefit from the process even if it is not perfect.

Integrating these strategies into your courses may be easier if they are introduced slowly, one course or one strategy at a time. I would suggest any of David W. Johnson's books as helpful resources for those professors concerned with specific strategies. My courage to develop course strategies inconsistent with the traditional approach to education, however, came from Friere (1970).

Those engaged in this type of exploration will discover, as I did, that their techniques evolve with ongoing investigations and professional development. Regardless of the techniques I employ, my use of group work will continue to be fueled by the desire to have students learn well and develop the mutual respect which is critical within our society.

Notes

- ¹ Slavin argues that student achievement improves through cooperative learning only when two conditions are present: group goals are shared and individual accountability is in place. He does, however, point out that while research supports the influence of these conditions in elementary and secondary schools, the work of Davidson (1985 cited in Slavin, 1989/90) and Dansereau (1988, cited in Slavin 1989/90) indicates that they may not be necessary at the college level.
- ² Student self-reports and observations continue to generate data. Self-reports of a structured interview format consist of the processing of group work after a completed task, periodic and brief course evaluations throughout the semester, and a more detailed course evaluation at the end of the semester. I record naturalistic observations of the behaviors of interest during or after class as the situation presents itself.

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