

COOPERATIVE LEARNING

AN ALTERNATIVE TO LECTURING IN COLLEGE

“Through cooperative learning I have become a more independent learner and I realize now that when I am an active learner, I learn more.”

“I have never been so completely involved in a course as I have been this summer. Cooperative learning ignites learning on a much deeper and lasting level.”

BY SHIRLEY ANN FREED

The comments at the left come from students involved in a major shift from the lecture mode to small-group interactions. Fueled by new definitions of epistemology (the philosophical concept of knowledge) and the arrival of students who expect learning to be meaningful, the new paradigm views students as processors of information, not as empty vessels into which professors pour their vast knowledge.

Several indicators suggest that cooperative learning is having an effect on higher education. An ERIC search shows that the number of citations combining “higher education” and “cooperative learning” increased from two in 1982 to 120 in 1992. In June 1993, the National Center on Postsecondary Teaching, Learning, and Assessment sponsored a national conference on collaborative learning at Pennsylvania State University. The newsletter *Cooperative Learning and College Teaching* is in its fifth year of publication. A *Directory of Cooperative Learning Practitioners in Higher Education* can be obtained at no cost.¹ At least two Seventh-day Adventist colleges, Canadian Union College and Andrews University, provided awareness sessions in cooperative learning for their Fall Faculty Fellowship meetings in 1994.

“Cooperative learning is one of the biggest, if not the biggest, educational innovations of our time. It has perme-

ated all levels of teacher training from preservice to inservice. . . . And cooperative learning is not a peculiarly American educational phenomenon. It is touted from Israel to New Zealand, from Sweden to Japan.”² What factors are driving this trend on the college level? Is it just a passing fad?

First, even the most enthusiastic teacher realizes the limitations of the lecture method. Studies dating from the 1960s document “the inability of most individuals to listen effectively to any lecturer, no matter how skillful, over a sustained period.”³ Students appear to listen and assimilate material for about 10 to 15 minutes, then their concentration slips and their minds wander. This problem can be easily remedied by the “lecture pause,” an empirically supported strategy researched by Ruhl, Hughes, and Schloss. They found lectures to be more effective if two-minute pauses were injected after each 12 to 15 minutes of lecture. “Students hearing the lectures where the instructor paused did significantly better on the free recall quizzes and the comprehensive test” than a control group who heard the same lecture with no pauses. “In fact, the magnitude of the difference in mean scores between the two groups was large enough to make a difference of up to two letter grades, depending on cut-off points.”⁴ What happened during the three two-minute pauses? Students worked in pairs, discussing and reworking their notes. Smith⁵ sug-

gests using three- to four-minute “Turn to your partner” episodes after 10 to 12 minutes of lecturing. (See Figure 1.) During these talking times, students summarize what was stated in the lecture, answer a focus question, predict what may come next, or share experiences related to the topic.

A similar strategy, the Systematic Instruction Model (SIM), developed at Texas A & M University, has an interaction cycle consisting of cues, presentation of concepts, questions with students responding, and feedback; then the cycle is repeated.⁶ What each strategy shares in common is the use of a focused pause 10 to 15 minutes into the lecture, and then repeating the opportunity for student interaction frequently throughout the lecture.

Second, research validates what practitioners have long known—that positive peer relationships break the isolation of college life and predict success in college. Smith⁷ cites studies by Astin, Light, and McKeachie showing that interaction among students affects levels of learning, motivation to learn, and retention in college. In his keynote address at a 1994 national conference on postsecondary

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teaching, Vincent Tinto said that if in the first year of college, students are involved in collaborative learning so that they build a network of support, they spend more time studying, learn more, want to learn more, and enjoy learning more.⁸ With generally declining enrollments, every college must consider ways to attract and keep students.

Third, our students will graduate and enter a work force where teamwork is the norm. As Katzenbach and Smith state so well,

The record of team performance speaks for itself. Teams invariably con-

tribute significant achievements in business, charity, schools, governments, communities, and the military. . . . We do not argue that such team achievements are a new phenomenon. But we do think that there is more urgency to team performance today because of the link between teams, individual behavior change and high performance.⁹

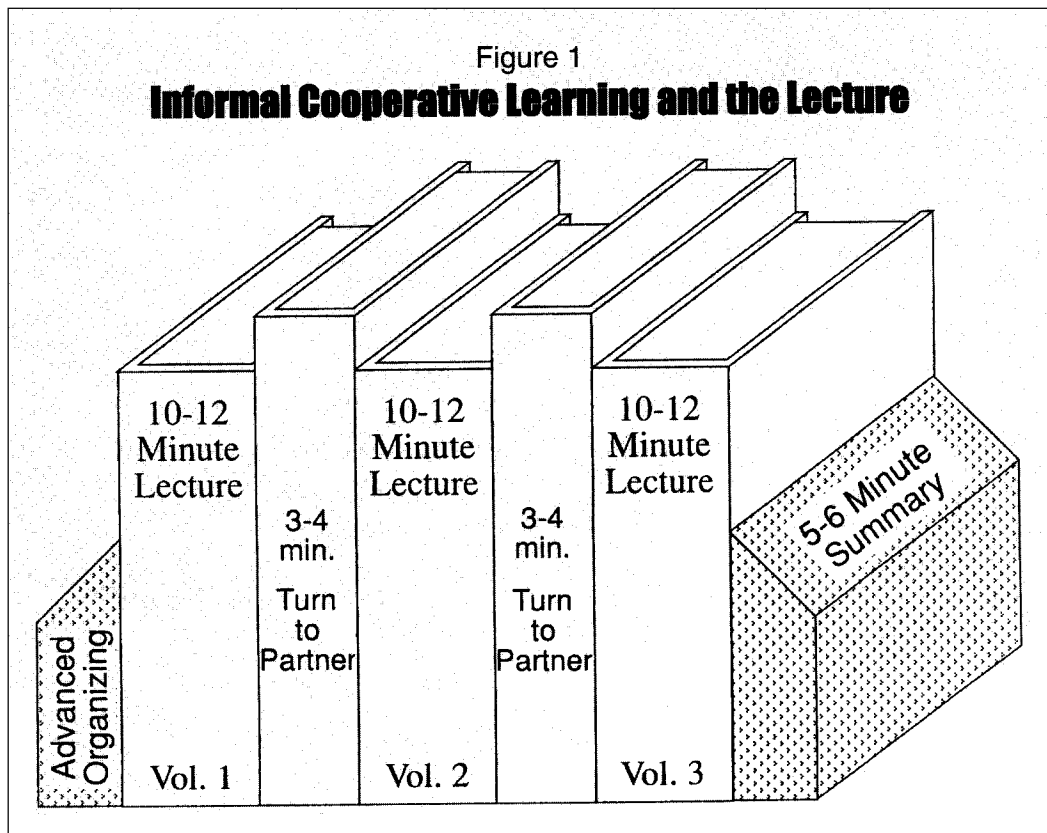
Is team work easy? Are there social and communication skills that must be learned and practiced for successful teaming? College students can answer that:

Through cooperative learning, I have learned how to get along with people better. All my life I have been doing things all by myself. I had great difficulty when first exposed to this kind of learning, but now I have better social skills.

Struggling in a group produces learning. Our group struggled. At times it was tense. During these times, I, and I think everyone else, registered each idea permanently. I was not always comfortable, but we worked out most misunderstandings. I think I made three friends.

Actively teaching and focusing on social skills makes ordinary groups become cooperative. Many college students need to develop the following skills: clarifying, supporting, taking responsibility, accepting differences, integrating ideas, leading, following, describing feelings, listening, disagreeing, negotiating, including everyone, criticizing ideas—not people, ignoring distractions, and encouraging others. In a formal cooperative learning lesson, one or more of these social skills will be taught and processed.

Do Adventist students need help in developing these behaviors? One indication may be the results of Valuegenesis, which showed that prosocial behavior and valuing of service to others actually decreased with the number of years of Adventist education. Dudley rightly asks, “Is there something about Adventist education that leads its recipients to



become self-centered and fail to develop a love for humanity?"¹⁰ Corporate and individual reflection on this question should inform our future practice!

How can cooperative learning help solve these dilemmas? Johnson, Johnson, and Smith¹¹ identify three types of cooperative learning groups. They "can be used to teach specific content (formal cooperative learning groups), to ensure active cognitive processing of information during a lecture (informal cooperative learning groups), and to provide long-term support and assistance for academic progress (cooperative base groups)." The second type has already been discussed in this article. The first type—formal cooperative learning groups—can be used to teach any assignment in any curriculum.

The Johnsons and Smith suggest five basic elements that must be included in a formal lesson:

- Positive interdependence,
- Face-to-face interaction,
- Individual accountability,
- Social skills, and
- Group processing.

Positive interdependence means that the group must work together to accomplish the academic task. It is best structured by having a goal that requires everyone to participate. This can also be accomplished by assigning roles to the group members. Some appropriate roles for undergraduates are reader, recorder, critical inquirer, coach, elaborator, encourager, checker, questioner, and participation monitor. Having a role makes it difficult for a student to opt out. Other ways to build in interdependence can be found in the Johnsons' *Circles of Learning*.¹²

Cooperative learning is enhanced by face-to-face communication by those in each group. This interaction can be encouraged by arranging the room so that students sit at tables or with desks arranged so that they face one another.

Every student must understand that he or she is individually responsible for the academic task. Two easy ways to structure individual accountability into any lesson include giving a quiz to each student or by randomly selecting students to answer questions concerning the academic goal. If teachers carefully plan for individual accountability, they will avoid the often-heard accusation that in cooperative

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learning some students do all the work while others do nothing.

Since social skills are needed by all members of a cooperative group, they must be specifically taught. Two ways to teach social skills include having one group model it for the others, and by talking about what that social skill looks and sounds like. In other words, discuss what someone would “see” and “hear” when students are using a particular skill. Often, mentioning the social skill is enough to stimulate a group to practice it.

At the end of a lesson, students can discuss how well they functioned both socially and academically. Answering questions such as “What did we do well?” and “What could we do better next time?” are sufficient starters to get students thinking about the group process and their own contribution to it.

Finally, cooperative base groups can be used to provide students with the support, encouragement, and assistance they need to progress academically. Base groups meet daily (or whenever the class meets). They are permanent (lasting up to several years) and provide the long-term caring relationships among peers necessary to influence members consistently to work hard in college.

*The use of base groups tends to improve attendance, to personalize the work required and the school experience, and to improve the quality and quantity of learning. The larger the class or college and the more complex and difficult the subject matter, the more important base groups are.*¹³

How to Get Started

If students aren't accustomed to working in groups, some simple, short, pair activities can serve as an excellent

introduction. More-advanced applications include structures that have many of the five components built into the process. Here are several, including clearly defined steps for implementation.

The *Jigsaw*¹⁴ is one popular process. The following steps make it easy to adapt to a group activity:

1. Form teams with three to four students in each team.
2. Give each student in a team different reading materials and study sheets.
3. Each student becomes an “expert” on his or her assigned reading. (This is done independently or by studying with students from other teams who have the same reading materials.)
4. Each student “teaches” his or her team members the assigned reading.

Another favorite is *Group Investigation*:¹⁵

1. Topics for study are identified, and students are placed in teams.
2. Team members decide what sub-topics are to be investigated, as well as the goals of their study and how the topics are to be studied.
3. Team members gather information, review it, analyze/evaluate it, and reach some conclusions.
4. Each team must prepare a summary activity. It may be in the form of a report, a briefing, etc., for the entire class.
5. Groups make their presentations.
6. The purposes, methods, and means of evaluation can be negotiated collaboratively among the students and the instructor. This is usually a tremendous learning experience in itself.

*Cooperative Controversy*¹⁶ is excellent when you want students to understand different viewpoints;

1. The teacher lectures to the class on the topic of the unit.
2. The students are placed in groups of four, and each foursome is divided into pairs. Each pair is given material supporting one of two sides of a controversial issue relating to the unit's topic. Thus, one pair in each foursome has material on one side of the issue, and the other pair has material supporting another side. Using the teacher-prepared material and their own ideas, the pairs prepare to present their assigned positions to the other pair in their foursome.
3. The pairs then present their

assigned sides of the issue to each other. Each side takes notes during the other's presentation. Then they debate the issue, defending their assigned positions.

4. The pairs then change sides and prepare to present and defend the side of the issue previously presented by the other pair. They are not given the teacher-presented material supporting that side.

5. The foursomes repeat step three with their newly assigned positions.

6. The students try to reach a consensus on the issue (although doing so isn't necessary).

7. Students take a quiz, write an essay, or work on other tasks based on the topic of the controversy.

*Dyadic Essay Confrontation*¹⁷ is an excellent strategy to motivate students to read material. This is often desirable if a teacher is trying to "cover" a certain amount of text:

1. The instructor assigns reading.

2. The student reads the materials and formulates an essay question.

3. The student prepares a model response to his or her own question.

4. The student brings the essay question and a copy of the answer on separate pages.

5. Students exchange essay questions.

6. Students write an essay responding to the question they receive.

7. Students compare their answer with the model answer and discuss them. (When evaluating questions, students look for clarity, importance, etc. The teacher can set the criteria.)

8. The instructor conducts general discussion after all students have received copies of the questions.

Many other cooperative strategies are available and can be found in books listed in the references. As you begin to use more cooperative learning lessons, it is helpful to have one or two other professors with whom to share your successes and struggles.

Keeping the student rather than the content at the center of instruction makes teaching more successful and rewarding.

In closing, Solomon advises that "two are better than one, because they have a good return for their work: if one falls down, his friend can help him up. But pity the man who falls and has no one to help him up!" (Ecclesiastes 4:9, 10, NIV). ✍

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