Collaborative learning strategies can improve the learning of subject matter in content area classrooms, but they are only one aspect among many that influence how much learning will take place in a class period. The Directed Reading-Thinking Activity (DR-TA) is an effective teaching/learning strategy to use with content area material. Much of the effectiveness of the DR-TA has to do with teachers getting students to predict what is coming up next. The amount of learning and attention will increase in the classroom when the teacher deliberately gets students to communicate with other students (in groups of four or five) to make meaning and then has each group share that meaning with the rest of the class. A jigsaw strategy can also be used to enhance the understanding of subject matter in various content areas. A modified jigsaw strategy has been used in the Kansas City, Missouri, School District's Comprehension and Cognitive Development Program which enables students to make meaning using three or four different pieces of text which deal with the same subject matter. Combining the use of cooperative learning groups with strategies such as the DR-TA can facilitate the learning of narrative material, and using a strategy such as the modified jigsaw can enhance the learning of non-narrative or expository material. (MG)
COOPERATIVE AND COLLABORATIVE LEARNING STRATEGIES FOR CONTENT AREA TEACHERS

JOHN GEORGE, UNIVERSITY OF MISSOURI-KANSAS CITY
AND
KATHY DALE, HUGOTON HIGH SCHOOL, HUGOTON, KANSAS

Our Utopian content area classroom would be one in which all of the students learned everything that we taught and everything that we wanted them to learn. All of the students in our classroom would be engaged every single minute of the class period in making meaning about whatever was to be learned. They would make this meaning by conversing, reading, writing, speaking, listening, viewing, acting, building, constructing, experimenting, problem solving, composing, singing, dancing, drawing, or engaging in any other behavior which would enable them to construct the overall meaning of the lesson as well as the various subtleties and meanings that would provide a complete understanding of what was being taught. Our students would be so well informed about the content of the lesson after the class period, or periods as it were, that they would rush out of the classroom full of curiosity thirsting for additional, deeper, broader aspects of the content. Without any urging whatsoever on our part the students would go to other sources, like the library, a bookstore, an encyclopedia, or resource persons, to become experts on the content that we first introduced to them.

Assessing the students in our Utopian classroom, we would discover that not only did they have a complete understanding of the overall meaning on the content that we wanted them to learn but they also understood the subtleties of meaning involved. They could demonstrate in speaking, writing, or doing that they were experts on every particular aspect of the content area presented. All students in our Utopian classroom would be able to demonstrate knowledge and understanding far greater than what was presented in the content area text or through our own direct teaching to the students.

If we said that by using cooperative and collaborative learning strategies that you would immediately have a similar Utopia in your classroom, we would be exaggerating and would be
hooted out of Kansas. What we can say, however, is that by using cooperative and collaborative learning strategies in your classroom you can come closer to the above Utopia than you can through various other approaches such as, for example, direct teaching.

Collaborative Learning

The distinction between the expressions cooperate and collaborate have become somewhat blurred over the years. The dictionary defines cooperate as "to work or act together or jointly in producing something" and collaborate as "to work one with another, as to collaborate on a literary work." The term that is used when students work together to make meaning of something that they, or someone else, wants them to make meaning of is collaborative learning. Before we demonstrate some "hows" of collaborative learning, let us consider briefly what it is, why it is important, where it can occur, who engages in it, and when it should be used.

What is collaborative learning? Collaborative learning is the process of individuals working together in a cooperative manner to make meaning of what is to be learned.

Why is collaborative learning important? Collaborative learning is important because it provides an opportunity for all learners to be actively and continuously engaged in making meaning of what is to be learned -- through various means such as conversing, listening, reading, writing, speaking, etc.

Where can collaborative learning occur? Collaborative learning can occur practically anywhere, both in classrooms and outside of classrooms.

Who can engage in collaborative learning? Collaborative learning can be engaged in by two or more cooperative individuals who have a need to learn something. In classroom settings, collaborative learning groups usually number 4 or 5.

When should collaborative learning be used? Collaborative learning should be used whenever something is to be learned by two or more individuals.

How can collaborative learning be used in content area classrooms? Collaborative learning can be used in content area classrooms through the application of various collaborative learning strategies such as the use of cooperative learning groups, and the use of the jigsaw or modified jigsaw strategy.
Using Cooperative Learning Groups with the DR-TA

The Directed Reading-Thinking Activity (DR-TA) developed by Russell Stauffer (1970) is an effective teaching/learning strategy to use with content area material. Much of the effectiveness of the DR-TA has to do with the teacher's "getting students to predict what is coming next." But, the amount of learning and attention will increase in the classroom when the teacher: (a) deliberately gets students to communicate with other students (that is, gets cooperating students to make meaning of the text rather than simply communicating their thoughts directly to the teacher) and (b) gets students to make meaning within groups of 4 or 5 students each and then has each group share that meaning with the rest of the class.

American writer Edith Wharton retells the traditional story "Appointment in Baghdad." The DR-TA can be used with this story with the whole class, the teacher asking individual students in the class to make predictions about what is going to happen at various points in the story. But more meaning will be made and more attention drawn to the story if collaborative groups are formed and each group is asked to predict what is going to happen. The groups will make even more meaning and will be drawn into the story even more if each group is asked to try to come to a consensus, or group decision, on what is going to happen, or what is going to happen next in the story.

For demonstration purposes, form a group of four or five persons who are sitting near you. Introduce yourselves to one another and learn one another's names. Tell where you are from, and what your job entails. Appoint a recorder who will record what the group concludes. Also, appoint a reporter who will report the group's conclusions to the entire group. Then, in collaboration with the other members of your group, consider the title of the Edith Wharton story, "Appointment in Baghdad." Decide together what you think the entire story is about, trying to come to a consensus, or group decision, on what you think might happen in the story. Also, as a group, decide on the reasons for thinking what you think.

(The members of each group collaborate and try to make a group decision on their predictions and their reasons for the predictions on what the story is about.)

The reporters share with the entire group what their individual groups think the story is
about, and why their group thinks so. The predictions are recorded by the teacher on the board, or on an overhead projector transparency.

(The teacher presents the first six paragraphs of the story, "Appointment in Baghdad.")

Next, everyone reads the first chunk of the story, and the teacher asks the groups which predictions listed on the board or overhead projector transparency were proven to be accurate, which were proven to be inaccurate, and which have not been found to be either accurate or inaccurate. The teacher puts a plus (+) next to accurate predictions, a minus (-) next to inaccurate predictions, and a question mark (?) next to predictions that have not yet been verified by the text to be accurate or inaccurate. The teacher may wish to have different groups read the words in the text that prove their prediction to be accurate or inaccurate.

Next, in collaboration with the members of your group, and based on your knowledge of the story title and the first part of the story that you read, predict what you think is going to happen next in the story. Your group should come to a consensus, or group decision, on what they think is going to happen next. The group should also decide what reasons they have for their thinking. The recorder should record both what the group decides is going to happen next and what reasons the group has for arriving at its conclusions.

(The members of each group collaborate and try to make a group decision on their predictions and their reasons for the predictions on what is going to happen next in the story.)

The reporters share with the entire group what their individual groups think is going to happen next in the story, and why their groups think so. The predictions are recorded by the teacher on the board, or on an overhead projector transparency.

(The teacher presents the last part of the story, "Appointment in Baghdad.")

After reading the last part of the story, members of each group decide whether their predictions were accurate [the teacher puts a plus (+) next to these] or inaccurate [the teacher puts a minus (-) next to these]. The teacher may wish to have a group read the words that
prove that their predictions are either accurate or inaccurate.

Finally, the students in each group work cooperatively on various activities to show that they understand the plot and other important aspects of the story. The groups could:

1. Write a summary of the story.
2. Do or film a dramatic version of the story that the students themselves write and produce.
3. Draw or paint pictures which tell the story.
4. Build a model or models depicting the story events.
5. Make a collage to tell the story.
6. Make graphic or pictorial organizers to describe the story.
7. Write creatively about the story. The writing could include poetry, stories, plays, letters, and journal entries.

Using the Modified Jigsaw Strategy with Non-narrative Text

A jigsaw strategy (Slavin 1986) can also be used to enhance the understanding of subject matter in various content areas. The following modified jigsaw strategy which has been used in the Kansas City, Missouri, School District's Comprehension and Cognitive Development Program enables students to make meaning using three or four different pieces of text which deal with the same subject matter. In other words, the "text corpus" is expanded from the customary single text, with a single point of view and a single style of writing, to multiple texts which approach the subject matter from a different angle and with different styles of writing.

First, the teacher finds four (three could be used) different articles, or pieces of textual material, which focus on the specific subject matter that the teacher feels the students need to learn. The material should be well-written and approximately at the students' reading ability level. The material could come from magazines, encyclopedias, trade books, etc.

The students are first arranged in "home" groups of four students each. Each of the home groups "numbers off" from 1 to 4, and the students are asked to remember their numbers. Students in each of the groups of four who are number 1 are given article number 1; students in group 2 are given article number 2; students in group number 3 are given article number 3;
and students in group number 4 are given article number 4.

The students are told that they are to become experts on the article that they have received. Number 1's will become experts on article number 1; number 2's will become experts on article number 2; and so forth. They are to become experts on the article that they have been given: (1) by reading the article carefully, and taking notes on the main points in the article, (2) by discussing the main points in the article with their "expert" group of students all of whom are responsible for reading and reporting on the same article, (3) by deciding with their group of "experts" what main points in the article will be reported back to the "home" group, and (4) by being an "expert" and reporting back to the "home" group the important information in the article.

Once the procedure is understood clearly by the students, the students read their articles. Then they meet within their expert group to discuss the article that they have been given. Within the expert group the members decide as a group (1) the important points in the article that will be reported back to the "home" group, and (2) how the information will be presented to the "home" group.

Each "expert" then returns to the "home" group and reports on the article that was read and discussed in the "expert" group. First, article number 1 is reported to the "home" group by student number 1; then, article number 2 is reported to the "home" group by student number 2; and so forth, until all four articles are reported on and discussed within each "home" group.

By the time a student has read the article, discussed it with an "expert" group, decided within the "expert" group how to present it to the "home" group, presented an explanation of the article to the "home" group, and listened to three other versions or explanations of articles dealing with the same subject matter, the student should have a good understanding of the subject matter which is the teacher's focus. In addition, all of the students in the classroom will have developed valuable communication skills of listening, conversing, reading, writing, and speaking.

Conclusion

The two collaborative learning strategies described above provide no guarantees. If you use the two strategies, or variations of the two strategies, as you present subject matter
lessons to your students, your classroom will not automatically become a Utopian center of teaching and learning. The students, however, should learn more, should be more engaged in their learning, should be more attentive, and should care much more about what is being taught than, say, if they were simply talked to by the teacher, or were given a preponderence of worksheet material to complete, or were taught from only one textbook, or were subject to daily give-and-take of a teacher-to-student then student-to-teacher exchange of information.

Collaborative learning strategies can improve the learning of subject matter in content area classrooms, but they are only one aspect among many that influence how much learning will take place in a class period. Many things can bog down a lesson or negate much of the good that comes from using collaborative learning strategies. Such negatives include: (a) overusing a strategy such as the DR-TA; (b) repeating or paraphrasing students' words; (c) asking leading questions (that is, questions for which the teacher has the answers in his/her head and which do not require the student to construct meaning and); (d) favoring some students over others; (e) engaging in "triangle" discussions in which the class discussion goes from the teacher asking a question, a student responding, the teacher asking another question, another student responding, and so forth; and (f) being aloof from students rather than being a helper and facilitator who genuinely cares about the students being taught.

Finally, using collaborative learning strategies in our classrooms can make a big difference in the amount that our students learn. Combining the use of cooperative learning groups with strategies such as the DR-TA, as described above, can facilitate the learning of narrative material, and using a strategy such as the modified jigsaw, as described above, can enhance the learning of non-narrative, or expository, material. We may not realize a classroom Utopia every time we use a collaborative learning strategy, but it behooves all of us to use collaborative learning strategies as skillfully as we can.
References

