

Cooperative learning strategies

Think-Pair-Share is a method that allows students to engage in individual and small-group thinking before they are asked to answer questions in front of the whole class. There are four steps to this method. The first step, groups of four students listen to a question posed by the teacher. Secondly, individual students are given time to think and then write their responses. Thirdly, pairs of students read and discuss their responses. Finally, a few students are called on by the teacher to share their thoughts and ideas with the whole class. This method can be very useful and work well in the science classroom due to the continual request of science teachers having students formulate hypotheses about the outcome of an experiment before it is done.

- (Example: A teacher could pose the question, ‘What is photosynthesis?’ students then think individually about the question. After a couple minutes of thought the students then turn to a shoulder partner and discuss their thoughts with each other. The teacher then facilitates a whole class discussion.)

Three-Step Interview is a strategy that is effective when students are solving problems that have no specific right answers. Three problem-solving steps are involved in this process. In step one the teacher presents an issue about which varying opinions exist and poses several questions for the class to address. Step two, the students, in pairs become the interviewer and the interviewee. Step three, after the first interview has been completed, the students’ roles are switched. After each student has had a turn, the pairs read their interviews to the class. After all interviews have been done, the class writes a summary report of the interview results.

- (Example: A teacher presents stem cell research as a cure to Alzheimer's disease then students pair off and interview each other about this topic. Following the interviews a presentation to the class is made.)

Round Table or Rally Table are simple cooperative learning structures that cover much content, builds team spirit, and incorporates writing. The roundtable has three steps to it. In the first step, the teacher poses a question that has multiple answers. Step two, the first student in each group writes one response on a paper and passes the paper counterclockwise to the next student. Finally, in step three, teams with the greatest number of correct responses gain some type of recognition. This type of cooperative learning can easily be used in the science classroom. For example, the students may be asked to write as many reptile names as they can. At the end the group with the most reptiles written down is rewarded.

- (Example: A teacher displays a picture and asks what are various food chains found within the ecosystem of the picture. One student writes a food chain on a piece of paper then passes the paper to other members of the team for them to write a food chain that they see in the picture. Students continue to pass around the paper until the teacher stops the activity or until a group runs out of answers.)

Group Investigations are structured to emphasize higher-order thinking skills such as analysis and evaluation. Students work to produce a group project, which they may have a hand in selecting.

- (Example: Science fair projects.)

STAD (Student Teams-Achievement Divisions) is used in grades 2-12. Students with varying academic abilities are assigned to 4 or 5 member teams in order to study what has been initially taught by the teacher and to help each student reach his or her highest level of achievement. Students are then tested individually. Teams earn certificates or other recognition based on the degree to which all team members have progressed over their past records.

- (Example: Review day activity before a test.)

Jigsaw II is used with narrative material in grades 3-12. Each team member is responsible for learning a specific part of a topic. After meeting with members of other groups, who are the "expert" in the same part, the "experts" return to their own groups and present their findings. Team members then are quizzed on all topics.

- (Example: Discussion of the interplay of the systems of the human body.)

Round Robin Brainstorming or Rally Robin are a strategies when the class is divided into small groups of 4 to 6 students per group with one person appointed as the recorder. A question is posed by the teacher with many possible answers and students are given time to think about answers. After the "think time," members of the team share responses with one another round robin style. The recorder writes down all the answers of the group members. The person next to (clockwise) the recorder gives their answer and the recorder writes it done then the each person in the group in order (clockwise) gives an answer until time is called. This strategy is very similar to round table. The main difference is that in round robin one student does all the recording for all members of his/her group.

- (Example: A teacher displays a picture and asks what are various food chains found within the ecosystem of the picture. One student is the recorder and writes all of the groups answers on a piece of paper. This strategy continues until the teacher stops the activity or until a group runs out of answers.)

Three-minute review is used when the teachers stop any time during a lecture or discussion and allows teams three minutes to review what has been said with their group. Students in their groups can ask a clarifying question to the other members or answer questions of others.

- (Example: After discussing a multiple step process like digestion, students can form teams and review the process or ask clarifying questions.)