

Classroom Best Practices: Cooperative Learning



Overview

Cooperative Learning is **NOT**

- Groups of students sitting together at one table and talking about their assignment as they individually work on their assignments.
- A group of students working on a group assignment where one student takes the lead, completes the work, and all the other students put their names on the assignment.

Cooperative Learning **IS**

- Positive Interdependence (sense of sink or swim together).
- Face-to-face promotive interaction (helping each other learn, applauding success and efforts).
- Individual and group accountability (each of us has to contribute to the group achieving its goals).
- Interpersonal and small group skills (communication, trust, leadership, decision making, and conflict resolution).
- Group processing (reflecting on how well the team is functioning and how to function even better).

(Compiled from the website –<http://clcrc.com/index.html#essays> of the Cooperative Learning Center at the University of Minnesota.)

Cooperative learning strategies have been used successfully in the classroom since the mid-1980's. Cooperative learning strategies can work well for all students; however, this strategy is highly effective for LEP students. The language interaction between students allows LEP students to ask questions of another student that they might not ask the teacher due to their cultural background.

Generalizations to Guide the Use of Cooperative Learning

1. Organizing groups based on ability levels should be done sparingly. Using a variety of criteria will keep student interest high and maximize learning.
2. Cooperative groups should be kept rather small in size. According to Lou, 1996, "small teams of three to four members seem more effective than larger groups."
3. Cooperative learning should be applied consistently and systematically, but not overused. Any strategy can be overused and lose its effectiveness. Cooperative learning is misused if assignments given to groups are not well structured, and students do not have enough time to practice independently the skills and processes that they must master. (John Anderson, Lynne Reder, and Herbert

Simon, 1997)

Implementation Process

Learning structures and techniques are available for almost any learning situation. Once the objective of the lesson has been determined, the instructor can select a structure that will provide the optimal learning experience for the student. Kagan (1989/1990) Educational Leadership provides an excellent overview of various cooperative learning structures.

1. If getting to know each other is the objective of the lesson, then **team building** is a technique that can be used. Including Classbuilding, and Communication Building, team building has three structures: Roundrobin, Corners, and Match Mine.
2. If focusing on mastery of information is the objective of the lesson, then one of the **mastery structures** would be an excellent choice. (Color-Coded Co-op Cards, Pairs Check, and Numbered Heads Together. See an example of Numbered Heads at the end of this project.)
3. When a lesson emphasizes understanding concepts, then a **concept development structure** should be used. (Three-step Interview, Think-Pair-Share, and Team Word-Webbing.)
4. **Multifunctional structures** are used for students getting to know each other better, mastering information, and understanding concepts. (Roundtable, Inside-Outside Circle, Partners, Jigsaw, and Co-op Co-op.)

See pages 6 -9 for examples of Team Building, Mastery Structures, Concept Development Structures, and Multifunctional Structures.

As in all learning situations, communication is an extremely important skill for working effectively. In order for cooperative learning to be an effective strategy in the classroom, the following skills must be utilized:

- Listening instead of “just hearing”
- Being responsible
- Consensus Building
- Conflict Resolution

Additional information about communication skills can be found at:

<http://www.ed.gov/pubs/parents/LearnPtnrs> (being responsible and building strong character)

<http://projects.edtech.sandi.net/staffdev/tpss99/processguides/> (consensus, good activities)

<http://www.thirteen.org/peaceful/strate.htm> (good communication, some activities)

<http://www.state.oh.us/cdr/school/contentpages/acadeemics44.htm> (conflict management)

Roles and Responsibilities

In order to keep the group focused and on task, it is important for the group to divide up roles and responsibilities. Roles can be identified in a variety of ways, but basically there are four different types of responsibilities identified as:

- Leader - makes sure everyone is on task, focused, and leads to consensus in a diplomatic way.
- Reporter - keeps track of discussions or decisions made by group and reports those to class.
- Monitor - makes certain the group's area stays clean and moves around the room to collect any needed materials for the group.
- Consensus Builder - helps the group reach consensus and helps summarize discussion in order to reach consensus.
- Wild Card – if there is a 5th person, assists the leader in keeping the group focused.

Cooperative Learning Strategies/Activities

Listed below, with a brief description, are some of the more common strategies used in Cooperative Learning.

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.

- Step One - Groups of four students listen to a question posed by the teacher.
- Step Two – Individual students are given time to think and then write their responses
- Step Three – Pairs of students read and discuss their responses.
- Step Four – 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 works when teachers require students to formulate hypotheses about the outcome of an experiment before it is done.

Three-Step Interview is a strategy that is effective when students are solving problems that have no specific right or wrong answers. Three problem-solving steps are involved in this process.

- 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 reversed.

After all interviews have been done, the class writes a summary report of the interview results.

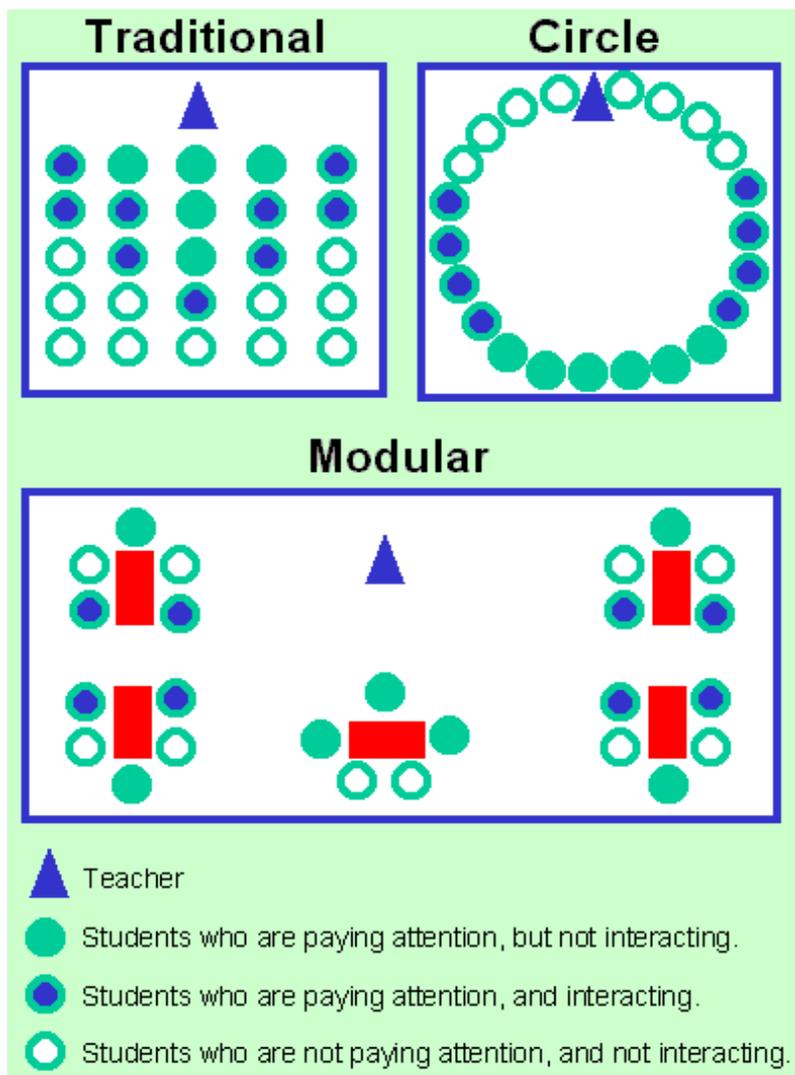
Jigsaw II – is used with narrative material. Each team member (or “expert”) is responsible for learning a specific part of the assigned topic. Members go and talk with “experts” of other groups with the same topic. After meeting with members of other groups, the “experts” return to their own groups and present their findings. Team members are then quizzed on all topics.

Number Heads Review

1. Prepare a list of questions covering materials to be learned or reviewed. Questions may be on a PowerPoint presentation or transparency, and uncovered one by one, or simply read. *Alternative: Have students prepare and write on cards questions for each section as they read it. Pick up cards and use for procedure.*
2. Divide class into groups of 1-4(5) depending on size of class. Each group should be given an identifying designation (name, color, number, and letter).
3. Group members count off 1-4(5) so that each member is assigned a number.
4. Assign all groups to read a section of a selection.
5. Ask a question on the section, and instruct each group to discuss and arrive at an answer. Everyone in each group should be involved in arriving at an answer.
6. Choose a number (e.g., "one"), pause briefly (60 seconds or use your judgment) so that all "one's" are sure of the answer, then choose a group (e.g., "Group A"). You may use various methods of selecting groups/numbers such as spinning a wheel, drawing numbers, etc.
7. The person who is number “one” in Group A answers the question. You may then ask if other "ones" have additional information to add if you have time.
8. You may have as many questions on a section as needed.
9. Repeat procedure for all questions on a section, then assign new section to be read and repeat until all information has been covered.
10. Assigning sections to read for review may or may not be necessary; although, you may wish to allow students to have textbooks, notes, etc. available for arriving at answers.

Cooperative Learning Classroom Design Patterns

Cooperative group learning can function in a variety of classroom patterns; however, teachers should try to have a classroom set-up that allows for easy movement. Changing classroom design throughout the year for variety is always a good idea. Shown below are three design patterns with the traditional and modular being the most common.



Additional classroom design patterns can be found at:
<http://www.teach-technology.com/ideas/seating>

Teambuilding

Structure	Brief Description	Functions Academic & Social
Teambuilding		
Roundrobin	Each student, in turn, shares something with his or her teammates.	Expressing ideas and opinions, creation of stories. Equal participation, getting acquainted with teammates.
Classbuilding		
Corners	Each student moves to a corner of the room representing a teacher-determined alternative. Students discuss within corners, then listen to and paraphrase ideas from other corners.	Seeing alternative hypotheses, values, and problem-solving approaches. Knowing and respecting different points of view, meeting classmates.
Communication Building		
Match Mine	Students attempt to match the arrangement of objects on a grid of another student using oral communication only.	Vocabulary development, communication skills, role-taking ability.

Mastery Structures

Structure	Brief Description	Functions Academic & Social
Mastery		
Color Coded Co-op Cards	Students memorize facts using a flash card game. The game is structured so that there is a maximum probability of success at each step, moving from short-term to long-term memory. Scoring is based on improvement.	Memorizing facts. Helping, praising.
Pairs Check	Students work in pairs within groups of four. Within pairs students alternate. As one solves a problem, the other coaches. After every two problems, the pair checks to see if they have the same answers as the other pair.	Practicing skills. Helping, praising.

Concept Development Structures

Structure	Brief Description	Functions Academic & Social
Concept Development		
Three-Step Interview	Students interview each other in pairs, first one way, and then the other. Students each share with the group information they learned in the interview. (See page 3 for more details.)	Sharing personal information such as hypotheses, reactions to a poem, and conclusions from a unit. Participation, listening.
Think-Pair-Share	Students think to themselves on a topic provided by the teacher. Then, they then pair up with another student to discuss it. Finally, they share their thoughts with the class. (See page 3 for more details.)	Generating and revising hypotheses, inductive reasoning, deductive reasoning, and application. Participation, involvement.
Team Word-Webbing	Students write simultaneously on a piece of chart paper, drawing main concepts, supporting elements, and bridges representing the relations of ideas in a concept.	Analysis of concepts into components, understanding multiple relations among ideas, differentiating concepts. Role-taking.

Multifunctional Structures

Structure	Brief Description	Functions Academic & Social
Multifunctional		
Roundtable	Each student, in turn, writes one answer as a paper and a pencil are passed around the group. With Simultaneous Roundtable, more than one pencil and paper are used at once.	Assessing prior knowledge, practicing skills, recalling information, creating cooperative art. Team-building, participation of all.
Inside-Outside Circle	Students stand in pairs in two concentric circles. The inside circle faces out; the outside circle faces in. Students use flash cards, or respond to teacher questions, as they rotate to each new partner.	Checking for understanding, review, processing, helping. Tutoring, sharing, meeting classmates.
Jigsaw	Each student on the team becomes an “expert” on one topic by working with members from other teams assigned the corresponding expert topic. Upon returning to their teams, each one, in turn, teaches the group. Students are all assessed on all aspects of the topic.	Acquisition and presentation of new material, review, informed debate. Interdependence, status equalization.
Co-op Co-op	Students work in groups to produce a particular group product to share with the whole class; each student makes a particular contribution to the group.	Learning and sharing complex material, often with multiple sources; evaluation, application, analysis, synthesis. Conflict resolution, presentation skills.

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<http://www.jigsaw.org>

<http://www.kagancooplearn.com>

<http://projects.edtech.sandi.net/staffdev/tpss99/processguides/>

<http://www.thirteen.org/peaceful/strate.html>

<http://www.state.oh.us/cdr/schools/contentpages/academics44.htm>

Example of Cooperative Learning Think-Pair-Share Strategy Activity Marketing Pricing 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.

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Problem/Activity Skimming or Penetration Pricing

Remind students of previous instruction regarding pricing strategies and concepts. Tell students that their company, Jumping Jack, is introducing an athletic shoe for people who want jogging shoe construction without all of the high impact features.

Question: Ask students if they would use skimming or penetration pricing?

(Answers will vary. With the proper rationale, either type of pricing will be acceptable.)