

Using Cooperative Learning in Formal and Nonformal Education¹

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Whether you are teaching about environmental impacts, land use or animal ethics cooperative learning can be used in a wide variety of educational settings. Both educators and learners in formal and non-formal settings can benefit from cooperative learning groups as there are both social and academic advantages to its use. For the purposes of this article, cooperative learning will be defined as a teaching strategy where learners work in small groups. Working in these small groups will allow learners to develop a wide range of social skills that will enable them to work well inside the classroom and out. Listening to others, taking turns, contributing ideas, explaining oneself clearly and encouraging others are just a sampling of such skills.

In addition to the social benefits there are academic gains to be made by both adults and youth by the use of cooperative learning. Johnson and Johnson (1989) found that “learning materials with the expectation that you will have to explain it to peers results in more frequent use of higher-level reasoning strategies than does learning material to

pass a test. Orally explaining the material being studied results in higher achievement than does listening to the material being explained or reading it alone” (p. 1). In addition to higher-order thinking, cooperative learning also promotes controversy. When confronted with opposing ideas and convictions learners are forced to explain their thoughts and then clarify their ideas to confront any inconsistent reasoning.

If the benefits are so wonderful, why aren't more educators utilizing cooperative learning in educational programming? Assigning groups, behavior management and evaluation of learning are roadblocks that often prevent educators from implementing cooperative learning as a teaching strategy. This article will touch on each of these concerns and offer several guidelines for each.

Regardless of the age group, cooperative learning requires group assignment, but the size of the group and method of assignment must first be determined. According to Kagan (2002) teams of four are ideal, as they are small enough for active

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participation for all teammates and can split evenly into pairs. Regardless of group size, it is important to remember several important principles that influence group member assignment and interaction:

1. While each additional group member brings a corresponding increase in (a) the range of abilities, expertise, skills and (b) the number of minds available for acquiring and processing information, each additional member also results in an increase in the amount of resources required.
2. The smaller the group, the more difficult it is for learners to hide and not contribute their share of work. Small groups increase the visibility of learners efforts making them more accountable.
3. The larger the group, the more skillful group members must be as there are more interactions to manage. As the size of the group increases, the interpersonal and small group skills required to manage the interactions become more complex.
4. The materials available or the nature of task may dictate group size. For example, a class of thirty learners may be split into groups of three if only ten computers are available (Johnson & Johnson, 1999).

When the most effective group size has been determined, the next step is assigning learners to those groups. Educators need to be aware of what skills each group needs to complete the task. If certain skills are needed, each group needs to have at least one person with those skills. Depending on the instructional objectives, homogenous groups with similar skill levels or heterogeneous groups with varying skill level can be assigned. Heterogeneous groups usually work best: the differences in group members are what make cooperative learning effective.

While assigning learners to groups, it is important to consider how the room will be set-up and how materials will be used. The design and arrangement of furniture and classroom space communicates what is appropriate behavior and what learning activities will take place. Desks grouped in

small circles communicate a different message than desks and chairs placed in rows. No single classroom arrangement can meet the requirements of all lessons.

Reference points and work space boundaries are helpful in moving learners from pairs to groups of four and back to pairs. You can define boundaries in various ways:

- Use *labels and signs* that designate areas. This may be especially helpful if teams will be working at different stations around the room.
- *Colors* will attract visual attention and create boundaries for group and individual spaces as well as storage areas. Each group may be assigned a color; this color can be used to label notebooks, resources and handouts.
- *Move classroom furniture* to define work and resource areas. When learners work in pairs or groups, move their desks together so that they may be as close to their group members as possible.
- *Display group work* in designated group spaces. Groups may be identified by a flag or motto which may be hung on a wall or as a mobile from the ceiling.

Once learning begins the role of the instructor is to assess progress and use of appropriate skills by observing group member interaction. Monitoring learners means checking their work continuously; educators cannot sit back or leave the room, they must remain engaged. Monitoring occurs with groups consisting of both adult and youth learners. The three stages of monitoring consist of observation, intervention, and evaluation. The first stage is *observing* learners to assess the quality of cooperative efforts (Johnson & Johnson, 1999). This can be accomplished simply by taking notes while observing each group for a few minutes (see Table 1 for an example).

If learners are to display a certain social skill or contribute to group discussion the educator can keep a tally of how many times they do so or take notes on something a learner did well and an area in which improvement is needed. After observing a group, an educator may provide immediate feedback rather than

waiting until the end of the lesson. Secondly, the educator should *intervene* only when necessary to improve a groups work (Johnson & Johnson, 1999). Whenever possible, the problem needs to be turned back to the learners so they develop problem solving skills and greater self-confidence. If several groups are struggling with the same problem the instructor may need to stop group work to teach the entire class how to handle that problem or engage in whole-class problem solving.

Monitoring concludes by having learners *evaluate* the quality of their individual and group members participation (Johnson & Johnson, 1999). Learners may be asked questions about their participation or they can submit a written summary. This self-evaluation may include identifying which teammates contributed as well as what they contributed to the group. Group members may be asked how frequently each member (a) explained how to solve a problem and (b) corrected or clarified other members explanations. Finally, learners may be asked to set goals for improving the quality of their work in the future. The final step for educators using cooperative learning is evaluating learner work. Academic tasks can be evaluated through checking learners work, asking questions or using tests (see Figure 1).

Evaluation of learners social skills can be based on two sources: the information the educator collected while observing groups and learners assessment of their own effectiveness and that of their group. Enlisting learners in monitoring and evaluating the performance of their group will ease the burden placed on the educator as well as help learners become responsible for their own behavior.

Planning and organizing a successful cooperative learning environment will facilitate academic and social skill development for learners. Using the guidelines discussed in this article will help alleviate many of the roadblocks encountered (e.g. assigning groups, managing group task performance, and evaluating group work) when implementing cooperative learning as a teaching strategy.

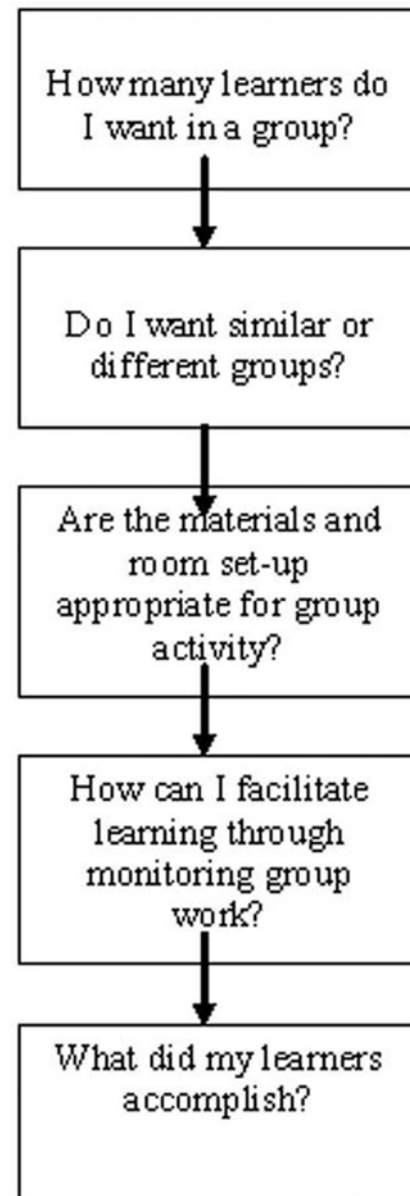


Figure 1. Cooperative Learning Process

Bibliography

- Kagan, Spencer. (2002). *Cooperative learning smart card*. San Clemente, CA: Kagan Publishing.
- Johnson, D.W., & Johnson, R.T. (1999). *Learning together and alone*. Needham Heights, MA: Allyn and Bacon.
- Johnson, D.W., & Johnson, R.T. (2004). *Assessing students in groups*. Thousand Oaks, CA: Corwin Press.

Table 1. Sample rubric for tallying group member observations.

	Sally	John	Jessica	Sam
Task Actions				
Information and opinion giver	X		X	X
Direction and role definer		X		X
Summarizer	X	X	X	X
Information and opinion seeker		X		X
Checker for understanding	X	X	X	X
Energizer	X	X	X	
Total	4	5	4	5
Maintenance Actions				
Communication facilitator	X	X		X
Interpersonal problem solver	X	X	X	
Tension reliever			X	X
Supporter and praiser	X	X		X
Encourager of participation	X	X	X	
Total	4	4	3	3
Overall Total	8	9	7	8
Directions for Use: (a) Write the names of group member above each column. (b) Put a tally mark in the appropriate box each time a group member contributes. (c) Make notes on the back when interesting things happen that do not fit in categories. From: <i>Assessing Students in Groups</i> , Johnson & Johnson, 2004.				