

Cooperative and Small Group Learning

Dr. Tom LoGuidice

“Simply placing students in small groups and telling them to work together, however does not mean that they will do so or be able to.” (Johnson, Johnson & Johnson-Holubec, 1988.p.10-8).

Democracy wishes all the people to be both able and willing to judge wisely for themselves and for the common good.... (Kilpatrick, 1951p.5).

Cooperative learning is a well-researched teaching strategy. It utilizes small teams using a variety of learning activities to improve students' understanding of content and develop inquiry and social skills. Because each team member is responsible for learning and also helping team members, an atmosphere of achievement and team spirit develops.

Teachers of young adolescents are influenced by teacher training and professional development. To realistically engage in cooperative learning in middle level classrooms, teachers must be exposed to and use effective models of cooperative learning in their own learning and training experiences.

Cooperative learning is responsive to young adolescent needs. Several useful models of cooperative learning should be a part of the teaching repertoire of the middle level educator. Some of the models are especially useful and supportive of moving beyond the separate subject approach to curriculum. Development of group skills is recognized as of growing importance to help young adolescents grow in both small group and cooperative learning groups, so use of these cooperative learning is optimized in the classroom.

Young Adolescent Needs

Recent discussion in the literature has focused particularly on psychosocial benefits of cooperative learning and brain-based teaching and learning. For example, Willis (2007) has urged a consideration of psychosocial benefits of cooperative learning as a “turn-on” for students.

Consider the increased comfort and enjoyments students have when pleasurable, social interaction is incorporated into the learning experience (Reeve, 1996). This is especially true during adolescence when peer group influence plays such an important development role in the psychosocial process of separation from parents along the road to individualization. For example, early elementary school students often rise up in their seats when they wave their hands enthusiastically in hopes of being called upon to answer a question. By middle school, some students consider it uncool to volunteer answers or even appear intelligent in class. These same students are more willing to participate and even show enthusiasm about challenging task when they are engaged in learning activities with supportive groups (p.4).

Cooperative learning is good brain-based learning. Several points made by Willis (2007) may be summarized in bullet form:

- When students are participating in engaging learning activities in well-designed supportive cooperative groups...their brain scans show facilitated passage of information from intake areas into the memory storage regions of the brain;
- Studies of brain neurochemistry also support the benefit of associating rewarding positive social experiences with the learning process;
- Cooperative groups generate more participation and stimulate multiple brain regions;

- Students experienced a greater level of understanding of concepts and ideas when they talked, explained, and argued about them with their group instead of just passively listening to a lecture or reading a text;
- As neuroimaging evidence has shown, the more a student is engaged in a learning activity with multiple sensory modalities, the more parts of the brain are actively stimulated; and
- The process of collaborative work is associated with increased neural activity in relational and emotional memory connections and long term memory storage (pp 4-13).

When teachers use cooperative learning in the context of young adolescent personal and social concerns then learning becomes all the more relevant. New material is not only better learned because it is based on good sociology and psychology, but also the critical themes of instruction may begin in middle school and be valued throughout life. Thus, a curriculum of concerns (see below) and cooperative learning may set the stage for life-long learning

Cooperative learning as part of the social family of models of teaching

When teachers are concerned with working together to enhance the learning of all, not just the individual, they are concerned with strategies which are cooperative. Thus, the teaching strategies of cooperative learning can enhance the learning of all students dramatically. Furthermore, some cooperative learning strategies may generate and create democracy in the classroom and in the greater society.

There are several models or variations on the cooperative learning model which are readily available to middle level teachers.

Jigsaw

The jigsaw technique was developed by Aronson in the early 1970s. Jigsaw is a technique which has two expressions, “simple jigsaw” and “expert jigsaw.” In simple jigsaw the teachers uses an intact group of three or four students. The student group takes on the task (e.g. a long newspaper article) and divides it into parts. Each student masters the part and teaches the part to the other members of the group. In complex jigsaw the task is also divided in part but the participants meet with others who are taking on the same task (i.e. other experts) before returning to the home/base group to teach what they have learned.

Aronson was particularly taken with how the technique reduced racial tension in newly desegregated schools in Texas and helped students to work together. In recent years Aaron’s work has included concern with “hate,” “compassion,” and “violence reduction/eradication” in schools. Rationale, overview of the technique, and other resources are provided on the *Exploring the Jigsaw Classroom* website (<http://www.jigsaw.org> 2000-2010)

Social learning /Cooperative learning

Cooperative learning is viewed as effective when students work together to accomplish shared goals and when positive structures are in place. The essence of the Johnson and Johnson (date) approach focuses on techniques which emphasize positive interdependence, individual accountability, group processing, social skills, and small group learning which is face-to-face and knee-to-knee. Central to the approach is students understand their group membership means the small group either succeeds or fails together.

The Cooperative Learning Center at the University of Minnesota provides the reader or participant with general information, research evidence, training materials, and information about training opportunities. The Center trains and certifies trainers and many approved Cooperative Learning Center trainers are available throughout the United States (<http://www.co-operation.org/>)

Student learning teams

The Center for Research on Elementary and Middle Schools at John Hopkins (now the Center for Research and Reform) has been conducting research for years on the benefits of cooperative learning and has focused on results for minority and disabled students. Slavin Director of the Center, says cooperative learning results in significant learning achievements for disabled, Latino/a, and African-American adolescents placed in heterogeneous cooperative learning groups (Jones, 1989) In contrast to the work by the Johnsons, the John Hopkins Center used competition. Among the strategies for teaching teams the Center has developed are the following:

- *Student Teams Achievement Division (STAD)* groups of 4-5 student team members following a teacher presentation. Students take individual quizzes and the scores are combined to form a team score and students are rewarded for their performance. The cycle of activities from teacher presentation, to team practice, to the quiz as a final event takes three to five lessons. The approach fits best with clearly defined objectives. (Slavin,1990)
- *Teams-Games-Tournaments* is a six step process which moves from a teacher-selected topic to developing a list of questions related to the topic. The questions and small pieces of paper are numbered. One student in each group reads the questions as the numbers are drawn from a pile. The “game” begins when students placed in heterogeneous groups are given a letter identity and a number identity. Students must answer the questions they are matched with but may turn to a team member if an answer is not known. The tournament phase is structured by the teacher to place

students in like groups (e.g. low achieving, high achieving). For every question a student answers correctly, a point is earned. Then students return to their game group and report their scores. Team scores are compared and winning teams earn a reward. Finally, the teacher may conduct an additional individual assessment. (Slavin,1990)

Structures

Chronologically, the structures model was developed after the work of Aaronson, the Johnsons, and Slavin; however, the approach utilizes the thinking from each. The difference is a variety of techniques which may be used in cooperative learning or small group instruction. The techniques are called “structures.”

Structures are content-free teaching techniques used in small group and cooperative learning settings. The techniques are simple and easy to use. Kagan has helped to popularize a variety of techniques which include Think-Pair-Share, Corners, Circle the Sage, Partners, Three Step Interview, Round Robin, Three Minute Review, Team-Pair-Solo and Numbered Heads Together. The techniques are for the most part explanatory by technique title. A variety of websites (e.g. <http://edtech.kennesaw.edu/intech/cooperativelearning.htm>) and commercial products are available to help the teacher (<http://www.kaganonline.com/>).

Group investigation/Co-op co-op model

Authors of the respected *Models of Teaching* Joyce, Wiel, and Calhoun (2004) suggest cooperative learning may be used as a part of an approach or model to promote democratic process. There are significant curriculum implications. They emphasize curriculum and pedagogy for this model grows from the progressive tradition and proponents have

included Dewey, Judd, Kilpatrick, Counts, Bode, and Hull and Smith (p.217). Among middle level educators in this tradition are Beane (1997), Stevenson and Carr (1993) and Vars (1993). All have had a common belief knowledge is constructed and reconstructed by individuals and groups. For these theorists, the classroom is analogous to the larger society in terms of how students develop standards, expectations, caring and change. The heart of the curriculum is inquiry and Beane (1997) and other middle school advocates have suggested the inquiries should be about the intersection of personal and social concerns as themes for inquiry.

Although the middle school curriculum advocates have not suggested a specific pedagogy of a curriculum of concerns, Thelen, as reported in Joyce, Weil and Calhoun (2004), has suggested a model which is complimentary and highly cooperative, learning-centered based. The model is called Group Investigation and Joyce et.al suggests the teaching process has six phases:

1. Students encounter the topic-puzzling or unexplained aspects of the topic are viewed as especially intriguing;
2. Students explore reactions to the situation (e.g. points-of view);
3. Students formulate study task and organize for study;
4. Students engage in independent and group study;
5. Students analyze progress and process of group study and the progress of the class as a whole; and
6. Students recycle the activity as the “dig deeper” into the topic or encounter a new topic (p222).

The Group Investigation model has been adapted in the cooperative learning literature and is often called “Co-OP Co-Op” (Lyons, 1990). This version adds team formation, team building, team preparation, and team presentations to the Group Investigation model.

Development of Group Skills.

To respond to young adolescent needs and for the instructor new to cooperative learning the development of group skills (e.g. taking turns , using small group voices, taking on the roles of resource person, task-master, time-manager, notetaker, spokesperson) may be a challenge in classroom management and in the execution of cooperative and small group learning. Teachers new to cooperative learning may wish to work with partner groups and use the “structures” discussed earlier before taking on fully fledged cooperative learning groups including the Group Investigation model.

A useful resource for teaching students a social skill is *Productive group work: How to engage students, build teamwork, and promote understanding* by Fey, Fisher, and Everlove ((2009). The authors do an excellent job of providing the reader guides to creating interdependence and positive interaction (the first key to successful cooperative learning),guiding group work, ensuring group and individual accountability (the second key to successful cooperative learning) ,assessing and monitoring student understanding, and fostering interpersonal skills. A study guide (2009) is available for the text to assist professional development.

Conclusions

Cooperative and small group learning has considerable potential for realizing social and academic achievement for young adolescents. The professional development of teachers and the growth in achievement for their students is most clearly realized if the teacher can affect a program of cooperative learning strategies, techniques, and models as described here. The group investigative/co-op co-op may help teachers move from separate subject to the integrated/integrative curriculum advocated by the leaders in the middle level movement.

The research evidence for cooperative learning is considerable (Johnson and Johnson and Stanne, 2000; Slavin 1995).As the writers for the Focus on Effective Instruction at the Northwest Regional Laboratory say on their website, it may be “there may be no other instructional strategy that simultaneously achieves such diverse outcomes as cooperative grouping” (<http://www.netc.org/focus/>, 2005).

Implications and practical advice

The implications of the use of cooperative learning are considerable to help young adolescent students’ experience good learning and social growth. The classroom teacher and the professional developer modeling cooperative learning will best serve if attention to good implementation practices is observed.

- Begin simply. Use the right type of group for the need. Begin with partners, for example.

- Keep group size small. Group size should be no more than six for adult learners and four for young adolescents.
- Use cooperative learning findings related to heterogeneous grouping. Use ability grouping sparingly. Focus on the instructor being in charge of group formation.
- Support new groups. Cooperative learning is a skill which grows with practice, and both instructor processing of lessons as well as student group processing of “what was done well” and “what could go even better” is desirable.

Clearly, it very possible to move young adolescents toward productive group work and

“Dancing through walls” (Stevenson and Carr, 1993) of separate subjects to a democratic

relevant middle level curriculum

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