Cooperative Learning (CL) is an instructional strategy that employs a
variety of motivational techniques to make instruction more relevant and
students more responsible. This chapter outlines the benefits of CL in
terms of its motivational impact.

**Benefits of Cooperative Learning In Relation to Student Motivation**

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**Introduction**

General guidelines for classroom motivation (for example, Forsyth and McMillan, 1994) suggest emphasis on challenging, engaging, informative activities and the building of enthusiasm and a sense of responsibility in learners. Well-developed instructional strategies such as Cooperative Learning (CL) offer many potential benefits to learners (Panitz, 1998).

The definition of CL as a motivational strategy includes all learning situations where students work in groups to accomplish particular learning objectives and are interdependent for successful completion of the objective. Forsyth and McMillan (1994) emphasize intrinsic motivation as a key element in teaching and learning, as does Wlodkowski (see Chapter 1 of this issue), noting that successful intrinsic motivation develops attitude, establishes inclusion, engenders competence, and enhances meaning within diverse students. How can CL be a positive motivator for a diverse student population? This chapter attempts to answer that question.

**Developing attitude: creating a favorable disposition toward thelearning experience through personal relevance and choice**

A primary benefit of CL is that it enhances students' self esteem which in turn motivates students to participate in the learning process (Johnson & Johnson 1989). Cooperative efforts among students result in a higher degree of accomplishment by all participants (Slavin 1987). Students help each other and in doing so build a supportive community which raises the performance level of each member (Kagan 1986). This in turn leads to higher self esteem in all students (Webb 1982)

Cooperation enhances student satisfaction with the learning experience by actively involving students in designing and completing class procedures and course content (Johnson and Johnson 1990). Effective teams or groups assume ownership of a process and its results when individuals are encouraged to work together toward a common goal, often defined by the group. This aspect is especially helpful for individuals who have a history or failure (Turnure & Zigler 1958).

CL promotes mastery while passive acceptance of information from an outside expert often promotes a sense of helplessness and reliance upon others to attain concepts. In a typical college classroom emphasizing lecturing, there is little time for reflection and discussion of students' errors or misconceptions. With the CL paradigm students are continuously discussing, debating and clarifying their understanding of the concepts.

CL reduces classroom anxiety created by new and unfamiliar situations faced by students (Kessler, Price & Wortman 1985). In a traditional classroom when a teacher calls upon a student, he/she becomes the focus of attention of the entire class. Any mistakes or incorrect answers become subject to scrutiny by the whole class. In contrast, in a CL situation, when students work in a group, the focus of attention is diffused among the group. In addition, the group produces a product which its members can review prior to presenting it to the whole class, thus diminishing prospects that mistakes will occur at all (Slavin & Karweit 1981). When a mistake is made, it becomes a teaching tool instead of a public criticism of an individual student.

Test anxiety is significantly reduced (Johnson and Johnson 1989). CL provides many opportunities for alternate forms of student assessment (Panitz and Panitz, 1996). This situation leads to a reduction in test anxiety because the students see that the teacher is able to evaluate how they think as well as what they know. Through the interactions with students during each class, the teacher gains a better understanding of each student's learning style and how he/she performs and an opportunity is created whereby the teacher may provide extra guidance and counseling for the students.

CL develops positive student-teacher attitudes (Johnson & Johnson 1989). The level of involvement of all the participants in a cooperative system is very intense and personal. Teachers learn about student behaviors because students have many opportunities to explain their actions and thoughts to the teacher. Lines of communication are opened and actively encouraged. Teachers have more opportunities to explain why policies are established and the system allows students to have more input into establishing policies and class procedures. The empowerment created by the many interpersonal interactions leads to a very positive attitude by all parties involved.

CL sets high expectations for students and teachers (Panitz and Panitz 1998). Being made responsible for one's learning and for one's peers presumes that one has that capability. By setting obtainable goals for groups and by facilitating group interaction, teachers establish high expectations which become self fulfilling as the students master the cooperative approach, learn how to work well together in teams, and demonstrate their abilities through a variety of assessment methods.

CL Establishes inclusion, creating a learning atmosphere in which learners feel respected and connected to one another. CL creates a strong social support system (Cohen & Willis 1985). CL techniques use students' social experiences such as warm-up exercises and group building activities to encourage their involvement in the learning process. The teacher plays a very active role in facilitating the process and interacting with each student while moving around the class and observing students interacting (Cooper et. al. 1985). Teachers may raise questions with individuals or small groups to help advise students or explain concepts. In addition, a natural tendency to socialize with the students on a professional level is created by CL. Students often mention offhandedly that they are having difficulties outside of class related to work, family, friends, etc. Openings like this can lead to a discussion of those problems by the teacher and student in a non-threatening way due to the informality of the situation, and additional support from other student services units in such areas can be a beneficial by-product (Kessler & McCleod, 1985).

**CL develops students' social interaction skills.**
A major component of learning elaborated by Johnson, Johnson and Holubec (1984) includes training students in the social skills needed to work cooperatively. In our society and current educational framework, competition is valued over cooperation. By asking group members to identify what behaviors help them work together and by asking individuals to reflect on their contribution to the group's success or failure, students are made aware of the need for healthy, positive, helping interactions (Panitz 1996; Cohen & Cohen 1991).

According to Kessler and MaCleod (1985 page 219) "CL promotes positive societal responses .... reduces violence in any setting .... eliminates fear and blame, and increases honor, friendliness, and consensus. Process is as important as content and goal. CL takes time to master, and facilitators who have done the personal work that allows sharing of power, service to the learners, and natural learning, find CL a joy."

Sherman (1991) makes the observation, "Most social psychology text books contain considerable discussions about conflict and its resolution and/or reduction. Almost all introductory educational psychology text books now contain extended discussions of effective pedagogies for improving racial relations, self-esteem, internal locus of control and academic achievement (Messick & Mackie, 1989).

Cooperative learning fosters student interaction at all levels (Webb 1982). Research has shown that when students of high ability work with students of lower ability, the former benefit by explaining or demonstrating and the latter benefit by seeing an approach to problem solving modeled by a peer (Johnson & Johnson 1985, Swing, Peterson 1982; Hooper & Hannafin, 1988). Warm-up and group building activities help students to understand their differences and to learn how to capitalize on them rather than use them as a basis for antagonism.

CL helps majority and minority populations in a class learn to work with each other (Felder 1997, Johnson & Johnson 1972, Slavin 1980). Because students are actively involved in exploring issues and interacting with each other on a regular basis in a guided fashion, they are able to understand their differences and learn how to resolve social problems which may arise (Johnson & Johnson 1985). Training students in conflict resolution is a major component of learning training (Aronson 1978; Slavin 1987).

CL establishes an atmosphere of cooperation and helping school-wide (Deutsch 1975). CL focuses attention on the accomplishments of the group as well as the individual. Teamwork is the modus operandi and inter-group cooperation is encouraged. Even when group competitions are used (Slavin 1987), the intent is to create a positive helping environment for all participants. In CL environments, students are taught how to criticize ideas, not people (Johnson, Johnson & Holubec 1984). A function of cooperative learning is to help students resolve differences amicably. They need to be taught how to challenge ideas and advocate for their positions without personalizing their statements. In cooperative classes, students may be assigned roles in order to build interdependence within the groups. These roles often model societal and work related roles which students will encounter in real life. Adult motivational theory has shown that the direct applicability of classroom small group problem-solving to students' lives will enhance motivation to learn (Wlodowski 1985).

Cooperative learning is particularly effective at increasing the leadership skills of female students and for getting male students used to turning to women for help in pressure situations (Bean 1996). This benefit is especially important in mathematics classes where men generally dominate class discussions and presentations. The Johnsons (1990, p121) point out that, "Students tend to like and enjoy math more and be more intrinsically motivated to learn more about it continually." CL also helps to develop learning communities within classes and institutions (Tinto 1997). Community colleges and many four-year colleges are primarily commuter schools. Students do not remain on campus for extracurricular or social activities. Many students have jobs and/or family pressures which also limit their ability to participate in campus life. Thus it falls to the classroom teacher to create an atmosphere of community within the college. The previous discussion of the social benefits of CL make it clear that creating a community of learners is easily accomplished using CL techniques. There is a significant benefit to CL which is not always apparent because it takes place outside of the classroom. If groups operate long enough during a course, the people in them will get to know each other and extend their activities outside of class. Students will exchange phone numbers and contact each other to get help with questions or problems they are having, and they will often sign up together for classes in later terms and seek out teachers who use CL methods (Bean, 1996;Felder, 1997).

**Engendering competence: creating an understanding that learners are effective in learning something they value**

CL develops higher level thinking skills (Webb 1982). Students are engaged in the learning process instead of passively listening to the teacher. Pairs of students (followed by threesomes and larger groups) working together represent the most effective form of interaction (Schwartz, Black, Strange 1991). When students work in pairs one person is listening while the other partner is discussing the question under investigation. Both are developing valuable problem solving skills by formulating their ideas, discussing them, receiving immediate feedback and responding to questions and comments (Johnson, D.W. 1971; Peterson & Swing 1985). This aspect of cooperative learning does not preclude whole class discussion. In fact whole class discussion is enhanced by having students think out and discuss ideas thoroughly before the entire class discusses an idea or concept. In addition, the teacher may temporarily join a group's discussion to question ideas or statements made by group members or to clarify concepts or questions raised by students.

Cooperative learning fosters higher levels of performance (Bligh 1972). Critical thinking skills increase and retention of information and interest in the subject matter improve (Kulik & Kulick 1979). This creates a positive cycle of good performance building higher self esteem which in turn leads to more interest in the subject and better performance (Keller, 1983). Students share their success with their groups, thus enhancing both the individual's and the group's self esteem.

Skill building and practice can be enhanced and made less tedious through CL activities used both in and out of class (Tannenberg 1995). In order to develop critical thinking skills, students need a base of information to work from. Acquiring this base often requires some degree of repetition and memory work. When this is accomplished individually the process can be tedious, boring or overwhelming. When students work together the learning process becomes interesting and fun despite the repetitive nature of the learning process. Male (1990) for example, has documented the positive impact of CL in drill-and-practice computer use.

CL Develops students' oral communication skills (Yager, Johnson and Johnson 1985). When students are working in pairs one partner verbalizes his/her idea while the other listens, asks questions or comments upon what she/he has heard. Clarification and explanation of one's ideas is a very important part of the cooperative process and requires higher order thinking skills (Johnson, Johnson, Roy, Zaidman 1985). Students who tutor each other must develop a clear idea of the concept they are presenting and orally communicate it to their partners (Neer 1987).

**Enhancing meaning: creating challenging, thoughtful learning experiences that include learner's values and perspectives and contribute to an equitable society.**

The focus of cooperative learning is to actively involve students in the learning process (Slavin 1980). Whenever two or more students attempt to solve a problem or answer a question they become involved in the process of exploratory learning. Promotive interaction, a basic principle of CL, builds students' sense of responsibility to themselves and their group members through reliance upon each other's talents, and CL assessment processes reward both individuals and groups thus reinforcing this interdependence (Baird & White 1984).

During the cooperative process, students can become involved in developing curriculum and class procedures (Kort 1992). They are often asked to assess themselves, their groups, and class procedures (Meier & Panitz 1996). Teachers can take advantage of this immediate formative input without having to wait for the results of exams or course evaluations. Students who participate in structuring the class assume ownership of the process and their opinions and observations are given credibility. CL helps students wean themselves away from considering teachers as the sole sources of knowledge and understanding (Felder 1997)

The primary foci in CL are the process of learning and the means by which individuals function independently and within groups. The high level of interaction and interdependence among group members leads to "deep" rather than "surface" learning (Entwistle and Tait, 1994), and to more emphasis on higher order learning (see Donald in this issue). CL is student centered, leading to an emphasis on learning as well as teaching and to more student ownership of responsibility for that learning. In contrast, other teaching paradigms consist of individual student effort, competitive testing to assess competence and an evaluation hierarchy based upon "grade orientation" rather than "learning orientation" (Lowman, 1987).

Students who develop personal professional relations with teachers by getting to know them, and who work on projects outside of class, achieve better results and tend to stay in school (Cooper 1994, Hagman & Hayes 1986). Teachers who get to know their students and to understand their learning styles and problems, and can often find ways of dealing with those problems and inspiring students (Janke 1980). According to (Felder, 1997) additional benefits accrue to students in areas of grade improvement, retention of information, information transfer to other courses and disciplines, and improved class attendance. There is a strong positive correlation between class attendance and success in courses (Johnson and Johnson 1989) which may help account for the improved performance.

Students who are actively involved in the learning process are much more likely to become interested in learning and make more of an effort to attend school (Astin 1977). A class where students interact fosters an environment conducive to high student motivation and participation and student attendance(Treisman 1983, 1992).

Cooperative learning inherently calls for self-management by students (Resnick 1987). In order to function within their groups students are trained to come prepared with assignments completed and they must understand the material which they are going to contribute to their group. They are also given time to process group behaviors such as checking with each other to make sure homework assignments are not only completed but understood. These promotive interactions help students learn self- management techniques.

CL increases students' persistence and the likelihood of successful completion of assignments (Felder 1997). When individuals get stuck they are more likely to give up, but groups are much more likely to find ways to keep going. This concept is reinforced by the Johnsons (1990 p121) who state, "In a learning situation, student goal achievements are positively correlated; students perceive that they can reach learning goals if and only if the other students in the learning group also reach their goals. Thus, students seek outcomes that are beneficial to all those with whom they are cooperatively linked."

**Conclusion**

CL provides many advantages to teachers and learners. Many of these advantages arise from the intrinsic motivational strengths of CL and the extent to which CL fosters student interest, behavioral and attitudinal change, and opportunities for success. As Keller demonstrates (1983) this set of outcomes results from the successful incorporation of motivational issues into instruction.

REFERENCES

    Aronson, E., Blaney, N., Stephan, C., Sikes, J., and Snapp, M. "The
    Jigsaw Classroom." Beverly Hills, CA: Sage Publications, 1978.

    Astin, A.W. "Four critical years: Effects of college beliefs, attitudes

and knowledge." San Francisco: Josey-Bass, 1977.

Baird, J., and White, R. "Improving Learning Through Enhanced
Metacognition: A Classroom Study." Paper presented at the annual
meeting of the American Educational Research Association, New Orleans:
April 23-27, 1984.

Bean, J. "Engaging Ideas, The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom." San Francisco: Jossey Bass, 1996.

Bligh, D.A. "What's the Use of Lectures." Karmondsworth, England: Penguin, 1972.

Cohen, B.P., and Cohen, E.G. "From Groupwork among Children to R & D
Teams: Interdependence, Interaction and Productivity." In E.J. Lawler (Eds.) Advances in Group Processes. Vol 8, 205-226. Greenwich, CT: JAI, 1991.

Cohen, S., and Willis, T. "Stress and Social Support and the Buffering Hypothesis." Psychological Bulletin, 1985, 98, 310-357

Cooper, C., Coming of age. Cooperative Learning, 1994, 12#2, 3-5.

Cooper, J., Prescott, S., Cook, L. Smith,, L., Mueck, R., & Cuseo, J. "Cooperative Learning and College Instruction: Effective use of Student Learning Teams." Sacramento: California State Foundation, 1985.

Deutsch, M. "Equity, Equality and Need: What Determines Which Value Will Be Used as the Basis of Distributive Justice."
Journal of Social Issues, 1975, 31, 137-149.

Entwistle, N. and Tait, H. "Approaches to Studying and Preferences for Teaching in Higher Education: Implications for Student Ratings." Instructional Evaluation and Faculty Development, 1994, 14, 1&2, 2-9.

Felder, R.M. Personal e-mail communication from felder@eos.ncsu.edu WWW page <http://ww2.ncsu.edu/unity/lockers/users/f/felder/public/rmf.html>, 1997.

Forsyth, D. R. and McMillan, J. H. "Practical Proposals for Motivating Students." In R. J. Menges & M. D. Svinicki (eds.) College Teaching: from Theory to Practice. New Directions for Teaching and Learning # 45. San Francisco: Jossey Bass, 1991.

Hagman, J., and Hayes, J. "Cooperative learning: Effects of Task, Reward, and Group Size on Individual Achievement." Technical Report 704, ERIC Document #278720.Alexandria, VA:US Army Research Institute for the Behavioral Sciences, 1986,

Hooper, S., and Hannafin, M. J. "Cooperative CBI: The Effects of Heterogeneous vs Homogeneous Grouping on the Learning of Progressively Complex Concepts." Journal of Educational Computing Research, 1986, 4, 413-424.

Janke, R. "Computational Errors of Mentally-retarded Students." Psychology in the Schools, 1980, 17, 30-32.

Johnson, D. W. "Effectiveness of role reversal: actor orlistener.", Psychological Reports, 1971, v28, pp275-282

Johnson, R. T., and Johnson, D. W. "The Effects of Other's Actions, Attitude Similarity, and Race on Attraction Toward Others." Human Relations, 1972, 25(2), pp121-130

Johnson, R. T., and Johnson, D. W. "Relationships Between Black and White Students in Intergroup Cooperation and Competition." The Journal of Social Psychology, 1985, 125(4), 421-428.

Johnson, R. T., and Johnson, D. W. "Cooperation and Competition Theory and Research." Edina,MN: Interaction Book Co., 1989.

Johnson, R. T., and Johnson, D. W. "Using Cooperative Learning in Math." In N. Davidson (ed.) Cooperative Learning In Mathematics, 1990 Menlo Park, CA: Addison Wesley Publishers

Johnson, D.W., Johnson, R.T., and Holubec, E.J. "Cooperation in the Classroom." Edina, MN: Interaction Book Co., 1984.

Johnson, D.W., Johnson, R.T., Roy, P., and Zaidman, B. "Oral Interaction in Cooperative Learning Groups: Speaking, Listening and the nature of Statements Made by High, Medium and Low-achieving Students." Journal of Psychology, 119, pp303-321, 1985.

Kagan. S. "Cooperative Learning and Sociological Factor in Schooling."
In Carlos Cortes (Ed)Beyond Language: Social and Cultural Factors in Schooling Language Minority Students. Los Angeles, CA: California State University Evaluation, Dissemination and Assessment Center, 1986.

Keller, J. M. "Motivational design of Instruction." in C. M. Reigeluth (ed.) Instructional Design Theories and Models: An Overview of their Current Status. Hillsdale, NJ: Lawrence Erlbaum Associates, 386-434, 1983

Kessler, R., and McCleod, J. "Social Support and Mental Health in Community Samples." In Cohen and Syme (Eds.) Social Support and Health. New York: Academic Press, 1985.

Kessler, R., Price, R., and Wortman,C. "Social Factors in Psychopathology: Stress, Social Support and Coping Processes." Annual Review of Psychology, 1985, 36, 351-372.

Kort, M. S. "Down from the podium." In New Directions for Community Colleges v20, n3, p61-71, #79, Fall 1992, San Francisco, CA: Josey-Bass, 1992.

Kulik, J.A., and Kulik, C.L. "College Teaching." In P. Peterson and H. Walberg (Eds.) Research in Teaching: Concepts, Findings and Implications. Berkeley, CA: McCutcheon Publishing, 1979.

Lowman, J. "Testing issues in Large Classes." In M. G. Weimer (ed.) teaching Large Classes Well. New Directions for Teaching and Learning # 32. San Francisco: Jossey Bass, 1987.

Male, M. "Cooperative Learning and Computers in the Elementary and Middle
School Math Classroom." In N. Davidson (ed.) Cooperative Learning in Mathematics. Menlo Park, CA: Addison Wesley Publishers, 1990.

Meier, M., and Panitz, T. "Ending on a High Note: Better Endings for Classes and Courses." College Teaching, Fall, 1996,

Messick, D.M., & Mackie, D.M. (1989), "Intergroup Relations." Annual Review of Psychology, 1989, 40, pp45-81

Neer, M.R. "The Development of an Instrument to Measure Classroom
Apprehension." Communication Education, 1987, 36, 154-166.

Panitz, T. "Benefits of Collaborative Learning." Posting to the listserve of the Professional and Organizational Development Network (pod@iastate.edu), April 22, 1998.

Panitz, T. "Getting Students Ready for Learning." Cooperative
Learning and College Teaching, Winter, 1996, v6, n2,

Panitz, T., and Panitz, P. "Encouraging the Use of Collaborative Learning in Higher Education." In J.J. Forest (ed.) Issues Facing International Education, May, 1998, NY, NY: Garland Publishing

Panitz, T, and Panitz, P. "Assessing Students and Yourself by Observing Students Working Cooperatively and Using the One Minute Paper." Cooperative Learning and College Teaching, Spring, 1996, v6, n3,

Peterson, P., and Swing, S. "Students Cognitions as Mediators of the Effectiveness of Small-group Learning." Journal of Educational Psychology, 1985, 77, 3, 299-312.

Resnick, L.B. "Education and Learning To Think." Wash, DC: National Academy Press, 1987

Schwartz, D.L., Black, J.B., and Strange, J. "Dyads have Fourfold Advantage over Individuals Inducing Abstract Rules." Paper presented at the annual meeting of the American Educational Research Assn. Chicago, Il, April 1991.

Sherman, L.W. "Cooperative Learning in Post Secondary Education: Implications from Social Psychology for Active Learning Experiences." Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April 1991.

Slavin. R. E. "Cooperative Learning: Student Teams" 2nd Ed. Washington, DC: National Education Association, 1987.

Slavin, R. E. "Cooperative learning." Review of Educational Research, 1980, 50, 315-342.

    Slavin, R. E., and Karweit, N. "Cognitive and Affective Outcomes of an Intensive      Student Team Learning Experience." Journal of Experimental Education, 1981, 50, 29-35.

Swing, S., and Peterson, P. "The Relationship of Student Ability and Small Group Interaction to Student Achievement", American Educational Research Journal, 1982, 19, 259-274.

Tannenberg, J. "Using Cooperative Learning in the Undergraduate Computer Science Classroom." Proceedings of the Midwest Small College
Computing Conference. , 1995.

Tinto, V. "Enhancing Learning Via Community." Thought and Action, the NEA Higher Education Journal, Spring, 1997, 6, 1, 53-54.

Treisman, U., "Improving the performance of Minority students in college level Mathematics", Innovation Abstracts, v5, n17, June 1983

Treisman,U., "Studying students studying calculus: A look at the lives of minority students in college", College Mathematics Journal, v23, n5, pp362-372, Nov. 1992

Turnure, J., and Zigler, "Outer-directedness in the Problem Solving of Normal and Retarded Students." Journal of Abnormal and Social Psychology, 1958, 57, 379-388.

Wlodkowski, R. Motivation and Diversity: a Framework for Teaching. In M. Theall (ed.) Motivation in Teaching and Learning. New Directions for Teaching and Learning # 78. San Francisco: Jossey Bass, 1999.

Wlodkowski, R.J. "Enhancing Motivation to Learn." San Francisco: Jossey-Bass, 1985.

    Yager, S., Johnson, D.W., and Johnson, R. "Oral Discussion Groups-to-Individual Transfer, and Achievement in Cooperative Learning Groups. Journal of Educational Psychology, 1985, 77, 1, 60-66.

Webb, N.M. "Group Composition, Group Interaction, and Achievement in small groups". Journal of Educational Psychology, June, 1982, 74, 4, 475-484.