

Research Shows the Benefits of Adult Cooperation

Collegial support groups can pave the way for increased productivity as well as for happier working relationships within a school.

Teachers who are asked to identify their primary source of assistance usually reply "other teachers." We often see this informal learning taking place in chance meetings in the hallway or teachers' lounge. Is there a way to capitalize on this tendency of teachers to help each other and thereby extend the benefits of "on-the-job" learning?

Cooperation with others is especially important for teachers because much of what they need to learn is procedural, similar to learning how to play tennis or how to perform surgery. Procedural learning differs from simply learning facts and acquiring knowledge; it relies heavily on receiving feedback about performance and modifying one's implementation until errors are eliminated.

To illustrate, educators may study a new teaching strategy to learn conceptually what the strategy is, then trans-

late their conceptual understanding into a set of operational procedures. But then they need to actually employ the teaching strategy, moving through the awkward initial stages and eliminating errors in using the procedures, to eventually attain a routine-use, automated level of mastery.

Collegial Learning

Collegial support groups offer a formal structure for learning from colleagues to complement informal on-the-job learning. Consisting of three to five teachers or administrators, such groups set the goal of improving each other's professional competence and ensuring each other's professional growth (Johnson et al. 1986). Members of these groups discuss new teaching practices and problems connected with their implementation; together they plan, design, prepare, and evaluate curriculum materials; and

they coteach, observing one another's teaching and offering feedback.

From Cooperation to Competence

Traditionally, teachers have not been skilled in working with their peers (Blake and Mouton 1974). Schools have been loosely coupled organizations in which teachers and administrators have functioned far more independently than interdependently, engaging in actions that do not affect what others do and that seem remote from their consequences (Johnson 1979).

Now, with the growth of collegial support groups, we see indications of a fundamental change in school organization. This development raises critical questions concerning the efficacy of cooperative structures. Is staff cooperation likely to improve the quality of teaching? What will school districts

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gain by organizing teachers and administrators into collegial support groups? Recently we completed a meta-analysis that provides evidence to answer these questions (Johnson and Johnson in press).

Nature of Social Interdependence

Before looking at the analysis, we need a few basic concepts about three ways that relationships among teachers can be structured: competitively, individually, or cooperatively. In a competitive structure, *members work against each other* to achieve a goal that only one or a few can attain. Thus, they maximize personal gain at their colleagues' expense. Awarding merit pay to the "best" teacher in the building is an example. By being best, a person prevents his or her colleagues from receiving merit pay. In such a situation, teachers are likely to enjoy the failures and problems of colleagues, because such failures increase their own chances of success.

An individualistic structure exists when *members work by themselves* to accomplish goals unrelated to the goals of others. Within such a context, people feel independent of their colleagues. They believe that their rewards are based only on their own performance, and the success or failure of their colleagues has no relevance to their individual professional lives. An example of this structure would be an incentive program in which any teacher who achieves the preset criteria for excellence receives merit pay, regardless of the status of his or her colleagues.

A cooperative structure exists when *members work together* to achieve joint goals. Members seek outcomes that benefit both themselves and their colleagues. The success of any one person is determined by that person's performance together with the performances of his or her colleagues. Awarding merit pay on the basis of how well all members of the group have performed is an example. In such a situation, being competent not only increases one's own chances for receiving merit pay but also the chances of one's colleagues. Teachers accept responsibility for continuously improving both their own productivity and that of their colleagues, and rewards are distributed equally. When a colleague is recognized for professional competence, everyone feels proud and celebrates together.

Comparisons of Effect Sizes

With these key concepts in mind, we are ready to look at summary findings from our meta-analysis of the research comparing the relative effectiveness of cooperative, competitive, and individualistic efforts (Johnson and Johnson in press). This research tradition is the oldest in American social psychology, encompassing 90 years and more than 450 studies since 1897.

Of this number, 133 have utilized adult samples (that is, individuals 18 years of age or older); these studies were the subject of our review. (A complete list of these studies will be found in our book.) To control for possible bias resulting from so many measures of achievement, each find-

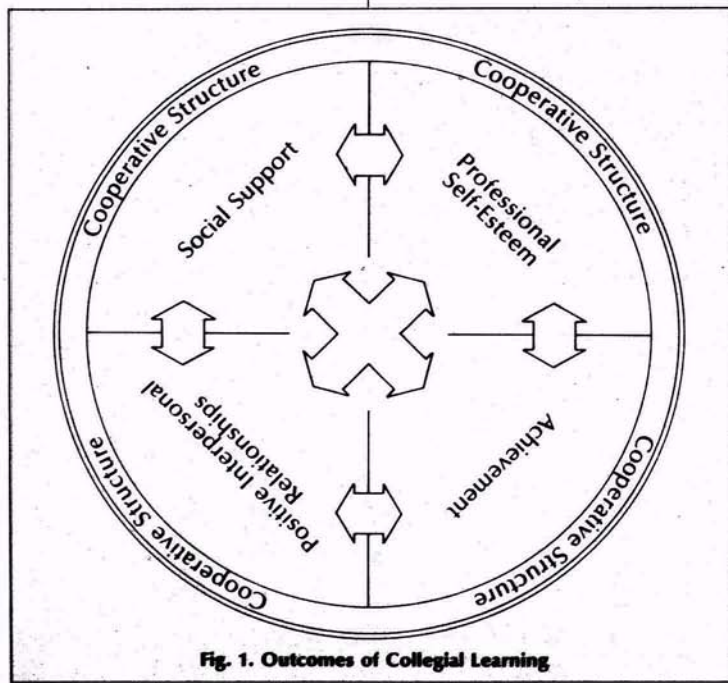


Fig. 1. Outcomes of Collegial Learning

Table 1
Meta-Analysis of Adult Samples: Weighted Results

	Effect Size		
	Mean	SD	N
Achievement			
Cooperative vs. competitive	.59	.99	36
Cooperative vs. individualistic	.68	1.16	70
Competitive vs. individualistic	.36	.94	12
Cooperative vs. intergroup competitive	.63	1.00	4
Interpersonal Relations			
Cooperative vs. competitive	.96	.53	32
Cooperative vs. individualistic	.55	.83	12
Competitive vs. individualistic	.86	.21	2
Cooperative vs. intergroup competitive	.38	.84	6
Social Support			
Cooperative vs. competitive	.75	.44	25
Cooperative vs. individualistic	.35	.38	15
Competitive vs. individualistic	-.46	.25	5
Cooperative vs. intergroup competitive	.48	.23	5
Self-Esteem			
Cooperative vs. competitive	.89	.88	17
Cooperative vs. individualistic	.06	.44	6
Competitive vs. individualistic	-.23	.33	2
Cooperative vs. intergroup competitive	-.37	.47	4

ing was assigned a weight inversely proportional to the number of findings from the study. Therefore, each study was given the same overall weight in the analyses; the sample size was reduced; and the findings were independent from each other.

Table 1 shows that for adult samples, cooperation promoted higher achievement than did either competi-

tive (effect size = 0.6) or individualistic (effect size = 0.7) learning. The average cooperator performed at about 6/10 a standard deviation above the average person working in a competitive situation and about 2/3 a standard deviation above the average person working in an individualistic structure.

Competition has some advantage over individualistic learning for adults. The average competitor performed at about 1/3 a standard deviation above the average person working individually (effect size = 0.4). Perhaps surprisingly, however, intergroup competition tends to decrease overall productivity (effect size = 0.6).

As Table 1 shows, cooperation promotes more positive interpersonal relationships than do competitive or individualistic efforts. The average cooperator experienced a level of interpersonal attraction almost 1 standard deviation above the average competitor and 1/2 a standard deviation above the average person working individually. There are only two comparisons of competitive and individualistic situations, too few to make a meaningful conclusion. Intergroup competition tends to reduce interpersonal attraction (effect size = 0.4).

Another finding is that cooperation promotes greater social support among adults than do competitive or individualistic efforts. The average cooperator experienced a level of social support 3/4 a standard deviation above the average competitor and 1/3 a standard deviation above the average person working individually. The average person working individually experienced a level of social support almost 1/2 a standard deviation above the average competitor. Intergroup competition tends to lower the level of social support (effect size = 0.5).

Cooperation among adults also tends to promote higher self-esteem than competition. The average cooperator experienced a level of self-esteem almost 9/10 a standard deviation above that of the average competitor (see Table 1). There was essentially no difference in level of self-esteem between cooperators and persons working individually, although the small number of studies makes this finding tentative. Individualistic situations may tend to promote higher self-esteem than do competitive ones (effect size = -0.2, but again the small number of studies makes this finding questionable). Having groups compete with each other tends to increase the self-esteem of participants (effect size = -0.4), although this finding is also tentative because it is based on a small number of studies.

In order to determine whether there were important variations among the studies, we conducted an analysis of variance on a number of characteristics of the studies. Our data indicate that the results are consistent across decades and that no statistically significant difference was found for individual or group rewards, laboratory or field settings, studies lasting one hour or several months, different types of tasks, and quality of study. The diverse settings in which the studies were conducted, the different decades within which they were conducted, the varied tasks used in the studies, and widespread ages and backgrounds of the participants indicate that the results are highly generalizable (Johnson and Johnson in press).

"Cooperation among adults also tends to promote higher self-esteem than competition."

Benefits of the Cooperative Structure

The findings in Table 1 show that cooperation among adults promotes achievement, positive interpersonal relationships, social support, and self-esteem. Organizing teachers and administrators into collegial support groups, therefore, should result in greater productivity and expertise, more positive interpersonal relationships and cohesion as a staff, increased social support within the faculty, and enhanced self-esteem for the educators. The cooperative structure produces each variable, but the variables in turn affect each other and increase cooperation. The interconnections among the variables are portrayed in Figure 1.

We can expect these results, however, only when groups have carefully structured positive interdependence, face-to-face interaction, personal re-

sponsibility, and periodic group processing. In addition, group members must possess the necessary skills in leadership, communication, trust building, decision making, and conflict management. With specific procedures for structuring collegial support groups available (Johnson et al. 1986, Johnson et al. 1984), teachers and administrators can extend their eagerness to help each other into realization of the full benefits of cooperation and collegiality. □

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