

Developments In Business Simulation & Experiential Exercises, Volume 19, 1992

COOPERATIVE LEARNING ACROSS THE BUSINESS CURRICULUM

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ABSTRACT

This paper will present an innovative approach to business pedagogy, which we have introduced across the curriculum. We will describe how we have been using collaborative learning in our divergent disciplines of finance and law. It is our belief that traditional business curricula have taught inappropriate behavior to students. Organizational behavior classes introduce cooperative techniques that are abandoned when students enter the functional classes. Typical finance or law classes isolate people and force them into competition. This paper will present basic concepts of collaborative learning which emphasizes cooperation and interaction. We will explore the methods we are using to make this teaching methodology in our classes -

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The integration of active learning models into the classroom is a positive trend now appearing in undergraduate education. These models are often referred to as "cooperative or "collaborative" learning. A paper discussing such a pedagogical approach by Johnson, Johnson and Smith states that,

In order to maximize their achievement, especially when studying conceptually complex and content dense material, college-level students should not be allowed to be passive while they are learning. One way to get students more actively involved in this process is to structure cooperative interaction into college classes so that students have to explain what they are learning to each other, learn each other's point of view, give and receive support from classmates, and help each other dig below the superficial level of understanding the material they are learning. (Johnson, Johnson and Smith, p2)

There is considerable research that supports the effectiveness of cooperative/collaborative learning (Johnson, D.W., & Johnson, R.T., 1987). The bulk of this research has been done on the K-12 level. Management education, with its historical use of experiential learning, is exceptional in its extensive use of cooperative learning on the college level, particularly in the organizational behavior classroom. (Bean, 1985; Gardner and Larson, 1988; and Weil, 1988). The management profession is cooperative by its very nature, increasing the need for teaching cooperative behavior as part of preprofessional training. As Donald Brown and Conrad Jackson put it, "The issue as we see it is simply that managers and professionals will be working in groups for the rest of their lives... In short, 'group smarts' have become survival skills for the modern professional or manager!" (Bowen and Jackson, 1986).

Cooperative learning empowers the student in the classroom. The professor must relinquish control to increase effectiveness. In this respect, cooperative learning has become even more relevant to the world of work. It teaches participation as a preparation for an increasingly participative management ethos. In addition, cooperative learning has been shown to be particularly effective as a teaching strategy for minority students (Frierson, 1986; Treisman, 1985). Restructuring our classes to become more cooperative holds great promise as we attempt to increase cultural diversity on campus.

The College of St. Benedict has recently begun, a program to support the use of cooperative learning throughout the curriculum. Last August the faculty participated in a workshop on cooperative learning. Since then, with the assistance of the internal Learning Enhancement Service, a number of us have been attempting to increase our use of cooperative learning. This has taken the form of specific in-class exercises, reforms of our grading systems to increase the amount of interdependence as well as individual accountability, and revision of syllabi. We meet periodically to learn cooperatively how to teach cooperatively, using a combination of base groups and larger groups.

Experiential exercises and simulations have been the primary mechanisms for teaching cooperation in management classes. They have been particularly emphasized in the Organizational Behavior and Strategy areas. Cooperative learning involves making this type of learning the characteristic pedagogy of the curriculum. It is counterproductive to isolate this approach to learning, as doing so creates the impression for the student that the groups skills which they have learned apply only to specialized situations, when we know that in reality they are applicable throughout the business world.

We teach Business Law and Corporate Finance. Thus we are focused on areas of the business curriculum, which traditionally have not emphasized cooperative pedagogical techniques. This year we have revised our courses to become more cooperative.

The Cooperative Learning Model

The model of cooperative learning that we are using in our business classes is based upon the work of Drs. David and Roger Johnson. Their model stresses five essential components that must be integrated into the classroom in order for small group learning to be truly cooperative. These essential elements are positive interdependence; face-to-face promotive interaction; individual accountability; interpersonal and small group skills; and group processing of the group learning experience. (Johnson, Johnson and Holubec, 1990).

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In their book, Cooperation in the Classroom, Drs. Johnson, Johnson, and Holubec define positive interdependence as a perception by students that:

they are linked with groupmates in a way so that they cannot succeed unless their groupmates do (and vice versa) and/or that they must coordinate their efforts with the efforts of their groupmates to complete a task. (Johnson, Johnson, Holubec, p.1: 10)

The teacher's role is to foster positive interdependence by structuring the classroom assignment so that students will recognize their linkage with one another in learning. Examples of techniques for creating positive interdependence are to give the group clearly stated joint learning goals, distribute resources needed to complete the task to different members of the group and to assign each member of the group a specific role in completion of the task that requires interaction with other group members.

The second element of the model, face-to-face promotive interaction refers to the physical arrangement of the room and the orientation of group members to each other. The Johnson's describe this aspect as bringing group participants knee-to-knee and eye-to-eye so that group members cannot escape interaction. (Johnson, Johnson, and Holubec, 1990) A test, quiz or assignment completed by a student without assistance from the learning group is a traditional method of measuring individual competence. Other techniques include choosing one student's work to represent the group, having students teach what they have learned to someone else or having students explain a concept to the group.

The cooperative learning model recognizes that participants must have social skills in order to achieve the learning goals of the group. The Johnson model differs from other group learning pedagogies in that it explicitly recognizes these social skills and incorporates techniques for learning and practicing appropriate social skills with the content learning task. (Johnson, Johnson and Holubec, 1990)

Finally, in order to maintain the functioning and efficiency of the group, the Johnson's model advocates taking time for the learning groups to think about the successes of their group in completing a task and to plan how to improve group functioning.

Cooperative Learning in the Business Law Class

Business Law is typically taught by professors trained as attorneys. Frequently the course is taught either by lecture or by using some variant of the Socratic method as practiced in law schools. Both of these teaching methods place the professor in the dominant role in the classroom. Generally, the only interactions that occur are between the professor and one student at a time. Students are typically passive learners, asking few questions and volunteering few responses to teacher questions. The cooperative learning model refocuses the classroom on student-student interactions and active student involvement in learning.

There are two purposes of the Business Law curriculum. The first is to introduce future managers to the constraints and complexity of the legal environment in which businesses must operate. The second purpose is to give students training in methods of organized thinking, analysis, discussion and writing. Through the study of case problems, students gain practice in these techniques. The addition of cooperative learning to the Business Law classroom allows students an opportunity to increase their learning about substantive issues while practicing the communication and social skills most needed by managers.

One cooperative learning technique which I have used in my class to teach a rather complex area of law is called the jigsaw. In a jigsaw the material to be learned is divided into as many parts as there are members of the group. In teaching constitutional issues for business, I assign each person in my three person groups one constitutional issue (i.e. the commerce clause; equal protection; due process.) Each person from the base learning group then finds a partner from another base learning group who has been assigned the same topic. The pairs then work together to master the material and to plan a strategy for teaching the material to the other members of the base learning group. After the preparation period the pair breaks apart and each one finds another student in the class who has prepared the same material for presentation. These two students form a practice pair. In the practice pair the students share their strategies for presenting the material they have been assigned. Students are instructed to pool their ideas and to synthesize a strategy for presenting the material to their respective base group that incorporates the best ideas of both. Finally, the base learning group reforms and each student presents and teaches the assigned material to the other two group members. In the end each student knows one part of the material extremely well and two parts at least as well as when a 'lecture is presented by a professor. Generally, I then give a quiz, which measures the effectiveness of the teaching by awarding bonus points if members of the group who received the presentation score above a specified criteria. For example, a student who presented the material on the commerce clause to the group would be awarded bonus points if the two other group members scored better than 80% on the commerce clause question on the quiz. I have used this method of teaching the constitutional issue in two semesters and have found that students have achieved a deeper level of understanding on the constitutional issues of business regulation, are more readily able to generalize that knowledge and apply it to other situations and have higher achievement on exams and assignments on this topic.

Although the cooperative learning model is not without its problems in implementation, the benefits are tremendous. I have sometimes found it difficult to reorient students to a more active learning method; the quantity of material covered by the course has been somewhat reduced; there are obstacles to building an appropriate level of trust when a class/group meets only every other day for a limited period of time. On the other hand students have a greater mastery of the material covered, absenteeism is reduced; and student-teacher interactions are enhanced.

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Cooperative Learning in the Finance Class

The discipline of finance involves the rigorous analysis of quantifiable data using the rules of mathematics, and ultimately, of logic. The student must learn to identify relevant information, and to construct mathematical models, which extract usable solutions to financial problems. The goal of financial management is to maximize shareholder wealth; we assume that financial managers are dedicated to that goal. Finance is often seen as part of economics; the 1990 Nobel prize in economics was awarded to three of the founders of modern finance. The connection between finance and the study of topics such as organizational behavior and managerial theory is less readily apparent. Human interactions are ignored in finance textbooks. It is assumed, as it is in economics, that people are rational maximizers.

Behavior is not directly taught in the finance classroom. However, there is an implicit behavioral model, which is conveyed. Logical thinking and quantitative ability are highly prized. A clear separation of emotion from decision making is made explicit. Wealth maximization is the only legitimate guide to follow. The typical finance classroom could be taken as a model for traditional university education. The professor presents theory through lectures and demonstrations. The students note these down, and are tested later. Tests focus on mastery of mathematical techniques and their underlying theory. In keeping with the mathematical orientation of the discipline the use of normal distributions is common in grading. In such classrooms students learn that they are competitors. If one succeeds, another is more likely to fail. The only significant interaction that occurs is between the teacher and individual students. The professor holds all of the power. Most of the time the students are expected to be quiet and passive. The professor controls all of the information and is the most active individual in the class.

This behavioral model does little to prepare the students for the realities of organizational life. As managers, they must learn to cooperate with others in the company. They need to interact effectively, to be active, and to give help to and receive it from co-workers. In addition, the traditional methodology of the finance classroom seems to be part of a culture dominated by the norms of white males. With the increase of diversity in the workplace, it has become increasingly important to prepare students for alternative models of interaction and problem solving. Cooperative learning helps to teach these skills, and to shift the power in the classroom from the professor to the student.

I have experimented with several cooperative techniques in my finance classes this year. A fundamental method is the construction of groups in which students benefit if their fellow group members do well. I have divided my classes into groups of three. These groups work together in class on assignments. They also jointly prepare graded homework assignments. They are expected to study together outside of class. If the group mean they attain on examinations is higher than that typically scored by my classes in the past

everyone in the group is rewarded by receiving a five percent bonus on their individual scores. This has resulted in higher grades than was typical in the past both because of the bonuses and because of the fact that the mean score has increased. I attribute the latter result to the benefit of working in the groups, but do not yet have sufficient data to be certain of this effect. The groups are selected by a random process at the beginning of the semester, and then reassigned after the first test in order to ensure an even distribution of ability levels in each group.

The students also work in-groups on a case assignment, which counts as the equivalent of one examination towards their final grade. (See Appendix) These groups are self-selected by the students and have six members. For this assignment they must prepare a finance case which is on a higher level of difficulty than the material covered in the class, but is related topically. I meet with each group outside of class to coach them on this assignment. Once they have mastered the material they are expected to teach it to the rest of the students. This is timed to coincide with the point at which we are discussing related material in the class. The students are given one class session in which to do their teaching. They split the class up into groups of five and help them to solve the case problems for themselves. They are given a fifteen-minute period at the end of the class to formally present the case. The material presented through these case studies is included on the examinations.

Cooperative learning has some weaknesses as a pedagogical technique. Some groups are dysfunctional; all require effort to operate. Time given to learn interpersonal skills leaves that much less to 'cover' the course topics. It requires time to do the requisite record keeping, and to re-work the course material to fit new modes of presentation. Some students resent having to be active in the classroom, which also requires their daily preparation. Others object to group grading. I must learn to be quiet and to only give assistance if it is requested while one student is teaching another. So far, I have found the results to be worthwhile. Students have commented that the only topic they felt that they fully understood in the course was the one that they taught to the class as part of their case assignment. Average examination scores have increased. Students have learned the need to work as group members and the important lesson that you can only succeed in a group, or an organization, if the group succeeds as well.

It is my intention to continue to use cooperative learning and to begin formal assessment of its impact on student satisfaction as well as student mastery of course materials. I am currently modifying my student evaluation forms to contain questions that deal specifically with their group experiences. Hopefully, in conjunction with data on examination performance, this information will enable me to clearly determine the usefulness of this pedagogy. I am also involved in my own group learning experience, conferring with other faculty who are experimenting with cooperative learning both in finance and across the management curriculum.

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APPENDIX

MGT 336 - CORPORATE FINANCE CASE STUDY - GROUP ASSIGNMENT

A GROUP PRESENTATION AND ANALYSIS OF A CASE IS ONE OF THE REQUIREMENTS OF THIS CLASS. THESE ARE EXPLICIT DIRECTIONS TO ENABLE YOU TO FULFILL THIS ASSIGNMENT MORE EASILY. PLEASE USE THEM AS GUIDELINES IN YOUR PREPARATION.

1. You are welcome to confer with me before the date of your presentation to check on the accuracy of your own case analysis and to receive clarification on any case issues that you are having difficulty resolving.
2. Begin your presentation by dividing the class into groups. Have the members of these groups answer the questions at the end of the case. Do not hand out solutions to these questions at this time. The point of this exercise is to have the rest of the class attempt to find their own solutions. Your role is that of a facilitator. You should assist them in their attempts to answer the questions by explaining errors in their approaches that have led them into dead ends. You may also suggest approaches to them if they are stymied. You should not solve the problems for them.
3. Assemble the groups as a class when you are ready to begin your formal presentation. The presentation should take approximately 15 minutes. Have the members of your group seated at the front of the class during the presentation. Designate a member of the group to rise and address the class. This person should introduce the group members to the class. Solutions may be handed out at this time.
4. Have each member of the group rise in turn and address the class. Do not talk to one another while a group member has the floor. Try to make eye contact with your audience. Visual aids usually make a presentation more interesting and easier to follow. They may take the form of handouts, posters, overheads, blackboard work, etc. Rehearse your presentation so that you know the order in which you will go and how you will make transitions.
5. The presentation should consist of a discussion of issues raised by the case but not by the questions at the end of the case. Be sure to include evidence of research done by the group beyond assigned readings. Draw upon material discussed previously in class when appropriate. You may wish to lead a class discussion of some issue; this is permissible but not required. Be sure to plan a conclusion for your presentation. Ask for questions from the floor when you are done.
6. Hand in a written analysis of the case. It is due on the date of your presentation, but may be handed-in earlier if you desire my comments before you present your material. The

paper should follow proper report-writing procedure and format. That is, it should be typed, proofread, footnoted and in proper English. The written material should consist of a minimum of pages. It should begin with a brief explanation of the case situation, followed by the recommendations of the group for the management of the firm under discussion. Computations should be included separately, as appendices, which may be referred to as justification for the conclusions in the body of the paper. The calculations you do to answer the questions that appear at the end of the case should also be in the appendices. The bulk of the written analysis should be concerned with the issues you discuss in your presentation.

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