

Self Ratings of Students Engaged In Collaborative Learning

R. C. Sorensen and J. P. Lunde

Students involved in cooperative learning were asked to rate themselves on eighteen outcomes related to their group behavior. They viewed seeking assistance and respecting all persons as major strengths. Perceived weaknesses included providing leadership to the group, helping others to contribute to the group and self-preparation for group activities. Persons receiving lower course grades tended to rate themselves lower than students receiving high grades.

More effort seems desirable in preparing students for collaborative and cooperative situations they may encounter in classes, in careers, and in their private lives. Possible approaches include less reliance on passive modes of instruction in college, instruction in group functioning, and self-evaluation of group behaviors.

Introduction

Calls are being heard from a number of quarters for increased involvement of students in their education. One means of involvement is the use of collaborative learning in the classroom. Collaborative learning is characterized by students working together in small groups in non-competitive situations to accomplish learning tasks (see any of the references listed). Ideally, the learning situations should create some interdependence among the members of the group. The teacher must be closely involved in the team effort. The teacher's role, however, shifts from that of lecturer to one of a facilitator of learning. Collaborative activities may comprise a minor or major component of a course.

Collaborative instruction calls forth skills from the students which are different from those needed for more customary teaching methods. Interpersonal skills such as active listening, questioning, explaining, paraphrasing, and summarizing, are highly important. A greater amount of responsibility both for their own and other's learning rests on the students. Learners are more likely to be asked to do complex tasks which involve analysis and critical thinking.

To what extent are students able to use skills necessary for effective group functioning? Probably the best persons to ask are the students themselves. We performed this research to assess the extent to which students felt they were using appropriate skills in a collaborative learning environment. The basis of the assessment was student responses on an instrument we prepared including 18 behaviors thought to be important in collaborative learning in this course.

The course, Introductory Soil Science, was recently converted from a lecture-lab-recitation format to a format with one hour of lecture per week and two 2-hour sessions of

Sorensen is a professor of Agronomy and Lunde is an associate professor of Agricultural Education, University of Nebraska, Lincoln, NE 68583-0914.

group activities (Sorensen, et al., 1992). The group sessions used programmed exercises and other group projects. Essentially all of the introduction of new material occurred in student reading assignments or in group sessions. The lecture was used for announcements, pretesting, test feedback, course evaluation and other logistical activities.

In the collaborative sessions three or four students formed a group seated around a circular table. Each class consisted of five or six groups. Programmed exercises or class projects occupied the major portion of the period. A post-test over the day's activities closed the session. One teacher and occasionally one graduate or undergraduate assistant provided help throughout the session.

Grades were based on pretests, post-tests, class projects and a final test, constituting over 40 scores in all. The programmed exercises themselves were not graded. The method received very favorable student evaluations although some adjustments were needed as a result of our own learning about this instructional design.

Procedures

About five weeks into the course, students were asked to answer a questionnaire about how they assessed aspects of their own behavior in group activities. In the first year (1989), 85 students (75%) completed the assessment, 67 (58%) provided their names. In the second year (1990), 79 students (74%) completed the questionnaire, and in 1991, 102 forms (94%) were collected. Names were not requested in 1990 and 1991.

Figure 1. Questions used in study.

1. I made an effort to contribute my ideas to the group.
2. I did not use more than my share of "air time".
3. I helped others make contributions to the group effort.
4. I always prepared myself for the task assigned to the group.
5. I was friendly, provided humor, but helped get the job done.
6. I differentiated between disagreements based on errors and those based on values.
7. I did not let errors go unchallenged.
8. I showed respect for all persons.
9. When my group seemed to have lost its way, I took the leadership to get it going again.
10. Although I didn't always agree, I listened and considered the points of opposition.
11. I did my share (and maybe a little more) of the work of my group.
12. I did not feel I had to prove myself. I was confident that I was competent.
13. I asked for help when I (we) needed it.
14. I gave help when someone needed it.
15. I accepted devaluation of my ideas as an invitation to clarify my own thinking.
16. I accepted my own shortcomings and remembered that my best efforts were good enough.
17. I did not base my own self-worth on the assessments of others.
18. I made my group more effective than it would have been without me.

Table 1. Ranked means and standard deviations for responses to questions. No. is the question number on Figure 1. (N = 266)

	No.	Mean	S.D.	Subject
I	13	1.47	0.75	Asked for help
	8	1.51	.70	Had respect for all
II	14	1.70	.68	Gave help when needed
	1	1.70	.68	Contributed my ideas
	10	1.72	.68	Considered all points of view
	5	1.80	.71	Was friendly and helpful
	2	1.82	.74	Did not dominate session
	17	1.91	.72	Maintained self-esteem
	15	1.94	.70	Accepted criticism
	12	1.96	.75	Was confident of abilities
	11	1.98	.74	Did my share
	16	2.00	.74	Accepted my shortcomings
	7	2.00	.75	Challenged errors
	18	2.04	.78	Made my group more effective
	6	2.15	.74	Was sensitive to values
	III	3	2.22	.75
9		2.30	.74	Provided leadership
4		2.40	.83	Prepared myself

Figure 1 lists the questions we prepared to describe the kind of behaviors desired during the group activities. We asked students to rate themselves as A (excellent), B (good), C (fair), or D (needs improvement) on each question. For purposes of numerical analysis of their answers, A = 1, B = 2, C = 3, and D = 4.

Results

The grand mean rating was 1.92. Therefore, considering all questions and all students, the ratings averaged slightly above B. Standard deviations are all of about the same order indicating about the same level of agreement on all questions. The question means ranged from 1.47 to 2.40 (Table 1). We divided them into three groups: Group I, those questions with ratings more than one standard deviation (0.25) below the grand mean, Group II, those questions with ratings one standard deviation below the mean to one standard deviation above the mean, and Group III, those questions with ratings more than one standard deviation above the mean. In Group I are those questions that addressed issues on which the students felt they had done well. Students believed that they had shown respect for all persons, and asked for help when they needed it. Class observations confirmed that students had indeed excelled in these areas.

The questions that addressed issues in which the students thought themselves least effective were in Group III. They rated themselves low in helping others contribute to group activities, providing leadership for the group, and preparing themselves for group work. Again, our observations of group functioning confirmed these assessments.

Table 2 shows the relationship between self ratings and course grades. Since data regarding this relationship were volunteered in the first year only, the number of students is limited (67). It seems that students who get B or lower grades rate themselves lower on this instrument. Whether this relationship is a factor of poorer self-image, poorer study skills or some other factor cannot be determined from this study.

Table 2. Self ratings by students in relation to grade received.

Grade	Rating	No.	S.D.
A+	1.76	4	0.30
A	1.79	3	.21
B+	1.78	21	.42
B	1.85	20	.48
C+	1.88	12	.30
C	2.16	7	.35

Discussion

In general, students felt they did well when the main concern was individual learning. They freely contributed their ideas, gave and asked for help when needed. They listened and considered other's points of view. However, when the main concern was effective functioning of the group, the students rated themselves low. They did not feel that they effectively provided adequate leadership for the group or helped others contribute to the group effort. They could have prepared themselves better for group work and taken a more forceful role in correcting errors. In short, they could have been much better group learners.

A number of implications arise from these observations. First, more practice in group activity is needed to prepare students for those aspects of life that require collaboration. In most cases, this means moving from passive methods of instruction, such as the lecture or other types of presentation, to means which involve students more actively in their learning (Meyers and Jones, 1993). Second, in collaborative learning situations, instruction in group functioning and assessments that evaluate and promote learning in groups may be needed.

A third implication is more controversial. If development of group skills needed for working together are important as part of the educational process, then attainment of those skills should be evaluated and graded, assuming effective information and feedback have been provided. Although valid evaluation of collaborative skills is difficult, it is not impossible. Students may evaluate each other on selected points. Group grades may be used on some exercises. The creative instructor with assistance of persons trained in education should be able to design an evaluation system that fits his or her particular course or program. In our own program, we have much to learn about this process.

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