

Building student teams: Tools for success

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Student teams have been a key component of the movement toward a student-centered classroom environment (e.g., Gardner & Korth, 1998; Mundell & Pennarola, 1999; Siciliano, 2001), particularly in management education where student teams can be excellent training for organizational teams (e.g., Senge, 1990). However, student response has been mixed (Bacon, Stewart & Silver, 1999; Buckenmyer, 2000; Bolton, 1999; Felder & Brent, 1996; Verderber & Serey, 1996), possibly because professors don't recognize that cooperative learning does not just happen spontaneously (Johnson, Johnson & Smith, 1991), and often adopt an "assign-wait-evaluate process that assumes that students already have mastered team process management skills" (Verderber & Serey, 1996, p. 24).

Researchers who have analyzed ways to improve student team processes have identified several factors that improve both team effectiveness and team attitudes. These are:

1. have teams work together through the entire term (Bacon et al., 1999);
2. provide training on process issues (Bacon et al., 1999; Bolton, 1999; Buckenmyer, 2000; Frankl, 1998; Gardener & Korth, 1998; Kolb, 1999; O'Brien & Buono, 1996; Verderber & Serey, 1996);
3. be clear about goals and roles (Bacon et al., 1999; Bolton, 1999; Buckenmyer, 2000; Frankl, 1998; Johnson, Johnson & Smith, 1991; O'Brien & Buono, 1996; Siciliano, 2001; Verderber & Serey, 1996);
4. carefully manage peer evaluation (Bacon et al., 1999; Frankl, 1998; Young & Henquinet, 2000);
5. design exercises to promote positive interdependence (Felder & Brent, 1996; Johnson, Johnson, & Smith, 1991);
6. allow students a voice in assignments (Bacon et al., 1999);
7. closely monitor the teams (Johnson, Johnson, & Smith, 1991).

The purpose of this paper is to describe how a number of the recommendations described above were incorporated into an introductory level undergraduate Organizational Behavior course. By consciously addressing issues such as team processes, rules and norms, free riding, and peer evaluation we have tried to increase the likelihood that the team experience will be a positive one both in terms of learning and attitudes.

COURSE DESCRIPTION

The course is taught at a traditional four-year liberal arts school. Enrollment is limited to 24 students and classes are always full. Sixty-five percent of a student's grade is determined by team assignments. Each team has to complete two types of assignments—four team papers, and an activity to engage the class on a chapter from the text. The professor makes the final evaluations of the papers, and both the class members and the professor evaluate the activity. As one can see, much of the teamwork is focused on writing.

INCORPORATION OF RECOMMENDATIONS

The first recommendation is addressed by the design of the course. Students are assigned to four-person teams within the first two weeks of the semester, and work together through the whole semester.

Process issues are addressed through several team-building exercises and the first and last team papers. The team building exercises are done in class. The main one is a group juggling exercise. There is also brief class discussion of diversity, individual differences, values (particularly those related to academic work versus other interests), personality, and assessment. At this point in the semester, no attempt is made to be comprehensive; only the aspects most critical to team dynamics in this particular environment are covered. These issues are then incorporated in the first team paper. Each team analyzes itself in terms of demographics, personality, values, skills, etc. In addition, each team develops a name and a mission statement. Process issues are revisited in the last team paper, where students are asked to compare their expectations with their experiences. In the final paper the emphasis is on what could have been done to improve the team interactions, or why the team was successful. At this point the team is treated as a learning exercise in team dynamics. Students are not permitted to attack one another. If there have been serious conflicts in a team, they have usually been addressed by the time the last paper is written.

The first team paper also requires that the team explicitly state its goals and rules. Each team also develops its own peer evaluation form, an exercise that helps them codify their own important team values. This also gives explicit attention to managing peer evaluation. In this paper students must also devise sanctions for dealing with free riders.

All of the team papers are designed to balance positive interdependence while maintaining individuality identity. The intent is to promote teamwork while minimizing free riding. For each writing assignment, a different member serves as the team leader. This person is responsible for organizing team meetings to generate ideas for the paper and writing the paper based on team discussions. Team members are then required to critique the paper by completing a peer review form (see Appendix A), and editing the paper. The peer review form is designed so that students must make extensive comments on the paper. If the student reviewer believes the paper is well done, she is then required to point out what is excellent about the paper. Students with strong writing skills are able to assist their weaker counterparts by providing suggestions to improve the paper, while students with weak writing skills have the chance to learn effective writing methods from their peers with better writing skills. Students are given a short lesson on gentle, constructive peer review, and it's emphasized that it's intended to be a help, not an evaluation. Additionally, the team writing assignments require discussion of course topics among members, which provides an out-of-class opportunity to talk about course material and reinforces learning of that material. The team leader is then expected to make revisions based on team members' comments. These reviews are then turned in with the final draft of the paper. Because the number of team papers is the same as number of team members, each student has the opportunity to lead his/her team and give/receive feedback on writing. Occasionally students will be asked to do multiple peer reviews for the same paper. When that happens we give the peer reviewer additional points for a thorough peer review.

The team papers are intended to help team members improve their writing and editing skills. For the team leader the paper is worth 15% of the grade. For the peer reviewers the paper is worth 10% of their grade; 5% for the peer review of the paper, and 5% for the total paper grade.

This is designed so that team members will see the value of participating in the writing of the paper, and know that the instructor will be able to see their contribution. In sum each paper is worth 15% for the lead author and 10% for the other team members. One of the most telling answers to the question, “What did you learn about writing?” on the peer review form is, “I learned I need to work on my writing.” Critique from a peer and exposure to good student writing seems to be much more powerful than faculty grades!

In addition, members complete the peer evaluation form developed by their team for every paper. These evaluations are then averaged over all the team exercises and used to assign a final team participation grade for every student, worth 10% of the final grade.

Students are given discretion on the team activity to engage fellow classmates in course material from a specific chapter. In essence, the exercise is a conscious effort to move from the role of professor as formal authority to professor as facilitator (Browne, 1996; Glaser, 1986; Grasha, 1994). More importantly, the activity forces team members to take responsibility for their own as well as the rest of the class’ learning. For example, teams are encouraged to focus their activity on one difficult concept/theory or several moderately difficult concepts/theories. Rather than present the material in lecture format, teams are required to design creative exercises, such as playing a game, performing a skit, developing a role play exercise, or administering a quiz, that reinforces learning of the selected concepts/theories. Teams are evaluated in terms of knowledge of course concepts (i.e., effectively demonstrating concepts/theories via the activity), integration and interrelation (i.e., “linking” chapter material to something outside the chapter, such as another chapter, something in the news, etc.), presentation method (i.e., well organized, fun and engaging for classmates), and presentation style (i.e., professional, polite, and audible). By making the team activity worth 10% of the final grade, and administering the participation instrument the team has designed, social loafing and free riding are minimized. In the end, when a team designs and presents its activity to the class, the team members will have gone through a significant team experience, requiring analysis, decision-making, communication skills, and interpersonal interactions. For example, the team activity assignment forces teams to use analysis, decision-making, and creativity skills in order to understand the material, decide which elements of the chapter are the most important, and then invent an activity that facilitates learning while still being enjoyable for the class. Motivational skills and techniques are also used in getting the class to “engage” through participation mechanisms. While competition or rewards are often the obvious motivator, teams also must rely on personal strategies such as enthusiasm.

The last recommendation is met through the team participation instruments and periodic meetings with the instructor.

EVALUATION OF THE PROCESS AND CONCLUSION

To evaluate the efficacy of this particular team approach, a pre-post design was used to measure learning. The first day of class students were given a 50 item multiple-choice test drawn from the test bank for Robbins, *Organizational Behavior, 9th Edition* (2001). Students used pseudonyms and were told that the test was given for research purposes only. They were given the same test at the end of the semester. It is worth noting that these are the only objective tests given in the class, so the method of evaluating student learning is very conservative (i.e., the classes are not structured around test-taking or retention of specific information). A paired t-test indicated a significant improvement in test scores ($t_{(60)} = -13.68, p < .01$).

Attitudinal measures were collected at the end of the semester to assess the students' team experience. Cooperation within the team was significantly related to several process and outcome-related variables. Specifically, cooperation with the team was positively related to attitudes toward working in teams in the future ($r_{(60)}=.61$, $p<.01$). In addition, students who perceived cooperation within the team believed that the team had a positive impact on their individual learning and performance ($r_{(60)}=.58$, $p<.01$). Not surprisingly then, cooperation within the team was significantly related to scores on the objective test at the end of the semester ($r_{(62)}=.32$, $p<.05$) and to final grades in the class ($r_{(51)}=.43$, $p<.01$).

In terms of process, cooperation within the team was strongly correlated with a task-specific measure of the team writing process ($r_{(62)}=.87$, $p<.01$). In other words, team members who met to discuss the assignments prior to writing the paper, helped the lead author, contributed ideas and data, and critiqued and edited the writing assignments were more likely to have perceived cooperation within the team. This finding suggests that instructors can facilitate cooperation by structuring assignments in such a way that encourages performance of the types of behaviors listed above. Interestingly, individuals who perceived cooperation within the team also believed that they were an active contributor to the team. ($r_{(60)}=.36$, $p <.01$) One interpretation of this is that those who see the team as uncooperative (and perhaps come to the professor with this complaint) are the very ones who are impeding the cooperation process.

In summary, this class structure, which incorporates the major recommendations for optimizing student teams seems to work. Both learning and attitudes toward teamwork are positive. Although this approach is employed in an Organizational Behavior course, its elements are not course or discipline specific. Subsequently, the skill sets attained by students are highly valuable regardless of their career aspirations. And, most importantly, students will have the necessary tools to build an effective team when future opportunities arise.

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Appendix A – Peer Review Form for Writing Assignments

Peer Reviewer _____ Lead Author/
Team Leader _____

Team Name _____ Title of Paper _____

Remember the point of a peer review is to help the author develop a better paper. If you don't point out what can be done to make the paper better, you're doing the author a *disservice*. But also remember that the review should be done in a helpful, kind way. Finally, this form is not meant to replace real face-to-face discussion. The review may be done on more than one draft of the paper. If it easier to notate the paper itself, use the item numbers on the paper and red or green ink so I can find what you've done. This review is worth 5% of your total grade.

1. What is the due date for the paper?
2. When did you get the paper to review?
3. When did you return the paper and/or your review to the lead author?
4. What is the paper's main point and how is it made? If there is more than one point what are they? (If you can't articulate at least one point, there's something wrong with the paper or you, the reader, aren't paying attention).
5. What is the best thing about the paper?
6. Editing: Are there any misspellings or grammatical errors? What are they? Look particularly for those troublesome small words like "there", "their", "they're", "too", "to", "its", "it's", etc. Also watch for misplaced apostrophes and confusion between the plural and the possessive.
7. Editing: Are there any instances of lack of parallelism between the subject and pronoun? Where are they? (e.g. "A manager should pay attention to their employees.")
8. Writing Skills: Are there places where the paper is wordy or repetitive? Are there words or phrases that could just be cut with no loss in meaning?
9. Writing Skills: Are there any words that are simply misused? Usually this happens because the author is trying to use fancy words that s/he doesn't really understand or is relying too much on spell check.
10. Writing Skills: Are there sentences that you don't understand or make you stumble when you try to read them? Where are they? What improvements do you suggest?
11. Writing Skills: Are there places where the paper loses its organization (i.e., the same point pops up in different places for no particular reason)? Where?
12. Writing Skills: Are there places where the paper could "flow" more smoothly in terms of sentence structure or organization? Where are they and how do you suggest fixing them?

13. Knowledge: Are course concepts clearly and explicitly linked to the points of the paper? Do you see places where the linkage could be made more specific?
14. Knowledge: Are the concepts used correctly? Point out any problems.
15. Knowledge: Are the points supported by examples or data? What are they? Is there any confusion between opinion and data? Where? How would you fix it?
16. Knowledge: Are there places where the points could be made in more depth? In other words, is the treatment superficial or does it really dig in? This is often hard for people to see. If you can see it, give the author very specific advice.
17. Integration & Interrelation: Is there integration and interrelation of concepts? Point out where it could be made stronger.
18. Completeness: Is the treatment of the assignment complete? Check the paper against the assignment. Is anything missing? If you can think of additional points that should have been considered, what are they?
19. Any other comments?

If you think the paper is very well done, answer the questions below, which are simply a repeat of questions 10-18 with additional instructions. Be very specific.

20. Writing Skills: Are there sentences that you don't understand or make you stumble when you try to read them? Where are they? Can you suggest improvements? *Note several particularly effective sentences.*
21. Writing Skills: Are there any places where the paper loses its organization, i.e., the same point pops up in different places for no particular reason? Where? *Outline the organization.*
22. Writing Skills: Are there places where the paper could "flow" more smoothly in terms of sentence structure or organization? Where are they and how do you suggest fixing them? *Note instances of particularly good writing.*
23. Knowledge: Are course concepts clearly and explicitly linked to the points of the paper? Do you see places where the linkage could be made more specific? *Note where it is good.*
24. Knowledge: Are the concepts used correctly? *Point out particularly well-used concepts.*
25. Knowledge: Are the points supported by examples or data? What are they? Is there any confusion between opinion and data? Where? How would you fix it? *Point out each instance where the author uses data or examples.*
26. Knowledge: Are there places where the points could be made in more depth? In other words is the treatment superficial or does it really dig in? This is often hard for people to see. If you can see it, give the author very specific advice. *What did you learn?*
27. Integration & Interrelation: Is there integration and interrelation of concepts? Point out where it could be made stronger. *Point out where the author integrates and interrelates.*
28. *Overall what did you learn about writing? What did you learn about the course material?*