

faculty.

The performance of the COA and the University of Florida in admissions and rules and regulations is generally below the performance of other public and private colleges. At least 50 percent of the categories can be addressed by the COA faculty (e.g., college catalog/admissions publications) and the remaining areas will require university level assistance (personal security /safety at this campus). In facilities and registration, the COA and the University of Florida are performing better than their peers in other public and private colleges. Additional improvement can be made however. Finally, the performance of the COA in the general college environment is mixed when compared to the performance of other colleges, though the students feel good about the COA. This is shown by a 3.91 level of satisfaction registered for the category *this college in general*. This is the level experienced by other colleges.

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Using Peer Review to Build Project Teams: A Case Study

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Abstract

Classroom group projects are an important teaching method used to prepare students for the workplace. The "fair" evaluation of these projects is often difficult due to the varying contributions of group members. Student peer review can be used as both an evaluation measure and as a positive tool for building group commitment. This study reviews concepts of group management and evaluation and compares two classroom peer review experiences. A key conclusion is that student-constructed criteria and an emphasis on observable behavior are crucial to the successful classroom use of peer review.

Introduction

As businesses downsize and organizational structures flatten, employees are often expected to work in teams, thereby focusing more attention on communication and leadership skills (Cappelli, 1992). Studies suggest that participation in extracurricular activities and applied

classroom group projects are significant predictors of job performance, while college grades provide little insight into future performance (Cappelli, 1992; Howard, 1986). This article presents a case study of two classroom project experiences and illustrates how student peer review can be used to build stronger team relationships.

Managing and Evaluating Group Projects

The management and evaluation of classroom group projects are a challenge. Suggestions for this process are found in both the academic and industry literatures (Hirokawa and Keyton, 1995; Ramsay and Lehto, 1994; Conway, et al., 1993; Goldfinch and Raeside, 1990; Sims, 1989). Hirokawa and Keyton (1995) examined facilitators and inhibitors of effective organizational work teams and presented a model that can be applied in the classroom setting. As stated by the authors, "effective group performance is determined by the ability and motivation of the group members, as mediated by the appropriateness of the strategy employed by the group in completing its task" (page 428). Organizational (example: instructor and university), group, and individual factors influence ability, motivation, and appropriate strategy selection. Some factors are not under the control of the instructor. For example,

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instructors cannot usually choose their students. However, other factors can be controlled, such as providing coaching/ training and developing an appropriate reward system for group projects.

The reward system used in classroom group projects is generally the traditional grade assignment. One problem with this approach is that group members who do minimal work can receive the same grade as group members who do most of the work. Goldfinch and Raeside (1990) discuss three possible solutions for minimizing this free-rider problem. The two-step method developed by these authors, while complicated, incorporated student peer review into the evaluation process. Student peer review actively involves students in the evaluation process and may lead to more effective learning (Sims, 1989). In addition, peer review requires the application of critical thinking skills which are needed for success in the workplace (Cappelli, 1992).

Peer review is becoming a more popular industry tool as companies move toward team-oriented production and management. Two key components of a successful peer review process are comments based on observable behavior and a supportive team environment. This environment includes the belief that everyone wants to improve, the commitment of teams to helping members improve, and management's (instructor's) support of self-directed teams (Ramsay and Lehto, 1994). In addition to providing information for the evaluation process, peer review can be a significant tool for increasing an individual's commitment to the team's goals.

Case Study

The author teaches an advanced agricultural marketing course at New Mexico State University where 20-25 students work as a group to develop a one year marketing plan for a real company. While one purpose of this class is to enter the completed plan in the National Agri-Marketing Association's (NAMA) Student Marketing Competition, not all students in the class are NAMA members. Some students are in the sales/marketing option and need the class to graduate, some students are just curious about the class, and some students are totally focused on winning the marketing competition.

In Spring of 1995, 25 students (24 were agricultural economics majors) took the class. The instructor did not screen students prior to course enrollment. Peer review counted for 20% of the course grade and was presented as a tool to penalize free-riders. The peer review format was adapted from materials provided by the NMSU Center for Educational Development. Each student was responsible for evaluating all other students in the class according to the criteria found on the review form. Peer review was performed at the end of the semester during the last class period.

Written course evaluations expressed strong dissatisfaction with the peer review process. In general, students felt that *the instructor should bear all of the grading responsibility*. In addition, some students felt that they did not have enough information to evaluate all other members of the class. While there were many complaints about free-riders during the semester, students were not willing to penalize their peers in the grading process. In fact, only one student gave ratings below an A to any of the team members. In general, the peer review process put a negative mood on the class and did not meet the instructor's expectations for minimizing free-rider behavior. It was clear that for use in future semesters, changes to the peer review process must be made or else the component should be discarded from the grade calculation.

In Spring 1996, 21 students took the class (17 were agricultural economics majors). Peer review again accounted for 20% of the course grade. However, this time, four key components of the student peer review process were changed: enrollment prescreening, positive presentation, student-constructed criteria, and reviewer evaluation.

Enrollment Prescreening

One facilitator of effective group performance is "recruiting and selecting knowledgeable and skillful group members" (Hirokawa and Keyton, 1995). Prior to class registration, potential group members were individually informed of the time commitment and team orientation required to successfully complete the course. Potential members who did not want to make that commitment then self-selected out of the class. This recruiting process likely decreased the probability of free-riding behavior in the 1996 class.

Positive Presentation

In the 1995 class, peer review was presented as a punishment for free-riders. In the 1996 class, peer review was presented as a skill needed for success in future employment. Students were told the following:

In the "real world," pay raises and promotions are influenced by how your peers perceive your efforts. Your supervisor is not the only person who can decide your future. It is important to recognize that in a job, your performance affects the ability of your department and your company to succeed. The purpose of peer review is to positively influence the performance of all team members.

According to class evaluations, the use of peer review made students feel more accountable to other team members. Students also agreed that peer review was a positive tool for building team commitment.

Student Constructed Criteria

The team members developed the peer review criteria by setting five goals for the class. Each student was evaluated as to how he/she helped the group achieve those goals. A twenty-point scale was used for each goal. As an out-of-class assignment, each student evaluated three other students in the class (in 1995, each student reviewed all other group members). A numerical score was awarded for each goal and was accompanied by written comments describing the student's achievement of each goal. Positive constructive criticism was encouraged and character attacks were not allowed. In an effort to encourage students to recognize the diverse strengths of other team members, reviewers were asked to balance every negative comment with a positive comment. Confidentiality of reviewers was protected. A student's review grade was calculated as the average score on each goal. Reviews occurred twice during the semester. According to class evaluations, students strongly felt that confidentiality of reviewers was necessary to the fairness of the review process. In addition, students believed that they were able to put aside personal feelings to conduct a fair review of their teammates.

Reviewer Evaluation

One-half of a student's peer review grade came from the instructor's evaluation of the student's performance as a reviewer. Each student was expected to present his/her reviews in a professional format and to express his/her critique in a positive fashion.

At the end of the semester, students again commented on the peer review component of the class. This time, the comments were generally positive. Students believed that the peer review process helped the reviewer as much as those who were being reviewed. The process encouraged students to work as a team and to recognize each member's importance to the success of the group. In addition, students felt that the confidentiality of the process lead to fair reviews. In general, the content and format of the peer reviews exceeded the instructor's expectations.

Conclusions

Classroom group projects are an important teaching method as they help students apply concepts to "real world" situations. Effective group performance is dependent on organizational, group, and individual factors. Student peer review can be used as a positive tool for building group commitment and performance if presented as a skill needed for success in future employment. A system based on student-constructed criteria and observable behavior are crucial to the successful classroom use of peer review. In addition, confidentiality of student reviewers is likely to increase the overall perception of review fairness.

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