

Journal of Applied Research For Business Instruction

A Refereed Publication of Delta Pi Epsilon, Inc.

2010

Volume 8, Issue 1



The Use of Pre-Group Instruction to Improve Student Collaboration

Lisa Gueldenzoph Snyder
North Carolina A&T State University

This article received the Outstanding Instructional Practices Paper Award at the 2008 DPE National Conference.

INTRODUCTION

The emphasis on the importance of collaborative skill is evident at nearly all levels of education. In higher education, teamwork and group skills are critical elements in a business student's training. To be successful in the business world, students must be able to work well in teams (Luca & Tarricone, 2001; Payne, Monk-Turner, Smith, & Sumter, 2006; Yazici, 2005). However, many students prefer to work individually. They may realize the importance of the experience, but do not enjoy the collaboration and often resent the grading procedures (e.g., one grade for all group members regardless of individual effort and/or performance) as noted in Payne et al. (2006). Nevertheless, group work can be a successful learning experience if students are given the tools they need to become effective team members. To that end, this paper suggests techniques for teaching effective teamwork skills. First, an analysis of current research on student perceptions of group work is provided. Then suggestions for teaching teamwork skills are outlined. Finally, procedures for assessing individual performance are described.

UNDERSTANDING STUDENT PERCEPTIONS

"Inappropriate use of teams can undermine the educational process so badly that learning does not take place, students learn how not to learn, and students build an attitude of contempt for the learning process" (Jones, 1996, p. 80). Poor instructional planning can lead to students' negative perceptions of group experiences; however, even in well-planned and methodologically developed collaborative experiences, student behaviors can adversely affect group cohesion, learning outcomes, and student perceptions.

Research has been conducted in an effort to understand why group projects are often not successful learning experiences (McGraw & Tidwell, 2001). Often cited problems include social loafing or free riders who usually enjoy the social aspects of group work, but do not provide substantial contributions to the team project. Communication problems also play a large role in the demise of effective collaboration. Other factors include lack of leadership, varying grade expectations, and differences in work ethic. Unfortunately, the instructor cannot control these variables nor completely compensate for their negative affects.

Students also often report negative perceptions of group work when time outside of class is required to complete collaborative work. In these cases, technology tools such as proprietary learning management systems (e.g., Blackboard and Desire2Learn) and open source methods (e.g., wiki's and Google Groups) may facilitate virtual collaboration methods. Interestingly, Ocker and Yaverbaum's (2004) research into virtual collaboration found that women perceived collaborative projects more negatively than men; however, men perceived asynchronous collaboration more negatively than women. Clearly gender issues can impact effective group collaboration in any environment; however, when technology is used to support collaboration, additional problems such as lack of access can exacerbate effective students' communication with each other.

Regardless of their origin, students' negative reactions to group work often affect instructors' perceptions of collaborative assignments (Stephens, 2001). This correlation may be especially significant when the

barriers to effective collaboration cannot be overcome with the instructor's intervention. For example, when students report that their group members frequently procrastinate or rely on one person to do the work, instructors may tire of the constant complaints and requests to referee personality conflicts among student group members. These negative experiences may lead instructors to modify or refrain from assigning team activities to support student learning.

Even with these potential problems connected with group work, researchers have found collaborative learning environments to enhance student performance (Ocker & Yaverbaum, 2004). Student interaction is a critical factor in successful group experiences. As noted by Yuan and Benson (2000), "powerful and enduring learning seldom results from passively sitting in a traditional classroom. It is far more likely to occur when students are actively engaged in projects and is often enhanced when the projects involve diverse teams of students" (p. 52). However, to effectively participate in collaborative experiences, students must first have the requisite skills to perform well in team experiences. In effect, instructors must teach teamwork skills before they can assume students will use them.

TEACHING TEAMWORK SKILLS

Students often experience negative collaborative situations because they are not adequately prepared to serve as effective team members. They do not understand the dynamics of the team experience and often try to apply individual work processes to collaborative experiences. Conflict arises, which occurs naturally in group situations, and is perceived as hostility. Students react by disengaging from the team experience or increasing the antagonism until someone complains to the instructor. However, if students learn effective teamwork skills before they participate in collaborative projects, the group experience can be a successful social experience as well as an effective educational endeavor. The following sections suggest methods of preparing students for collaborative work, creating challenging team assignments, and reflecting on the team experience.

Preparing Students for Collaborative Work

"Even a small amount of training [on working in teams] can produce dramatic increases in team

effectiveness and efficiency" (Jones, 1996, p. 87). Unfortunately, instructors often assign team projects without providing team training (Bolton, 1999; Vik, 2001). Before beginning a group project, students should be oriented not only on the objectives and goals of the group project, but on the group process itself (McGraw & Tidwell, 2001; Prichard, Bizo, & Stratford, 2006; Stephens, 2001). Prichard et al. found "empirical evidence that prior team-skills training produced superior collaborative group work compared with that of students merely placed in unaffiliated groups" (p. 129). Ettington and Camp (2002) also emphasized the importance of preparing students for effective team experiences. They stated "we should assess our students' skill development needs before we attempt to develop their skills using group projects" (p. 358). Their research focused on whether the skills learned in class-based group projects transferred to work team effectiveness. In many cases, students did not connect the significance of group projects assigned in school to the skills they will need to succeed in the workplace.

To prepare students for collaborative experiences and support the transfer of team skills to workplace readiness, three factors should be addressed: (1) team development, (2) communication skills, and (3) emotional intelligence (Holmer, 2001). Providing students with training in these areas prior to a group experience can build team cohesion (Anderson, 2005) and help students become active learners (Oitzinger & Kallgren, 2004).

Team development. Teamwork and collaboration are not innate abilities. They must be taught. Students need to understand the team development process before they participate in it (Holmer, 2001). Working on a group project without understanding the process is like playing a sport without knowing the rules of the game. You may know your team needs to get the ball to the other side of the field, but if you don't know the rules, you will make a lot of mistakes before you get there, and you won't understand or know how to overcome the obstacles you encounter. Although you may "pick up" on the process along the way, you will perform better both individually and with your teammates if you understand the rules of the game. Similarly, students should understand the process of team development before they play a team role.

At a minimum, students should become familiar with the Forming–Storming–Norming–Performing Model originally attributed to Bruce Tuckman in 1965. Many textbooks that address teamwork refer to this model, and several resources exist to provide additional instructional material (Egolf, 2001; Maples, 1988; Matthews, 1992). In brief, forming involves team members getting to know each other and often engaging in initial “icebreakers” or activities to develop a sense of unity. During the storming stage, team members begin to sense each other’s abilities and productivity (or lack thereof). Conflict occurs, and if the team is successful at negotiating this phase, they progress to the norming stage. Norming occurs when the individual team members begin to work together to accomplish their goal; cohesion and synergy exist, and conflicts are managed. Finally, during the performing stage, the team is productive, the members share mutual trust and respect, and the final product demonstrates a balanced input and effort from all team members.

Understanding the phases of team development helps students navigate the collaborative experience as well as identify their own roles within the group dynamic. Studies have also addressed students’ perceptions of their individual effectiveness in team environments. Using a self-efficacy framework, Stone and Bailey (2007) discovered that students can gain effective team management skills from observing other groups during their team development process. “Students’ behavioral intentions to use their team skills are influenced by students observing or listening to other teams solve conflicts and by having a supportive, encouraging intra-team environment” (p. 262). Observation can be achieved in classroom settings using role playing activities or case studies that focus on group communication.

Communication skills. Students often realize the importance of communication to support an effective group experience. In their research of student perceptions of group work, Payne et al. (2006) surveyed students who had just completed a semester-long group project. Students consistently identified interpersonal communication as a necessary ingredient for effective collaboration. Their comments included statements such as, “Make sure everyone understands the information and the process....

Communication is key.... When a group fails to communicate, the group as a whole suffers” (p. 443).

To support continual group communication throughout a lengthy team process, Stephens and Myers (2000) suggest incorporating weekly team meetings throughout the semester. Their research indicated that required weekly meetings that utilized agendas, actions lists, and team roles (leader, record keeper, etc.) significantly increased student communication, cohesion, and success, both in terms of the final product and the students’ perceptions of the collaborative experience. Cohesion is also often enhanced by students’ awareness of emotional intelligence issues.

Emotional intelligence. Although communication skills are required to effectively navigate conflict resolution, emotional intelligence is also an important aspect. Although definitions vary, emotional intelligence is often described as an individual’s ability to recognize and effectively respond to emotions, such as conflict. Through their understanding of team development process, students will know that conflict is inevitable when working with others. Recognizing the important contributions of cognitive conflict (differing opinions) and avoiding the negative impact of affective conflict (differing personalities) helps to sustain group cohesion and collaborative success. Research suggests a strong correlation between students’ ability to perceive their own and other’s personality or feelings and successful teamwork experiences (Luca & Tarricone, 2001). However, students need theoretical training in these concepts to apply them to their team activities.

Some instructors may hesitate to take the time necessary to provide instruction about emotional intelligence issues before starting a team project. However, Oitzinger and Kallgren (2004) found that “training in fact enriched the content, taught critical thinking skills, and increased active learning” (p. 65). Prichard et al. (2006) also reported successful team experiences when pre-group instruction was provided. They conducted an experimental study that separated student groups into cohorts; half of the groups received instruction about interpersonal skills and effective team development, half did not. Although their findings varied, most groups reported more

successful collaborative experiences when pre-group team development instruction was provided.

Creating Challenging Team Assignments

When assigning team activities, instructors should ensure that the activities are designed to promote team interaction and support the learning objectives of the course (Kreie, Headrick, & Steiner, 2007). If students are given challenging assignments that require critical thinking to solve complex problems, they are more likely to be motivated by the team experience. This supposition is supported by Anderson's (2005) research that focused on the outcomes of simulations and the relationship between student perceptions of team dynamics, which found that students' performance was linked to hypothesis-driven thinking. Project-based learning scenarios that encourage creative input and multiple perspectives facilitate team cohesion and team interdependence.

Interdependence assumes the members of a group are mutually dependent on each other's work. The element of interdependence is supported by Fairfield and London (2003) who emphasized the importance of interdependence over individualism in effective group environments. Ettington and Camp (2002) also stated that "to achieve the potential of a group effort versus an individual effort, group members must perceive themselves to be interdependent" (p. 362). Creating assignments that require interdependence can facilitate a cohesive group experience (assuming all group members complete their assigned tasks).

Reflecting on the Team Experience

As with any skill development process, practice is most effective when it includes reflection. When students participate in a group experience, they should reflect on their group and individual performance both throughout the group effort as well as after the product or outcome of the project is completed to determine their strengths and weaknesses. If students identify the collaborative skills in which they excel and determine aspects of the group process that they could improve, they can modify their interactions in subsequent team experiences.

McGraw and Tidwell (2001) emphasize the importance of reflection and offer group exercise and case study

suggestions to promote students' collaborative skills by reflecting on the factors that contribute to a group's success and failure. These factors include group identity, team conflict, rights and responsibilities, interpersonal and behavioral skills, leadership issues, and time management. These variables may also be used to assess students' individual performance.

ASSESSING INDIVIDUAL PERFORMANCE

Students often cite collaborative grading as a negative factor of participating in group work. Students may complain about their grade being negatively affected by the poor performance of their peers or argue about the inequitable workload that results when their group members do not complete their assigned duties. However, unlike many of the behavioral factors that instructors cannot control (personality problems, lack of leadership, poor communication, etc.), assessment techniques can be designed to provide evaluations that represent students' individual efforts as well as determine whether the group successfully met its objective.

Vik (2001) suggests using a three-stage peer evaluation system that tracks the team's progress throughout the project. The same form is used for each stage, but the focus of the evaluation differs. The first evaluation is completed after a team activity requiring each student to "discuss expectations, level of responsibility, and emerging problems" (p. 114). The second evaluation serves as a progress report and is assigned at the midpoint of the group process; students evaluate each other's progress to date. The third and final stage of the peer evaluation process is conducted after the project is completed and the final product (paper, presentation, etc.) is submitted for the instructor's assessment.

The combination of formative and summative assessment techniques is supported by other research. Ettington and Camp suggest that "without feedback, the group participants may not know if they are practicing effective or ineffective behaviors. If they do not receive formal feedback from ... peers until the end of the course, they lose the opportunity to adjust" (2002, p. 359). Kreie, Headrick, and Steiner (2007) also emphasized formative assessments to help students track their progress and modify behaviors that do not support the group's goals.

Although rubrics that assess students' collaborative skills are often subjective and therefore may require more time to complete than more easily quantifiable objective assessments, feedback should be provided promptly, both for individual team members as well as the team as a group. To facilitate this process, Oitzinger and Kallgren (2004) support integrating both self- and team-based assessments. Self-assessments not only enable students to reflect on their role within the team experience, but they provide the instructor with an "inside" perspective of the team dynamic. For example, if all team members assess a particular team member poorly, the instructor can assume that the team member is not supporting the team effort.

Further, formative assessments that provide graded feedback on the team's process during the collaborative experience not only provide students with the direction they need to successfully meet the objective of their team assignment (Holmer, 2001), but provide an opportunity to improve instruction (Johnston, Knight, & Miller, 2007). If the majority of the teams are struggling with the same aspects of a collaborative assignment, the instructor can modify the assignment or provide additional resources to assist the students' progress. Formative assessments also combat the problem of letting students "sink or swim" (Vik, 2001). Effective educational experiences should provide opportunities to support students as they build their teamwork skills.

SUMMARY

Although many students do not appreciate the benefit of group projects and collaborative learning, they can become effective team members if given the appropriate tools. Their teamwork skills will improve if they understand group dynamics and realize the advantages of diverse perspectives. To this end, instructors are challenged to make the time to not only incorporate teamwork into their courses, but to teach effective teamwork skills. By supporting team development, communication skills, and emotional intelligence before assigning challenging team projects where students can apply their teamwork skills, instructors can enhance their students' teamwork skills.

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JARBI Publication Information

The **Journal of Applied Research for Business Instruction** is a refereed publication of Delta Pi Epsilon, Inc., applying research to the improvement of instruction in all business disciplines. The views expressed in this publication are those of the author(s) and not necessarily of Delta Pi Epsilon. Journal submissions and inquiries should be sent electronically to the 2009-2010 editor:

Dr. Margaret Erthal, Editor
Journal of Applied Research for Business Instruction
Illinois State University
320 Northfork Drive; Brighton, IL 62012
mjertha@ilstu.edu | 618.580.6471

Information concerning the Society's program of publications and other professional activities may be obtained from the National Office of the organization. Publication criteria may be found at <http://www.dpe.org>.

Date Manuscript Received: November 23, 2009
Date Revision Received: November 27, 2009
Date Manuscript Accepted: November 29, 2009

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