

Chapter VII

The Social Psychology of Online Collaborative Learning: The Good, the Bad, and the Awkward

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Abstract

Many social psychological phenomena that are found in face-to-face group work are also found in online group work (i.e., collaborative learning). In this chapter, we describe some of these more common phenomena, including social loafing, social categorization, and a variety of cognitive distortions. We also describe the stages that groups go through in order to become fully functioning teams. Because some of these experiences are unpleasant for both the instructor and the student, both faculty and students sometimes resist the use of collaborative learning. Furthermore, because of the anonymous nature of online group work, these negative experiences can be magnified.

We therefore make recommendations on how best to respond to and resolve them. We specifically draw on our experiences with collaborative online research and learning (CORAL) in order to demonstrate these phenomena and recommendations. CORAL is a teaching/learning method that integrates two course topics through assignments teams of students at two universities must complete together by utilizing video conferencing and other online tools.

Introduction

In this chapter, we examine problems instructors and students experience in collaborative learning by drawing on social psychological literature and our own experiences in implementing online collaborative learning. In particular, we draw on our experiences of teaching collaborative online research and learning (CORAL) (Treadwell & Ashcraft, 2005; Chamberlin, 2000) classes for more than seven years. CORAL is a constructivist pedagogy that allows students to form learning communities across sites. In CORAL, students at distant sites utilize a variety of electronic technology in order to jointly complete assignments of mutual interest. More specifically, students from two different universities, enrolled in two different courses, collaborate on semester-long projects designed to integrate course topics (e.g., developing research proposals related to both course topics). Students utilize video conferencing, discussion boards, file managers, online calendars, and chat rooms to communicate across, and within, sites to complete assignments. While completing their semester-long projects, students observe their own group's behaviors through a number of collaborative analyses, and are encouraged to modify any behaviors that are not collaborative. The collaborative analyses consist of a series of readings and exercises students complete and use to understand course material related to their own group's processes (for a more detailed description of the CORAL model, see Treadwell & Ashcraft, 2005).

We also make recommendations on how to minimize problems encountered during the life of collaborative teams. The majority of these recommendations are based on research findings in the social psychological literature demonstrating their success in other settings. Others are based on their anecdotal success in our CORAL course. Throughout the chapter, we use examples from CORAL to demonstrate how we apply these recommendations. In essence, we focus on the process that instructors need to utilize to

ensure successful online collaboration among students. As Lee (2004) notes, there is little information that provides these types of practical guidelines for less-experienced, Web-based, instructional designers, although there is quite a bit of literature on assessing whether Web-based courses have been successful. We therefore take a process view of online collaboration, rather than a product view (Lee, 2004).

Collaborative and Cooperative Learning

In collaborative learning, students work together to achieve a shared learning goal (i.e., they form learning communities, reassuring the formation of collaborative ideas within a mutually-supportive environment encouraging scholarship). Although the terms collaborative and cooperative are used interchangeably within the literature, they should not be confused. In cooperative learning, students also work together to complete projects, but do so by dividing up the work among team members. In collaborative learning, students work on each aspect of a project by contributing and building on each other's ideas, along with sharing the workload. Thus, although cooperative learning (i.e., distributing work among team members) is part of collaborative learning, it is not the essential characteristic. Instead, the key characteristic of collaborative learning is the development of ideas through interactions with others. A benefit of collaborative learning over cooperative learning, among others, is students learning all the subject matter assimilated into a large project, rather than just the portion required by cooperative education. Beyond this, however, collaborative learning is more flexible and student-oriented. Cooperative learning is more directive, task-oriented, and teacher-oriented (Panitz, 1996).

While both types of learning are typically designed for—and usually take place in—the classroom, collaborative learning is especially conducive for online learning communities. Indeed, Furr, McFerrin, and Fuller (2004) state that “Distance education is collaborative education” (p. 211). By this, the authors imply that a clear advantage distributed collaborative learning has over face-to-face collaboration is the electronic technology. The technology creates a disorienting dilemma, allowing for an examination of—and subsequent change in—student work habits and attitudes, and thinking clarification (Palloff & Pratt, 1999). A disorienting dilemma is something

that catches students' attention, a surprise that they further examine and reflect upon, thereby creating cognitive changes. In other words, students in collaborative online learning communities realize that the old work habits they are accustomed to in traditional face-to-face classes do not work well in a mutual learning environment. Students learn to modify their behaviors to be successful in their new learning environment, and these modifications create increases and improvements in learning.

Despite the fact that collaborative teaching methods have been found to be preferable to individualistic teaching methods (e.g., Johnson, Johnson, & Stanne, 2000), and despite the fact that collaborative learning contributes to social and cognitive development, many students and faculty demonstrate reluctance for collaborative and cooperative learning experiences, such as group work (e.g., National Institute for Science Education, [NISE] 1997; Rozaitis, 2005). Two key problems associated with group work include inequitable workloads, and disagreements among group members. This is true regardless of whether the group work is face-to-face or whether it is online and distance-based. In fact, many of the issues found in face-to-face group work are also found in online learning communities, but magnified because of the nature of the communication process in online work. Furthermore, students in distributed learning environments generally face additional challenges because of adjustments to the new learning environment (Kitsantas & Dabbagh, 2004). These issues, however, can be understood and minimized through employing the following social psychological principles.

Social Loafing

As mentioned, one of the more common complaints students have about collaborative work is the inequitable workload among team members (e.g., Felder & Brent, 1994; NISE, 1997; Rozaitis, 2005). Uneven distribution of workload is found in many settings. For example, "slacking" on the part of group members can be found even in such minimal effort tasks as clapping in a lab setting (Latane, Williams, & Harkins, 1979), and is commonly referred to as social loafing. Social loafing is a matter of expending less energy on a task than if one were working alone on that same task (Latane et al., 1979). Thus, for example, students completing a paper in a group might expend less effort on its completion than if they were completing the assignment alone.

One of the primary explanations of this phenomenon is diffusion of responsibility (e.g., Harkins & Szymanski, 1989; Latane', 1981). Group members believe that someone else from the group or team will exert more energy, or do more work, and make up for their lack of effort. This is one reason that group work (collaborative learning) can be unsuccessful. Not only does the social loafer not learn the material because they are uninvolved in the project, but they force team members to redistribute assignment tasks, as well as handle the frustration involved with the inequity of this experience.

Another explanation includes the possibility that students are unsure of what to do when working with others, and believe that other team members are more informed about what behaviors are appropriate or required. They therefore relegate responsibility to those others who are viewed as better equipped to complete assignments.

In any case, online learning communities have an additional challenge: community members are not always physically present to encourage lagging team members to contribute, and, as Furr et al. (2004) note, in distributed courses, students may remain uninvolved and disengaged from team work, unless a strong effort is made to involve them. Fortunately, there are tactics that can be employed in order to reduce this problem for both face-to-face group work and multiple-site online learning communities.

Recommendations

Make individual team member contributions identifiable. One documented tactic involves organizing the efforts of each team member, such that the contribution of each one is obvious and identifiable (e.g., Williams, Harkins, & Latane', 1981). While making contributions identifiable might initially seem as though we are advocating cooperative—rather than collaborative—learning, it does not necessarily have to be cooperative. That is, it might seem as though we are suggesting that teams divide up tasks and then combine the products, rather than collaborate together on the entire project, but such an approach is not what we are proposing. Collaborative contributions can also be unique: For example, individual team members can edit their entire team paper using different colored fonts for each person. This “colored editing” approach allows all team members to check over the final product.

Minimize group size. Another consideration in minimizing social loafing is group size. In larger groups, individuals become anonymous, and so do

their contributions, especially when those contributions are accomplished in the already-anonymous realm of cyberspace. We therefore recommend minimizing group size for online communities, and find that groups of about six work best. In fact, NISE (1997) notes that students prefer teams of four to seven students in which to work. In CORAL, we integrate courses from two geographical locations, separating us physically by hundreds of miles. As a result, we refer to our teams as “online teams,” with each team consisting of three team members from one site, and three team members from a second site. This number allows for adequate team interaction, ensuring that team members get to know each other’s strengths and weaknesses, enabling stronger communication among team members in completing collaborative coursework assignments. In addition, with increased communication, team members learn to be aware of the various tasks other team members are performing, with the intention of decreasing confusion and increasing team productivity. While not all online teams consist of members from only two sites, minimizing group size is still recommended.

Encourage collaborative—rather than cooperative—work. A third consideration involves how the online teams divide up the various jobs necessary to complete the entire assignment. We find that teams often try to employ a cooperative—instead of collaborative—approach to complete assignments (i.e., students give each team member a different part of the assignment to complete, and then the team cuts and pastes the various parts of the assignment together). This is particularly true during the initial stages of team development (usually the first six weeks). While this does reduce some social loafing, due to the fact that team members’ contributions are identifiable, there are problems with this approach. As noted earlier, one problem is that each student only learns his/her part of the assignment, and does not learn other necessary aspects of the material. We also find, however, that this cooperative approach results in poorly-written papers, because the teams often do not take time to integrate the various sections written by different team members. As NISE (1997) also notes, it is vital then, that teams be corrected when utilizing this approach, and encouraged to be more collaborative. To do this, we distinguish between cooperation and collaboration. Indeed, the first collaborative assignment CORAL students complete, in teams, is the writing of a short paper that describes, and compares, collaborative and cooperative learning. For each assignment, we encourage each team member to contribute to each section of each assignment. Thus, one student in an online learning community might be responsible for beginning her/his part of the assignment, but all other team members must read and comment on that section as

well as other sections completed by individual team members. To illustrate, CORAL team members complete a collaborative task by utilizing a number of online technology tools: File managers are used to upload and download successive versions of papers, as well as various other team assignments. Chat rooms are utilized for team members to discuss individual reactions to assignment drafts, hash out differences of opinion, and clarify conflict. Web-based discussion boards are helpful for day-to-day interaction regarding the status of a team member's task, as well as keeping a daily communication log for the team as a whole. We also find that video conferencing is an especially valuable tool for encouraging cross-site collaboration. In fact, the teams who are most collaborative (and most functional) are those who discuss the various parts of the assignment before doing any writing (Treadwell & Ashcraft, 2005). This is time-efficient and collaborative, because the entire team agrees on what should be written, for example, to complete each section of a paper; the only thing left for team members to complete individually is the initial write-up. All the team members in their videoconference discussion have already completed the thinking and understanding portion of the assignment. The initial write-up is then followed by the entire team editing the paper, utilizing the color editing approach mentioned earlier.

It should also be noted, however, that the utilization of technological tools to complete cross-site collaborative work requires time management and organizational skills. In fact, Kitsantas and Dabbagh (2004) note that there is an even greater need for students in Web-assisted courses to engage in time management because of the challenge of adjusting to the use of the technology in the course.

Increase students' commitment. Another effective tactic shown to reduce social loafing in online learning communities is to increase team members' commitment to the successful completion of the assignment (e.g., Brickner, Harkins, & Ostrom, 1986). We rely on the teams themselves to utilize this tactic. Often, students want their instructors to fix problems they encounter working as a team. For example, students often approach their professors, complaining that a team member is not contributing enough. However, in order for teams to progress and become cohesive and functional, team members must solve their own problems. Therefore, if a team member is thought to be social loafing, the other team members must address this issue with that student, and professors must let teams know that this is their responsibility. This is never a pleasant task, but it is necessary, for if the team does not address their interpersonal problem, it will continue throughout the semester,

fester, and lead to even greater dissatisfaction and hostility. In fact, Scheer, Terry, Dolittle, and Hicks (2004) note 15 principles for supporting effective distance education, one of which is cultivating students' academic independence. It should be noted that interpersonal conflict is a natural part of an online collaborative course, as is learning how to cultivate social skills and reduce team conflict by implementing conflict negotiation.

Encourage extensive communication. In CORAL, because our teams consist of multiple students at two sites, we often find that team members from one site sees team members from the distant site as social loafers. Thus, team members across sites must communicate in great detail to each other, clarifying what aspect of the project they are working on. This can be done by posting messages on the teams' Web-based discussion boards, mentioning it during chat room conferences, or during video conference discussions. Often, students assume that everyone on the team knows what they are working on, because they have been discussing it at their own site, and make faulty assumptions, thinking all team members know what each person is completing. They assume that the other site also knows what they are doing, but because the distant site does not see them working, the distant site develops a simple cognitive distortion, assuming the worst (i.e., that their distant-site teammates are not contributing to the completion of the assignment). Everything considered, the more communication team members have with one another, the less likely they will experience confusion as to who is carrying out what task.

Increase team cohesion. An additional proven tactic to reduce social loafing is to strengthen group cohesiveness (Forsyth, 2006; Treadwell, Kumar, & Lavertue, 2001). A cohesive team cares about their team members and the successful completion of their tasks. In order to promote cohesiveness at the beginning of the semester, we encourage teams to determine a team identity, consisting of a team name, logo, and motto. Sherif (1958) similarly required his groups of boys to develop team names and flags in his classic study on intergroup conflict. While this may have a minimal effect on team cohesiveness, this task does serve an additional purpose: to get team members from distant sites to begin talking to each other. Additionally, we introduce superordinate goals in order to develop team cohesiveness across sites during the later part of the storming stage, or approximately the eighth week.

Introduce superordinate goals. Superordinate goals are goals that can only be achieved if all distant sites (i.e., the entire team) work together. Therefore, the potential for social loafing is reduced. Working toward a mutual goal also reduces animosity and social categorization, thereby helping students

to overcome the us-versus-them bias (e.g., assuming that the distant site is composed of social loafers) that can develop in group work (Sherif, 1958). In Sherif's classic study, two groups of boys attended summer camp and were unknown to each other. In the first stage of the study, the boys formed group identities to represent their camp by choosing names and designing flags. They engaged in traditional summer camp activities, such as swimming, hiking, and canoeing. In the second stage of the study, the two groups became aware of each other when they were told that they would be engaging in competitions with the other camp. Prizes would be awarded to winners. This competition escalated to hostility between the two groups to such an extent that cabins were ransacked and flags were burned. In the third phase of the study, Sherif reduced the intergroup hostility by introducing a series of superordinate goals. Sherif defined superordinate goals as "goals that are compelling and highly appealing to members of two or more groups in conflict but which cannot be attained by the resources and energies of the groups separately...they are goals attained only when groups pull together" (pp. 349-350). The boys from both camps had to work together in order to fix their "broken" water supply, and to haul a truck up a hill. The introduction of the superordinate goals worked—hostilities dissipated.

Because an "us versus them" bias can develop so readily in multiple-site learning communities, it is critical then, that multiple-site teams be given superordinate goals. In CORAL, students are given the goal of collaborating on two major papers required for each team as their superordinate goal. It is collaboration that is the superordinate goal, not the completion of the papers. It is a goal that no one—and no one site—can achieve individually. Only by working together can the entire team achieve it. The assignments they are given are the means to achieve collaborative interaction among team members. Thus, in CORAL, students must learn to collaborate in order to earn good grades. If collaboration does not emerge, students' grades are significantly affected. Others also note the importance of this type of motivating factor (e.g., Felder & Brent, 1994). Students will only learn to collaborate if they are given incentives, but we have found that when students collaborate, all the other learning and completion of assignments fall into place. While this emphasis on collaboration as a superordinate goal may be appropriate for some course topics, it may not be as appropriate for other course topics. However, it is possible for instructors to design other superordinate goals. In any case, if all team members are required to work together, social loafing cannot exist. The key to determining whether a goal is superordinate or not is in the answering of the question, "Can this goal be achieved only by

the whole team?” If the answer is “no,” then it is not a superordinate goal. For example, many of our CORAL students think that completing a paper together is a superordinate goal, but it is not. Theoretically, one student could complete the paper and put all team members’ names on it. Therefore, it cannot be a superordinate goal.

One way that we encourage collaborative interaction among cross-site team members is by requiring students to complete different exercises at each site to understand their group processes. A whole picture of the team’s processes is only gained by understanding the assignments of both sites. These exercises are combined (and related to each other) for the collaborative analyses to be completed and handed in. One site for example, examines team communication patterns; the other site examines bias and cognitive distortions. The topics are related, because communication patterns will be influenced by bias against certain team members, especially those at one site. Collaboration is necessary for the product to be successfully completed. If students use a cooperative approach, it is evident in a poorly-written, choppy paper, one that does not demonstrate the connection between site topics. Students are encouraged to be collaborative (i.e., the superordinate goal) because they want their papers to be evaluated positively. Other disciplines could use this approach as when, say, a physics class pairs collaboratively with a mathematics class. Math students could work with physics students to complete calculus-based physics problems.

Encourage distributed leadership. Often, online teams believe that they must designate one person as a leader, and this can become a coveted role, because it is perceived in a positive light. Initially, team members think that they have to have one person lead, and do not realize that all team members have to take on leadership responsibility. However, distributive leadership is preferential in online collaborative settings. In distributed leadership (Bennett, Wise, Woods, & Harvey, 2003), all team members share the leadership role, thereby reducing social loafing. Any team member can take it upon him/herself to take action that will help complete tasks successfully and help the team’s development. Distributed leadership suggests that many more people are involved in the leadership activity than might traditionally be assumed. Thus, team leadership contributions that emerge should not be limited to a small number of people with formal senior roles. Distributed leadership, then, focuses on team achievement, rather than individual achievements. Student teams must be encouraged to adopt this collaborative leadership style, for it reduces tendencies toward social loafing.

Social Categorization: In-Groups and Out-Groups

As noted, team members in computer-supported collaborative learning environments have a tendency to automatically assume that distant-site team members are social loafers. They can also make many other unpleasant assumptions about their distant-site team members. Online collaborative teams seem to automatically divide themselves into “us versus them” (e.g., Harasty, 1997; Stephan, 1985) resulting in stereotyping and potential bias. Sometimes the “us versus them” bias involves one site pitted against another. In other cases, some team members bond, while others do not, and those that bond become the “us,” whereas those who do not become the “them.”

This tendency is explained in social psychological terms through the use of in-groups and out-groups. An in-group is a group to whom you, as a person, belong, and anyone else who is perceived as belonging to that group. In-group members have positive views of each other, and give each member preferential treatment. An out-group consists of anyone who does not belong to your group. Out-groups are viewed more negatively, and receive inferior treatment in comparison to that of in-group members. In-group members are perceived as being heterogeneous, and as having positive qualities, referred to as in-group differentiation (e.g., Lambert, 1995; Linville & Fischer, 1993). Out-group members are perceived as being “all the same,” homogeneous, and as having more negative qualities. This is referred to as the homogeneity bias (e.g., Linville, Fischer, & Salovey, 1989). These concepts are used to explain hostility between social groups (e.g., Republicans versus Democrats, gays versus straights, whites versus blacks). Relatedly, this bias creates problems with teams becoming cohesive across distant sites, as a result of team members perceiving students from their site (or those they bonded with) as “our team,” and automatically seeing students from the distant site (or those they have not bonded with) as not part of “our team.” In CORAL, for example, one site is located in a rural area, and the other is located in a suburban east coast area. We often find that students from the rural area view the students at the east coast area as rude and pushy, whereas the east coast students view the rural area students as slackers because they are slower-moving. Again, however, there are methods to reduce this social categorization and associated hostilities (e.g., Gaertner, Mann, Murrell, & Dovidio, 1989).

Recommendations

Increase intergroup contact. One proven method for reducing social categorization is to increase intergroup contact, referred to as the contact hypothesis (e.g., Pettigrew, 1997). It is vital that all team members communicate extensively, in order to reduce cross-site conflict and stereotyping. Perkins and Giordano (2004), as well as many others (e.g., Birenbaum, 2004; Scheer et al., 2004), also note the importance of encouraging communication, especially in distance learning. Extensive communication permits team members to see similarities with others, fostering both synchronous and asynchronous communication with cross-site team members, hence reducing homogeneity bias. In CORAL, for example, we encourage teams to meet in chat rooms once or twice a week, in addition to meeting via video conference during class time, and utilizing discussion boards for asynchronous communication. It should be noted, however, that in order for increased intergroup contact to have the desired effect, the overall interactions must be neutral to positive. If the majority of cross-site interactions are unpleasant and negative, the hostility between groups will remain or increase.

Introduce superordinate goals. A second method for reducing social categorization is the introduction of superordinate goals (Sherif, 1958). As mentioned in the previous sections, the introduction of a task that can only be met through the efforts of all team members can significantly reduce the hostility between in-groups and out-groups, and increase team cohesion. By working together, team members begin to know each other as unique individuals, thereby eliminating some of the bias and hostility that is often found in multiple-site learning communities.

Recategorization. Another consideration for cross-site in-groups and out-groups is recategorization (e.g., Gaertner et al., 1989). Recategorization involves changing the boundaries of the in-group and out-group. While some teams cannot overcome the initial cross-site “us versus them” division, most teams can. But, when teams are able to overcome initial social categorization, other types of in-groups and out-groups can emerge. For example, at the beginning of the semester, we find cross-site social categorization to be very common, but as the semester progresses, team members are able to make connections with cross-site team members, who then become part of the in-group. Occasionally, the entire team becomes one in-group, a very favorable occurrence for collaborative learning. But, when only some team members bond across sites, the complexion of the team takes on a different

look. In-groups emerge and consist of both same-site and cross-site team members, and the same for out-groups. We find that students who remain in the out-group tend to have work habits that are not conducive to team efforts and do not feel favorable to working as a team member. They are resistant to team work and try to give the impression that they are members of the team, but it is only an attempt to please authority figures (e.g., professors). They tend to be social loafers, or communicate less with the team, or are unpleasant to work with, regardless of which site they are located. Although teams can continue to work somewhat effectively with minimal contribution from these out-group members, it is obviously to the teams' benefit to be inclusive. Thus, we encourage groups of students to form whole teams that consist of all team members, but if they cannot—say, for personality conflict reasons—we instruct teams to continue to give those out-group members opportunities to work and become part of the in-group. However, teams are also coached to have a back-up plan if the work of the out-group member is not up to par with other team members, or not completed at all.

If recategorization does not occur naturally within the cross-site team, then we encourage it by asking students to work in pairs across two sites on individual sections of assignments. This allows cross-site team members to get to know each other as individuals, note their strengths, and see them complete work and convey this information to other team members at their site. In other cases where collaborative classes are purely Web-based and students bond over technology-assisted communication, asking in-group students to pair with out-group students should also have the desired effect.

Cognitive Distortions

We've mentioned that students often dislike group work because the learner had earlier negative group experiences where they felt responsible for completing all—or most—of the assignment adequately, and without the aid of group members. In some cases, team members believe that others will complete the assignment, and as a result, students fail to contribute. Therefore, other team members have to assume responsibility, and do complete the assignment alone. In other cases, students behave this way due to a lack of confidence in fellow classmates' ability to complete assignments to their standards. They believe that their academic skills are superior to those of

their teammates, and that their teammates' quality of work will negatively affect their grade (e.g., Felder & Brent, 1994; NISE, 1997). In this case, other team members are willing to contribute to the completion of the assignment, but are not allowed to do so.

This is an example of a cognitive distortion called the self-serving bias; in other words, the tendency to attribute positive outcomes to internal causes, and negative outcomes to external causes (e.g., Brown & Rogers, 1991; Miller & Ross, 1975). Relatedly, the ultimate attribution error is a tendency to make more flattering attributions about members of one's own group than about members of another group (Hewstone, Bond, & Wan, 1983). These attributions are detrimental to the formation of a collaborative learning community, and reflective of in-group/out-group biases. As a result, these types of individuals often think the team succeeded only because of their efforts, or their in-group's efforts, in completing a task. These individuals often attribute negative outcomes to out-group members. This perception, while occasionally true, is more often a cognitive distortion, an illusion manifested by these individuals, and calling attention to this concept may reduce some of the ill will that can develop in early stages of collaborative learning.

Relatedly, this type of cognitive distortion is especially common in certain high-achieving students. While some excellent students are quite adept at online collaboration, others are painfully unprepared for the experience. They often feel as though they are the only team members capable of completing adequate work, and are often dissatisfied with the work others produce. They therefore complete whole assignments alone, but then complain that they have completed all the work, and that no other team members are working. Other team members, in turn, can feel insulted by this lack of trust in their abilities, along with being referred to as social loafers by individuals who consider themselves better-quality students. In reality, this is not effective learning behavior for the individual, nor for their team. While this sense of responsibility and independence has been rewarded in other educational settings, it is contradictory to the purpose of online learning communities, and generally to collaborative learning.

Recommendations

Teach trust and mentoring. Because the reward structure in computer-supported collaborative learning environments is so different than that in traditional learning settings, these high-achieving students can feel frustrated and

betrayed. What they are lacking is a sense of trust in working with others. Thus, taking time to help them trust their teammates is usually productive. For example, in CORAL, we often ask these types of students to take a chance, reduce their workload, and give other team members an opportunity to contribute. If they can force themselves to back off, they are often pleasantly surprised by the amount—and quality—of work their teammates can contribute. In addition, they need to be shown that it is their responsibility to help their teammates learn course material. Students such as these must be taught to be less independent and more concerned about the well-being of their team members instead of their own individual sense of well-being. Furthermore, they need to realize how their behavior is actually hindering team development and the learning of other team members.

Intellectualize. It is helpful, with this type of student, to intellectualize these experiences by labeling them as the self-serving bias or the ultimate attribution error, as a strategy to reduce feelings of discomfort that can be associated when challenging the appropriateness of their behavior. In effect, it is suggested that teams engage in metacognition (i.e., observe their own behaviors, apply labels to those behaviors, and determine whether they are appropriate for team development). If the behaviors are not helpful to team development, then their task is to develop solutions for those inappropriate behaviors. Not only do these metacognitive exercises help students to intellectualize and understand unpleasant online experiences, but they also contribute to developing a life-long learning process (Birenbaum, 2004; Kitsantas & Dabbagh, 2004).

Stages of Group Development

Students (and faculty) are sometimes reluctant to utilize collaborative learning, because they are uncomfortable with, and unprepared for, team conflict and conflict resolution (e.g., Felder & Brent, 1994). However, it is also useful to understand that long-term groups tend to pass through a number of stages, one of which is characterized by disagreement, ranging from mild to more extensive.

Tuckman and Jensen (1977) suggested that groups go through five stages of development, from their inception through their adjournment: forming, storming, norming, performing, and adjourning. Each has unique charac-

teristics and implications for learning communities, but the characteristics of each stage are not set in stone, and it is sometimes difficult to determine when a team has moved from one stage to another. Occasionally, teams have characteristics from more than one stage. Thus, the stages are not as linear as Tuckman (1965) initially suggested.

Forming is the initial stage of group development. At this time, team members meet each other, and there is little interaction; the interaction that does occur is somewhat strained and superficial because, team members do not yet know each other. There is a lack of organization and confusion of team objectives. At this point, the team is just starting to forge an identity.

The second stage is storming, and can be stressful for team members, in that disagreements can occur. In storming, team members are often competitive over leadership positions, and there is disagreement about what team goals should be and how tasks should be accomplished. Sometimes these disagreements are mild and readily resolved. In other cases, the disagreements are much more major, resulting in repetitive—and sometimes inappropriately-handled—arguments. Many students are unprepared for dealing with conflict, and see this stage as something to be avoided. However, disagreements and arguments, while unpleasant, are a normal part of teamwork, and are necessary for the growth of the team. It can be contentious, unpleasant, and even distasteful to members of the team who are averse to conflict. In fact, disagreements can occur more frequently in online groups as a result of the lack of non-verbal cues when communicating with tools such as chat rooms and Web-based discussion boards. Video conferencing does allow for face-to-face contact, but students, during the initial stages of computer-supported collaborative learning communities, are fearful of bringing attention to problems they see regarding other team members during this type of interaction. They are often concerned about hurting another team member's feelings, or negatively affecting team development and cohesiveness, but their reluctance to address problems early often fosters team conflict later. The storming stage is when students start complaining about other team members (e.g., they are slacking, they are pushy) or that other team members do not listen to their ideas. The storming stage is one of the primary reasons students (and instructors) avoid collaborative learning.

The third stage of Tuckman's model is norming. In norming, teammates have accepted their differences, and are beginning to find ways of coping with those differences. Team members often work through this stage by agreeing on rules, values, professional behavior, shared methods, working tools, and

even taboos. During this phase, team members begin to trust each other. Motivation increases as the team gets more acquainted with team assignments. They capitalize on each other's strengths, and find ways to compensate for each other's weaknesses. For example, the team may accept one teammate as being disorganized, and ask that teammate to complete particular tasks they are good at by giving them specific instructions and deadlines. As another example, team members may accept one teammate as overly talkative during videoconference exchanges, thereby dominating the conversation. The dominating team member may be allowed to express their opinions, yet other team members may insist on moving forward, covering other important agenda items. Acceptance of individual differences and respect for each other are key characteristics of this stage.

In the performing stage, learning communities are fully functioning. They understand the tasks they need to complete, and how to complete them collaboratively. They also have rules in place for managing conflict and disagreements adequately and appropriately. At this point, the learning community is relatively self-sufficient, and the teams engage in their own self-assessment. The instructor has very little need to intervene. Finally, the adjournment stage is entered, and the learning community disbands.

Recommendations

Start with simple collaborative tasks. To help teams move from the forming to storming stage, it is useful for instructors to assign uncomplicated collaborative tasks at the inception of the online learning community. These can be designed to help students form a group identity, get to know each other on a more personal level, and learn how to use the technological tools. Perkins and Giordano (2004) also note the importance of an ice-breaker at the beginning of a Web-based course. The initial collaborative assignment demonstrates the difficulty students can expect working as a team. It serves as an example of the types of problems students may run into during the semester, and gives instructors the chance to show teams how to identify the problems they might encounter, and methods they can use to correct them.

Encourage constructive discussion of team concerns. If students avoid conflict, issues never get resolved, similar problems surface over and over again, and the team does not progress in development. Instead, they remain at the uncomfortable storming stage. Thus, instructors facilitating online learning communities must be prepared for this stage, and help students deal with it

appropriately. In order to progress through storming and move on to norming, students must be encouraged to diplomatically address and resolve concerns about their team or individual teammates, and an atmosphere of acceptance of differing opinions must be nurtured. Sometimes disagreements develop into verbally-violent and personal exchanges as a result of individual differences regarding ideas about how to deal with conflict, or because concerns not discussed earlier in team development begin to fester. This is an obvious sign that conflict is getting out of control. When—or if—this happens, it is useful to encourage students to focus on team goals rather than personality conflicts, along with keeping team members centered on completing assignments. For example, if teams are avoiding confrontation in CORAL courses, the professors ask them to diplomatically address their concerns over video conference. Video conferencing is better than chat rooms or discussion boards for this type of confrontation, because both verbal and nonverbal cues are used, and there is less likelihood of misunderstandings. Tone of voice (which is not available in chats or discussion boards) can be instrumental in reducing the possibility of conflict escalating.

Intellectualize. We also find it useful to help students intellectualize the situation, using it as a learning experience, thereby reducing some of the emotional component of the disagreement. For example, depending on the circumstance, it might be useful to draw attention to possible in-group and out-group biases that contributed to the conflict during the storming stage of development. These concepts are intertwined with the content of the CORAL courses we teach, and might be useful in other courses as well.

Encourage understanding of team norms. Norms form throughout the various stages of group development. Norms, unspoken rules for behavior, can be both positive and negative. For example, as noted earlier, sometimes learning communities form a negative norm that does not allow disagreement to occur or to be addressed. Students agree with each other for the sake of preserving the peace. In other cases, norms of social loafing, or not working hard enough, develop. In still other cases, teams motivate each other to develop positive norms, such as checking Web-based discussion boards daily, completing assignments before deadlines, and developing agendas for video conferences and online chat sessions.

Understanding team norms is critical for teams to examine their own growth. Group development emerges in stages, and team members have to understand what stage of growth they are in, in order to better address stage-determined

issues and move on. Recognizing and identifying positive and negative norms are useful, so those that are not conducive to team development can be addressed and changed. Becoming aware of team norms and understanding them is foremost for students, and facilitates completing collaborative assignments designed to learn course material. In some cases, students object to this internal team examination because, for some disciplines, it is not related to course topic. However, this belief that courses or disciplines are unrelated is an illusion, and students need to understand that their major courses do not operate in a vacuum. Indeed, Johnson, Johnson, and Smith (1991) maintain that regular self-assessment of team processes is a vital feature of successful collaborative learning experiences.

Accept fluctuation between the storming and norming stages. In the norming stage, we also sometimes find that teams become complacent with their success in overcoming the problems of the storming stage. They feel that, because they no longer argue, that they have reached the pinnacle of team performance. In actuality, this is not true, and teams can still fine-tune their collaborative efforts. It should also be noted that teams sometimes fluctuate between the storming and norming stages. It is therefore not uncommon for teams to regress to storming and even the forming stage. Perhaps this is most confusing to team members—understanding regression. Students' interpretation of this is normally negative, yet it simply indicates that there are internal team processes that need further examination. With this as one explanation for regression, students begin to reframe their experience into a more positive structure, and at times, it is necessary for instructors to point out this explanation. It must be kept in mind that students are usually not aware of stage regression and fluctuation, and it is essential that professors emphasize the normalcy of stage and team vacillation.

Encourage teams to develop rules. To help teams move from initial forming and storming stages to more comfortable and collaborative norming and performing stages, it is helpful to encourage teams to develop positive rules of team behavior. This could include rules about how frequently team members talk on discussion boards or chat rooms, as well as rules about how to deal with disagreement and conflict. It could also include rules about how the team completes assignments. All of these issues are not firm in the forming and storming stages, and need to be discussed in order for the team to function.

Summary

In summary, students and faculty, in both face-to-face and distant-site classes, often resist the use of collaborative learning because of common, troublesome, behavioral events. These include unequal distribution of work among team members and friction among team members. Problems such as these can be magnified with online collaborative teams as a result of the less-personal electronic communication technology that does not always allow for non-verbal communication cues. We have made a variety of recommendations on how best to cope with these side effects of group work, and these suggestions are consistent with Johnson et al.'s (1991) criteria for successful collaborative learning, which includes positive interdependence, individual accountability, face-to-face interaction, appropriate use of interpersonal skills, and regular self-assessment of group functioning. However, because online (as opposed to face-to-face) team problems can be exaggerated, additional requirements are necessary for successful computer-supported collaborative learning. Thus, we see five recommendations as especially important:

1. *The introduction of superordinate goals* is beneficial in fostering distributed team cohesion and commitment, and reducing cross-site hostilities. Superordinate goals encourage students to collaborate and reduce social loafing, since students learn that they can only succeed if the whole team succeeds and works together.
2. *The intellectualization of unpleasant team processes* is helpful in reducing emotionally-aversive group experiences, and learning from them. Labeling unpleasant, yet common, events with technical terms removes some of the emotional distress associated with group or individual conflict, and discussing methods for resolving these issues generally is practical, and less threatening, than personalizing them.
3. *Distributed leadership* encourages collaboration (rather than cooperation), and reduces social loafing. Many students have a preconceived idea that there can be only one leader in a team. Changing this assumption, and encouraging distributed leadership whereby all team members take on leadership roles as necessary, encourages all team members to contribute significantly to completing assignments, and increases team commitment and cohesion.

4. *Distinguishing collaborative versus cooperative approaches* to completing group work for students is helpful in aligning student and instructor expectations, especially considering that students enrolled in Web-based, or Web-assisted, courses are unsure as to what work habits will best contribute to success in a collaborative learning environment.
5. *Teaching trust and mentoring* assists independent students in their struggle to share workload with their teammates. Considering that Web-based courses can create an atmosphere of anonymity (and independence), taking time to instruct students on how to connect, and relate, with other students online is useful in creating a sense of community and teamwork.

Because there are a variety of online learning communities, there will be a variety of team experiences. Some online teams might experience all the phenomena noted here; others might only experience a few. Nevertheless, awareness of these issues, and methods useful in minimizing them, assist both faculty and students in reducing unpleasant behavioral events that result in reluctance to utilize a collaborative learning pedagogy.

The success of collaborative online courses depends on the appropriate use of pedagogy and related technologies, not just on the introduction of technologies themselves.

For collaborative learning to be effective, professors must view teaching as a process of developing and enhancing students' ability to learn. The collaborative educator's role is not to transmit information, but to serve as a facilitator for learning. This involves creating and managing meaningful learning experiences, and stimulating students' thinking through real world problems.

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Section III

Professional Development
Case Studies