CHAPTER 3
Peer Feedback Processes and Individual Accountability in Team-Based Learning

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This chapter reviews the social science literature regarding the dimensions and factors influencing peer feedback and discusses the complexity of communicating peer feedback to ensure individual accountability in Team-Based Learning. It describes domain-specific skills and detailed strategies that can be used for communicating effective and constructive student-to-student peer feedback, especially when such feedback contains negative messages.

In Chapter 1, Sweet and Michaelsen describe student-to-student peer feedback as one of the four major practical elements of Team-Based Learning (TBL). They present several recommendations and describe how peer feedback can be used to stimulate critical thinking and engagement. They also say that peer feedback has the potential to reduce negative behaviors and reinforce positive behaviors. When implemented successfully, student-to-student peer feedback can certainly reduce social loafing, improve team cohesion, and reinforce preferred behaviors—or help change and improve unsatisfactory behaviors. On the other hand, when peer feedback is treated as a necessary evil (e.g., as a mechanism for justifying poor group performance, or worse, as a means for criticizing and penalizing individual peer performance at the end of an instructional sequence), it can be divisive and serve to damage the credibility and undermine the effectiveness of TBL as a viable instructional strategy.

In this chapter I embrace an inclusive view of peer feedback, consistent with the recommendations provided in Chapter 1, and extend those ideas by focusing on the dimensions and factors that influence competent student-to-student peer feedback. This chapter has three objectives. First, it establishes a context for the importance of student-to-student peer feedback—formative process feedback (provided multiple times during the course) and summative outcome feedback (provided once at the end of the course)—to achieve TBL learning objectives. Next, it describes the complexity and unique characteristics of TBL peer feedback processes and how these factors can influence individual behaviors and enhance group productivity. Finally, it identifies the skills and justifies the procedures for helping students communicate
constructive peer feedback—especially when such feedback contains negative messages.

**PEER FEEDBACK AS A CRITICAL COMPONENT OF TBL**

The degree to which a team effectively and efficiently achieves its goals is the degree to which it is judged productive. This productivity, however, is largely dependent upon competent communication—especially in the form of student-to-student peer feedback—to provide critical information about group interactions, improve group cohesion, and ultimately to enhance group effectiveness. Peer feedback is used to accomplish the following important goals: establish individual and mutual accountability, motivate team members, create a climate of trust, manage conflict, correct inappropriate behavior of members, and develop team members' potential for future activities. Consequently, giving meaningful and constructive feedback to peers about observable behavior—and receiving and acting on that peer feedback—is a necessary component for creating an optimal TBL learning environment (Cestone, Levine, & Lane, 2008; Michaelsen, Knight, & Fink, 2004; Michaelsen & Sweet, 2008).

Successful TBL teams use peer feedback to their advantage. Individuals in productive teams use self-examination and peer assessment to voluntarily change basic operating assumptions (when necessary) and monitor their own interaction patterns and progress. Moreover, effective TBL teams are more attentive to group processes, encourage the expression of diverse points of view, and begin their discussions by attempting to analyze the problem before trying to search for viable solutions.

It is worth noting, however, that peer feedback is emotionally potent in nature. Even in successful TBL teams, students will initially resist giving honest feedback—whether the message is positive or negative—because the process of giving such feedback can be uncomfortable, and students will resent receiving any feedback that makes them feel guilty or inadequate. Students value their freedom and independence to do what they want in their own way and in their own time. A reality of TBL is that it requires students to become interdependent and function as a cohesive unit to make decisions and solve problems using course content. Therefore, student-to-student peer feedback, as a critical component of TBL, helps students understand that their actions, words, and attitudes have a profound effect—for either good or harm—on themselves, their teammates, and ultimately on team productivity.

**DISTINGUISHING BETWEEN FORMATIVE PROCESS AND SUMMATIVE OUTCOME FEEDBACK**

Effective peer feedback provides two types of information that are equally critical to the successful implementation of TBL. The first type of information provides student-to-student formative process feedback and serves to enhance group processes
and team productivity. Essentially, student-to-student formative process feedback provides the mechanism that allows the individual team members to know whether they are on the right track and whether the team is headed in the right direction. The importance of formative process feedback can be illustrated with a simple example. If a group of people board an airplane in San Francisco and want to fly to Washington, DC, they can expect to see a mountain range within the first 15 or 20 minutes of their flight. If instead all they see is ocean, then they are obviously going in the wrong direction because there is no ocean between San Francisco and Washington. For TBL students, this is what formative process feedback in the form of peer evaluation ought to be. It should establish benchmarks for the individuals (and the team) to figure out whether their current strategies are taking them to their desired goal. When formative process feedback is less than effective, however, it can produce unintended negative consequences.

The second type of information provides student-to-teacher summative outcome feedback and serves to guard against student social loafing while reducing grade inflation. Summative outcome feedback is provided confidentially as a final assessment from individual students to the instructor and serves to describe how helpful (or not) team members have been throughout the course. Early TBL instructional materials referred to summative outcome feedback as group maintenance (Michaelsen, Cragin, & Watson, 1981) or student helping behavior because it served to inform the teacher about the overall helpfulness of each student (www.teambasedlearning.org/resources/documents/4363-syllabus.pdf). The strengths and shortcomings of the various methods (e.g., Michaelsen's, Fink's, Koles's) and the logistics associated with administering summative outcome feedback in TBL courses have been explored in detail in several publications (e.g., Birmingham & McCord, 2004; Cestone et al., 2008; Levine, 2008; Michaelsen, Knight, & Fink, 2004). The choice of one strategy over another is largely determined by the culture and instructional environment where TBL is being implemented.

A comparison of the features of formative process and summative outcome feedback is provided in Table 3.1.

It is unfortunate that a preponderance of TBL literature tends to focus on the logistics associated with summative outcome feedback or how to assign group maintenance or helping behavior grades. The attention on summative outcome feedback is justified by the concerns of new TBL instructors about the logistics associated with TBL and grade inflation (see Cestone et al., 2008; Levine, 2008). While summative outcome feedback can guard against grade inflation, only formative process feedback can enhance group processes, foster a trusting group climate, and provide information (when it is most relevant) directly from students to their peers. Both types of feedback are useful in guarding against social loafing, but summative outcome feedback does very little to help a TBL group that may be struggling with more substantive issues (e.g., dominant team members, ineffective use of time, disorganized structure and roles, poor listening, insufficient preparation, pressure for uniformity, etc.). Therefore, students in TBL groups should be encouraged to provide formative process feedback to their teammates as a catalyst for team success.
TABLE 3.1
Comparative Features of Formative Process and Summative Outcome Feedback

<table>
<thead>
<tr>
<th>Formative Process Feedback</th>
<th>Summative Outcome Feedback</th>
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<tbody>
<tr>
<td>Process feedback</td>
<td>Outcome feedback</td>
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<tr>
<td>Student-to-student</td>
<td>Student-to-teacher</td>
</tr>
<tr>
<td>Open and shared</td>
<td>Confidential</td>
</tr>
<tr>
<td>Enhances group processes</td>
<td>Guards against grade inflation</td>
</tr>
<tr>
<td>Establishes individual and mutual</td>
<td>Reduces social loafing</td>
</tr>
<tr>
<td>accountability</td>
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<tr>
<td>Ongoing</td>
<td>Final</td>
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<tr>
<td>Provides information to the team about</td>
<td>Provides details to the teacher about</td>
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<tr>
<td>how to improve group processes and</td>
<td>how to assign final helping behavior</td>
</tr>
<tr>
<td>productivity</td>
<td>grades</td>
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</table>

When students provide formative process feedback they are giving their peers the opportunity to make adjustments and improve before the final summative outcome feedback grade is assigned. Additional pedagogical merits of effective peer assessment and evaluation in TBL teams, documented by Cestone and her colleagues (2008), include increased student confidence and control over students’ learning, improvements in motivation, and enhanced knowledge acquisition (see also Dochy, Segers, & Sluijsmans, 1999). If formative process feedback is not expected or if the peer formative process feedback process is implemented as part of the TBL experience without care, the results of the peer formative process feedback process can actually be destructive. The worst-case scenario occurs when summative outcome feedback provides nothing more than an opportunity for peers to unleash the resentment they’ve kept bottled up throughout the course. In this case, summative outcome feedback is nothing more than retribution.

The exchange of helpful formative process feedback between students working in TBL groups is an essential communication activity that can potentially serve to increase team productivity and maintain production quality without requiring additional time from TBL instructors. Indeed, social scientists have been extremely successful in their attempts to understand the role of communication in decision-making groups (Gouran & Hirokawa, 1983) and to articulate the forces that influence group interaction (Poole, Seibold, & McPhee, 1985).

Based on interviews with over 6,000 team members and leaders, LaFasto and Larson (2001) identified eight characteristics of high-performance teams: a clear elevating goal, a results-driven structure, competent team members, unified commitment, collaborative climate, standards of excellence, external support and recognition, and principled leadership. The eight characteristics are similar to Katzenbach and Smith’s (1999) six team basics that define the discipline required for team
performance: small number of members, complementary skills, common purpose, common set of specific performance goals, commonly agreed-upon working approach, and mutual accountability. Peer formative process feedback supplies a results-driven structure with specific criteria that provides standards of excellence and helps to ensure mutual accountability in TBL groups. Research published by Ogilvie and Haslett (1985) and Haslett and Ogilvie (2003) describes the complexity and unique characteristics of student-to-student formative process feedback and how such feedback can be used to improve TBL group performance.

**UNIQUE CHARACTERISTICS OF TBL PEER FORMATIVE PROCESS FEEDBACK STRATEGIES**

Uncertainty gives feedback its value. When TBL students design and implement effective peer formative process feedback strategies for determining how well their team is functioning, the individual students are more likely to make the necessary corrections that will reduce uncertainty and ultimately enhance their overall team productivity. TBL instructors should not simply put individual students together in TBL groups and expect the students to be accountable and productive. Nor should they assume that students are prepared to provide meaningful formative process feedback to their peers. The key to individual accountability and team productivity begins with an understanding of the unique characteristics of formative process feedback in task groups.

Over three decades ago, Ilgen, Fisher, and Taylor (1979) identified four important features of feedback that are equally relevant to TBL teams in the 21st century. They suggested that individuals must perceive the feedback, accept the feedback, develop intentions to respond to the feedback, and establish specific goals for improvement. Ogilvie and Haslett (1985) conducted an experimental study that revealed three underlying dimensions of feedback in task groups that could have a remarkable impact on group effectiveness. The first dimension was related to the content of the message and included valence (whether feedback was positive or negative), clarity, accuracy, and relevance. The second underlying dimension of feedback was related to the source (self, task, peers, teachers) and whether the source was assertive, trustworthy, dynamic, relaxed, or responsive. The final dimension was related to the intended recipient of the feedback—specifically, the mind-set or frame of reference when feedback is received.

The dynamic interplay of source, message, and recipient characteristics interact to determine whether student-to-student peer feedback is communicated constructively.

**COMMUNICATING CONSTRUCTIVE STUDENT-TO-Student FEEDBACK**

Effective student-to-student formative process feedback in TBL teams is dependent upon two related factors: individual commitment to the feedback process and
the criteria used to identify the behaviors and frame the peer feedback. One of the best strategies for ensuring individual commitment to the process is to allow TBL teams to design and implement their own team peer formative process feedback strategies. After all, students will support what they help to create. The next section describes the process of establishing peer formative process feedback criteria and procedures, and details general communicative strategies for providing effective peer formative process feedback.

STUDENT-TO-STUDENT FORMATIVE PROCESS FEEDBACK PROCEDURES AND CRITERIA

Phase One: Individual Criteria Identification

The process of establishing peer formative process feedback criteria and procedures has three phases. Phase one begins with students’ reflecting independently on their past group experiences. Students should be encouraged to consider positive and negative group experiences—though most will tend to recall more information about their negative experiences. Next, students should identify the four or five most important issues they feel are most responsible for contributing to the success (or failure) of their previous groups. Finally, students should generate a list of criteria they would feel comfortable using to evaluate individuals in their current TBL team. One strategy is to request that students translate their four or five most important issues into three to six specific criteria for group success. Students should record their list of preliminary criteria to be shared with their team members in phase two. Common criteria include attendance, accountability, active communication, preparation, work quality, equitable work distribution, punctuality, reliability, individual initiative, team commitment, respect, responsibility, constant communication, notification of inability to attend meetings, and leadership.

Phase Two: Generating Consensus About Team Formative Process Feedback Criteria

The second phase should ideally occur as soon as possible after the TBL teams are formed and instructed to introduce themselves, share contact information, and in some cases determine a name for their TBL team. Many TBL practitioners number their teams and refer to them using team numbers for the duration of the course, which is especially efficient in very large courses with teaching assistants (e.g., Bob is responsible for grading and meeting with teams 1–10, and Mary is responsible for teams 11–20). In contrast, I believe it is important not to underestimate the value of having the team make a decision about a team name because it is the first tangible decision teammates will make as a team. After individuals agree on a team name, they discuss their individual criteria with their teammates. Their goal is to collapse all their individual criteria into a team list of mutually agreed-upon team criteria. In
my experience, students are generally surprised at how much overlap there is between their individual criteria, and they quickly generate a list of six to eight peer formative process feedback criteria that has group consensus. Again, the specific nature of the criteria is not important. What is critical, however, is for the team to agree on the most important criteria it will use to provide formative process feedback to individual teammates within their team during the course. The list generated by students typically includes generic criteria such as attendance, punctuality, attitude, respect, and preparation.

In my opinion, it is unfortunate that some instructors simply distribute specific criteria without letting teams generate their own because I feel TBL students are much more likely to be committed to, and support, criteria they create with their teammates. However, for those instructors who simply want to distribute a common set of criteria, or a form students can use to provide formative process feedback to one another, several documents could be modified to use in a TBL course.

For example, Little and Cardenas (2001) identified the following five criteria as being especially important for engineering students who are working in teams and suggested that faculty simply provide the criteria to students: quality of technical work (Is the work clear, complete, and relevant to the problem under discussion? Are equations, graphs, and notes clear and intelligible?), ability to communicate (Do students understand what is being said? Are they clearly heard? Is the team’s direction clear?), ability to provide leadership (Do students initiate activities, make suggestions, or provide focus? Is the student a spark plug?), commitment to the team and the project (Does the student attend all meetings? Arrive promptly? Is the student prepared and ready to work?), and demonstrated effectiveness (Has the student done what was promised? Could the project have benefited from more, or less, of this person’s contributions?).

Another useful form developed by Paul Koles at Wright State University has three clusters of criteria students can use to provide formative process feedback to their TBL teammates: cooperative learning, self-directed learning, and interpersonal skills. The form is available from the TBL Collaborative website (www.teambasedlearning.org/resources/documents/TBL,%20Peer%20Feedback%20form,%20Koles,%20REVISED%20May%202008.doc). Koles has suggested that the form is also useful for providing summative outcome feedback at the end of the course.

**Phase Three: Designing Procedures for Team Formative Process Feedback**

The final step in the process requires that teams develop meaningful procedures for providing formative process feedback to all team members. Before students begin to develop a rubric for measuring each of the team criteria, I require students to read a short four-page article by Michaelsen and Schultheiss (1988) that clearly outlines seven characteristics of helpful feedback. After students have read the article, instructors provide the teams with instructions for developing specific team peer formative
process feedback procedures and criteria. To facilitate the generation of a final formative process feedback system, students respond to the following:

1. Provide a statement of the team goals and objectives you intend to achieve. These goals should reflect an integration of individual team members' goals for the course.
2. Describe how you intend to collect the data the feedback will be based on. Please include a copy of a specific peer grading form that clearly indicates how data will be collected.
3. Explain details of the feedback process you intend to use.
   a. When will the feedback will given? Be specific.
   b. Who will give it? Be specific.
4. Assess the difficulties you are likely to encounter in implementing your performance feedback system.
5. How does the feedback system provide input into the helping behavior grade at the end of the class?

At this point, I make it clear to my students that I will not be reviewing the formative process feedback individuals are providing to teammates. Instead, I will simply be evaluating the extent to which the performance feedback system meets four specific criteria:

1. Are teams collecting data they will need to support the achievement of their team goals and objectives that will lead to effective learning outcomes and team productivity?
2. Will the procedures they intend to use support the achievement of their objective(s)?
3. Are the procedures they intend to use practical (i.e., can they be implemented effectively given the specific situation they will be used in)?
4. Have they accurately anticipated the problems they are likely to encounter in implementing their performance feedback system?

I feel it is critical for my students to be informed that I will only evaluate the quality of the criteria and the thoroughness of the procedures and will not be reading the content of the actual formative process feedback as it is provided from student to student during the course. Rather, the students should establish individual and mutual accountability, create a climate of trust, manage conflict, and use the formative process feedback procedures and criteria as a mechanism for improving group productivity. For this student-to-student formative process feedback to be meaningful, it must inform the final summative outcome feedback, which should account for no less than 10% of the final course grade. This is the equivalent of one full letter grade. The specific final grade is determined using a summative outcome feedback process known as helping behavior, explained in the next section.
SUMMATIVE OUTCOME FEEDBACK

Summative outcome feedback provides an end-of-course strategy to assess individual accountability across a semester and ensures that the students take the formative process feedback seriously. It is essential that the final summative outcome feedback score account for no less than 10% (at least one letter grade) of the final course grade. Unlike the formative process feedback, the summative outcome scores need to be confidential and shared only with the instructor. In addition, students should be required to discriminate among their teammates when giving summative outcome feedback to reduce the likelihood of grade inflation.

There are some concerns that the summative outcome feedback may have adverse effects on group cohesion. The concerns are dispelled, however, as long as the group has been diligent during their formative process feedback. The summative outcome feedback process should include parameters that allow for complete and honest disclosure.

COMMUNICATIVE STRATEGIES FOR GIVING AND RECEIVING EFFECTIVE FORMATIVE PROCESS FEEDBACK

Haslett and Ogilvie (2003) described eight specific communicative strategies for giving and receiving effective feedback that are equally applicable to TBL groups (see Table 3.2).

Three years after Ogilvie and Haslett (2003) published their original research on feedback processes in task groups, Michaelsen and Schultheiss (1988) outlined seven

TABLE 3.2
Strategies for Giving and Receiving Effective Feedback

<table>
<thead>
<tr>
<th>1.</th>
<th>Be specific and direct.</th>
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<tbody>
<tr>
<td>2.</td>
<td>Support comments with evidence.</td>
</tr>
<tr>
<td>3.</td>
<td>Separate the issue from the person.</td>
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<tr>
<td>4.</td>
<td>Sandwich negative comments between positive comments.</td>
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<tr>
<td>5.</td>
<td>Pose the situation as a mutual problem.</td>
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<tr>
<td>6.</td>
<td>Soften or mitigate negative messages to avoid overload.</td>
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<tr>
<td>7.</td>
<td>Deliver feedback close to occurrence</td>
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<tr>
<td>8.</td>
<td>Use effective delivery that includes being assertive, dynamic, trustworthy, fair, credible, relaxed, and responsive, and must preserve the public image of recipient.</td>
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</tbody>
</table>

characteristics of helpful feedback (see Table 3.3). The substantial overlap between
the communication strategies described by Haslett and Ogilvie and the characteristics
identified by Michaelsen and Schultheiss should not go unnoticed.

Harris (2006) published a pocket mentor guide on giving feedback that describes
the basics for giving feedback from the standpoint of a supervisor or manager. The
short 75-page guide explains that the purpose of feedback is to reinforce or change
behavior. It then describes when and how to give feedback effectively, much of which
aligns directly with the principles described in this chapter. However, for the individ­
ual receiving feedback, the guide describes six steps for receiving feedback openly
that are also appropriate for students who feel defensive about receiving formative
process feedback in TBL teams. The six steps (as modified for TBL students) are
preparing before the feedback session begins, staying open to the feedback given by
teammates, presenting a response carefully and rationally, deciding what can be
learned about the feedback, working with the feedback giver(s) to develop an action
plan for change, and asking the feedback giver(s) for support in following the action
plan. For formative process feedback to be effective it must not be seen as a form of
punishment.

Using a robust experimental design to determine the effect of combining negative
and positive feedback messages, Davies and Jacobs (1985) were able to identify the
most effective format for communicating constructive peer formative process feed­
back—especially when the feedback contained negative messages. They reported that
when a negative (N) feedback message was sandwiched between two positive (P)
messages (PNP), the feedback was rated as significantly more accurate, credible, and
desirable, and contributed most to group cohesiveness than any of the other three
format combinations (PPN, NPN, and NNP). Therefore, when it is necessary to
communicate negative information, it is most effective to sandwich a negative mes­
sage between two positive comments. According to the results of Davies and Jacobs’s
study, positive feedback containing negative messages had the greatest potential for
improving performance.

TABLE 3.3
Characteristics of Helpful Feedback

<p>| | |</p>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Descriptive, not evaluative, and is owned by the sender.</td>
</tr>
<tr>
<td>2.</td>
<td>Specific, not general.</td>
</tr>
<tr>
<td>3.</td>
<td>Honest and sincere.</td>
</tr>
<tr>
<td>4.</td>
<td>Expressed in terms relevant to the self-perceived needs of the receiver.</td>
</tr>
<tr>
<td>5.</td>
<td>Timely and in context.</td>
</tr>
<tr>
<td>6.</td>
<td>Desired by the receiver, not imposed on him or her.</td>
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<tr>
<td>7.</td>
<td>Usable, concerned with behavior the receiver has no control over.</td>
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</tbody>
</table>

Currently, there is no general agreement in the TBL community about the role of anonymous formative process feedback. Some early adopters of TBL suggest that formative process feedback containing negative messages should be anonymous to increase honesty. Others say that anonymity makes it more likely for peer formative process feedback to destroy team cohesion. However, those in both schools of thought believe that the sender of the formative process feedback should be identified, even if only the instructor knows (in this case, the instructor knows what every student said in his or her formative process feedback to peers, even if those peers only receive anonymous collective feedback).

I began this chapter began by establishing a context for the importance of student-to-student peer feedback—formative process and summative outcome—to achieve TBL learning objectives. Next, I described the complexity and unique characteristics of TBL peer feedback processes and how those factors could influence individual behaviors and enhance group productivity. Finally, I identified the skills and justified the procedures for helping students communicate constructive peer formative process feedback—especially when such feedback contained negative messages. Instructors who are interested in adopting TBL are encouraged to make use of the strategies for facilitating respect among team members using formative process feedback procedures to improve team productivity and summative outcome feedback strategies to reduce social loafing.

Put simply, feedback—formative process feedback and summative outcome feedback—should be direct and clear, and ensure that group members are accountable to the rest of the team. The value of formative process feedback is that all the members of the team have the opportunity to discuss the feedback and make performance improvements over the course of the semester. Even if faculty insist on providing their students the evaluation criteria (see Little & Cardenas, 2001) and the procedures to use, it is vital that the sender of the formative process feedback is identified because anonymous feedback—especially anonymous negative feedback—destroys trust and group cohesion. On the other hand, when peer formative process feedback follows Michaelsen and Schultheiss’s (1988) seven characteristics, TBL students are empowered to discuss their concerns, make corrections, and perform more effectively.

REFERENCES


