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This chapter describes the teaching competencies, facilitation strategies, and personal characteristics that minimize student frustration, increase the fidelity of TBL implementation, and ultimately moderate student success.

Teaching Skills for Facilitating Team-Based Learning

Derek R. Lane

Taken together, the chapters in this volume demonstrate that team-based learning (TBL) is a unique student-centered instructional strategy that emphasizes learning to use concepts rather than merely learning about them. As such, TBL requires students to become active participants who are accountable and responsible for their learning. This does not occur, however, unless teachers transform their primary role from a sage dispenser of knowledge to a more sophisticated guide, course designer, and manager of the overall instructional process.

My experience as an advocate for and trainer of TBL for almost fifteen years is that when instructors possess the necessary teaching competencies and carefully implement the defining principles of TBL as outlined in Chapter One and the appendix at the end of the volume, students are better prepared, more engaged, and more likely to acquire knowledge that facilitates lifelong learning. In addition, when students willingly share in the responsibility to ensure that learning occurs, teaching is simply more fun because students begin to behave more like colleagues. Unfortunately, incomplete or inadequate implementation may result in negative experiences, student resistance, or some combination of feelings of indignation, frustration, and general distaste for the process. Therefore, the focus of this chapter is on the teaching competencies, facilitation strategies, and personal characteristics that minimize student frustration, increase the fidelity of TBL implementation, and ultimately moderate student success.

Teaching Competencies

Effective implementation of TBL is dependent on the communication skills and techniques of the instructor. Many advocates of team-based learning, including me, will argue that the majority of experienced teachers already have most of the skills required to implement team-based learning effectively. Knowledgeable teachers have learned how to organize material around instructional objectives, create and give tests and assignments, and provide feedback on student performance. The major change, which can be a difficult one, is thinking differently about what should be happening in the classroom. Instead of thinking about how we should be teaching, we have to focus on what we can do to enhance student learning. Teaching competencies for team-based learning need to expand to include strategies for guiding and encouraging students to articulate their understanding of the course content.

The essential skills required to use team-based learning effectively include the ability to create a climate for student-centered learning, respond to individual student needs, and guide learners through their own discovery by asking open-ended questions as they engage in reflective dialogue and critical thinking. Facilitation skills are also paramount. A TBL instructor's goal is to guide the groups, facilitate their growth, and manage the classroom environment without getting in the way of student learning. Because of their importance, between-group facilitation strategies are presented separately. The other new skill that appears to provide the greatest challenge to new team learning users is developing the ability to design effective group assignments, which requires imaginative management in the creation of purposeful tasks that result in meaningful application of course content. A thorough discussion of designing effective group assignments goes beyond the scope of this chapter, but the strategies have been summarized elsewhere (Michaelsen, Fink, and Knight, 1997; Michaelsen and Sweet, 2008).

Creating a Climate for Student-Centered Learning. Instructors are encouraged to maintain an open mind and a willingness to accept new ideas. This is the prerequisite to creating an inclusive environment so that students quickly become active participants in the learning community. It is also important to guide students in developing a positive attitude toward the learning process and group work by formulating and communicating clear and specific expectations. Let students know that TBL works best when everyone works together to build trust, cooperation, support, and mutual respect. Students will not contribute to a discussion if they are worried that they will be ridiculed or criticized by the instructor or other students. Achieving student commitment and building individual accountability is accomplished with teacher enthusiasm and modeling.

Laying the groundwork for team-based learning begins on the first day. Students need to understand what the course will require them to learn and how it will relate to other work, why TBL is being used and how the class will be conducted (What will be the work load? What types of exams are

given? How will grades be determined?), and something about the personality of the teacher (What kind of person is the teacher going to be? Will the teacher be easily accessible? Will the teacher be easy to talk with?). The instructor must be knowledgeable, confident, and enthusiastic about TBL throughout the academic term in order to encourage the development of positive group norms. Instructors should spend time at the beginning of the course describing appropriate group dynamics, specific expectations about respectful collaboration, and the value of open and honest discussion. They need to make certain that all students understand that decisions should be a group process, not just the decisions by the most self-assured and outspoken members. Positive expectations will yield positive results.

Student Resistance. Challenge behavior is a natural consequence of group dynamics. That is, when students are arranged in small groups, student resistance increases because there is strength in numbers and students will ask questions (and challenge the instructor) in a group when they would not engage in such behavior as separate individuals. As challenge behavior increases, student interaction also increases. The key to managing challenge behavior is to understand the source of the resistance and to use positive and productive strategies that encourage student commitment and simultaneously establish instructor credibility. The two most prominent sources of student resistance experienced by instructors using TBL are concerns that students have about grades (especially group and helping behavior grades) and concerns that students are teaching themselves. Student concerns about grades can be alleviated using a grade weighting assignment that increases student acceptance of and commitment to the grading process (see Michaelsen, Cragin, and Watson, 1981; Michaelsen, Knight, and Fink, 2004).

Student Perceptions That They Are “Teaching Themselves.” When TBL is working well, students genuinely enjoy the process of working in groups and engaging in application-oriented activities. And because instructors rarely have to discuss basic concepts or answer simple questions, they enjoy a sense of renewed energy and satisfaction with teaching because students are behaving less like “empty vessels” and more like colleagues. However, if students believe they are teaching themselves (as opposed to becoming willing partners who share responsibility to ensure that learning occurs), the TBL process will increasingly frustrate them. There are several possible causes for this “we are teaching ourselves” perception. The first occurs when novice TBL instructors simply replace their lectures with a series of individual and group readiness assessment tests without allowing students the opportunity to adequately engage the content and apply it in meaningful ways. A good rule of thumb is to include no fewer than four and no more than seven individual and group readiness assessment tests during the academic term (each corresponding to the major units of instruction in TBL).

The perception that students are teaching themselves can also occur when instructors provide too many assigned readings—or, worse, the wrong kinds of readings, confusing or dense ones, for example, that

require students to dedicate countless hours of study to memorize intricate details, then to be tested only on general concepts. A third cause is poorly designed readiness assessment tests that are too long, too detailed, or not reflective of what students have read and learned. (Comprehensive information about how to design effective readiness assessment tests is readily available elsewhere. See Michaelsen, Watson, and Shrader, 1985; Michaelsen, Knight, and Fink, 2004.) Students will become discouraged and frustrated if the TBL instructor is unavailable or frequently leaves the classroom during the application-oriented activities. Instructors should be present and monitor group progress. Finally, students may feel like as if are teaching themselves because TBL instructors do not transmit content through formal lectures; this is especially annoying to students who have developed unfortunate habits of passive reception.

Maintaining Credibility Without Excessive Lecturing. Instructors can establish their credibility as content experts through guided questions, instructor feedback, and limited full-class discussions while allowing students multiple opportunities to engage and apply the content in enjoyable ways. As we establish credibility, students learn that they are not on their own and that there is value-added because we are guiding them through the instructional process. One strategy that allows the instructor to establish credibility, which should be incorporated only before the first readiness assessment test, is to engage students by asking a few direct open-ended questions and allowing them to ask limited clarification questions before they complete their first individual readiness assessment test. This strategy allows instructors to prime student thinking about the essentials of the preclass readings and build credibility. Keep in mind that in almost all cases, instructors should avoid giving students information that they can and should obtain through the preclass readings.

The instructor feedback that occurs immediately after the appeals process provides additional opportunities to clarify student confusion, offers evidence of personal expertise, and frames examples so that students can successfully synthesize the knowledge gained in the team application assignments. There will also be times when students will require additional clarification or examples. Rather than repeat the content to each individual group, instructors can engage the entire class in a brief discussion to clarify some of the major issues that will allow students to make specific connections among the concepts.

Responding to Individual Student Needs. Teacher behavior can have an enormous effect on how groups function. Jaques (2003) argues that teachers who talk too much or who give a lecture rather than conducting a dialogue can interfere with group development and student learning. Being an effective TBL instructor involves making the right sort of nudges and interventions, but it also means knowing when (if at all) and how to intervene. Instructors need to think about how to empower students rather than control them by teaching the joy of learning through discovery. It is therefore critical that instructors monitor the timing and type of their interactions with the individual teams. TBL provides a strong and stable structure,

especially when readiness assurance tests and immediate feedback assessment techniques are used appropriately, so that frequent interventions are not necessary. When students can clearly see how team projects are relevant and prepare them for advanced course work, and ultimately, professional life, most are more enthusiastic about team-based learning. The nature of the readiness assurance process in team-based learning demands out-of-class individual student preparation and serves to reinforce student collaboration. As a result, students rarely come to class unprepared. When they do, the combination of a low individual readiness assessment test score, along with peer pressure from teammates, is enough to discourage future infractions. Attendance is seldom a problem for the same reasons. Students benefit most when they manage group dynamics without the aid of the instructor.

Guiding Learners Through Their Own Discovery. The goal of the TBL instructor is to guide the groups, facilitate their growth, and manage the classroom environment without getting in the way of student learning. In order to accomplish this goal, instructors should integrate within-group facilitation strategies to prime the pump before they incorporate between-group facilitation techniques to keep student discovery, interaction, and learning flowing. In order to assist students in their efforts to engage in reflective dialogue and critical thinking, instructors must prepare any necessary materials, explain and check agreement on the tasks to be accomplished—as well as the deliverable outcomes, monitor the development of the tasks, and control the time boundaries.

Using Within-Group Strategies to Prime the Pump. During the initial instructional activity sequence, it is necessary for the instructor to continually monitor the progress of each group. Circulating around the room as the students are working lets them know that we care about what they are doing—and that they are not teaching themselves. Guide students to do their own reasoning by asking open-ended questions to keep them focused on the issues and promote more complex thinking. Keep the learning process moving by having students talk, discuss, and argue among themselves about the issues and the most appropriate strategy for applying the content to make a decision.

Gelula (1997) suggests that instructors can best guide learners through their own discovery by focusing on discussion that clarifies information and concepts, raising levels of student involvement, asking questions that lead students to more complex thinking strategies, and using the group strength to develop decision making skills. Jaques (2000, 2003) advises that when instructors present a question they do not answer it themselves or try to reformulate it. Instructors should count to ten silently before speaking again. And when instructors have something that they could say (which could be most of the time), they should count to ten again. If a group is polarized around two possible solutions, asking students to introduce a third solution to the discussion will eliminate the perception that one of the initial two solutions is correct. If a group is having difficulties progressing, it is beneficial to ask students to provide examples of their thinking. The

value of effective within-group management to prime the pump of student discovery when using team-based learning should not be underestimated. Equally important, however, are the between-group instructor facilitation strategies that keep the student discovery, interaction, and learning flowing.

Facilitation Strategies

In their chapter focusing on facilitator skills necessary to organize and conduct team-based learning activities, Pelley and McMahon (2008) argue that the most important skill for a facilitator is “the ability to help teams verbalize their rationales during the large-group discussions” (p. 99). Although they provide excellent advice about specific questions and scenarios that can be used to elicit student justifications (for example, “Tell me about your thinking.” “Did anyone have a close second choice?” “What would make this answer correct?” “Can anyone add to this?”), their advice is incomplete. TBL facilitators must not only possess excellent questioning skills that will focus classroom conversations, but must also be able to provide positive feedback for participation, require that students summarize key points raised in the discussion, and ultimately facilitate student learning through critical reflection.

The single best way to gauge the effectiveness of group assignments is to observe the level of energy that is present when the results of the small group discussions are reported to the class as a whole. Instructors who are new to TBL may inadvertently create a hostile and adversarial environment when they first attempt to facilitate large group student discussions. The key to successful facilitation is not to promote competition between the teams, but rather to encourage student-centered critical reflection and comparison in an atmosphere of genuine mutual respect.

To achieve optimal results with team-based learning, facilitators are required to be good question askers—asking open-ended questions to promote complex thinking and closed-ended questions only when specific information is needed to advance the discussion. We have already established that students learn best when they are actively involved and that student experiences provide the basis for discussion. TBL facilitators need to be flexible and integrate student responses into the discussion. When facilitating a dialogue with students, instructors should keep in mind the purpose of the discussion, carefully plan how they will conduct each session, discuss their expectations and reinforce them throughout the course, and avoid closed-ended questions that require yes or no answers.

Focusing Conversations Using a Four-Stage Process. The solution to the problems inherent in facilitating a dialogue with students is to focus the conversation. Stanfield (2000) presents a relatively simple four-stage process for focusing critical reflection that begins with objective-level questions (for example, about facts and external reality perceived by group members), moves to reflective-level questions (for example, about personal

reactions and internal responses to the data), continues with questions at the interpretive level (for example, that draw out meaning, values, significance, and implications), and concludes with decisional-level questions (for example, to elicit resolution, bring the conversation to a close, and allow the groups to make a resolve about the future as it relates to the discussion). The process is referred to for short as ORID (Objective, Reflective, Interpretive, and Decisional).

The basic model for an ORID summary technique employed after the first instructional activity sequence in team-based learning begins with an opening statement to frame the discussion, followed by objective, reflective, interpretive, and decisional questions, and ending with a closing statement. For example, an instructor might begin the discussion with an opening statement: “Before we move on to the next instructional unit, it is important to reflect on what we learned in this unit. We need to look back at our experiences. So let’s take a few minutes to reflect on what we’ve just done. I’m very interested in how it went. Do you mind talking about it?” The instructor would then begin by asking a series of questions that are appropriately sequenced. It is critical that instructors give students sufficient time to think about and answer the questions. Being comfortable in the silence and waiting more than five seconds before moving to another question is an important part of the ORID process.

Objective Questions. Examples of objective questions include these:

- “What parts of this application assignment really caught your attention?”
- “What specific words, phrases, or images still linger in your mind?”
- “What do you remember from the application?”
- “What were some of the key events for you in this past unit?”
- “What words or phrases did you hear in the team reports?”
- “Which parts came through very clearly for you?”
- “What parts were unclear?”
- “What did we get done?”
- “What use is being made of your skills and time?”
- “What information stood out for you?”
- “If you were a reporter, how would you report in a sentence what happened?”

Reflective Questions. Once the conversation has been framed and students are comfortable answering the objective questions, it is necessary to advance the discussion by asking a series of reflective questions—for example:

- “What is the mood of your group as you work? Excitement? Frustration?”
- “What were the demands and pressures you faced on this project? What has been the most difficult for you?”
- “What were the high points of the application for you?”
- “Where did you feel most challenged?”
- “Where did you turn off?”

- “What part of the process left you skeptical or frustrated?” “Where were you frustrated?”
- “What was your biggest surprise?”
- “Where did you have a breakthrough?”
- “What is going really well?”
- “Where have you seen ways you can improve?”
- “What are the key values being emphasized in this TBL curriculum?”
- “Which parts are you concerned about?”
- “How has this process affected you personally?”
- “How has it affected how your group works?”

It is not necessary to ask all of the questions, but rather to ensure that students have a sufficient context (based on what they remember and how they felt about the course content and process) before answering the more salient interpretive questions.

Interpretive Questions. By the time instructors begin asking interpretive questions, students should be relaxed and ready to contribute to a more substantive discussion of what they have learned. Examples of interpretive questions are:

- “What were the key learning lessons from the application?”
- “How has the unit been beneficial to you?”
- “How has it met your expectations?”
- “What did we learn from things that went well in the group?”
- “What did we learn from the times when the group struggled?”
- “If you were going to do the application again, what, if anything, would you do differently?”
- “Where is a breakthrough needed?”
- “What will enable your group to move forward? How might you personally help?”
- “How are you and your group personally different after working with and learning to use this content?”
- “What questions or issues do we need to work through as a group?”
- “What are your reflections on what happened?”

Since the primary focus of TBL is helping students to use and apply course content, instructors need to help students make conscious decisions about how to incorporate what they have learned in future interactions by asking decisional questions.

Decisional Questions. Instructors might begin asking decisional questions such as, “What is the next step in making certain that we can improve how we learn and apply course content? What resources do you think you’ll need?” or “What are you going to do next?” It is beneficial to ask students, “How can I help?” so that they fully understand that the role of the TBL

instructor is to guide and support student learning. Here are some additional decisional questions:

- “What are we saying we want to do differently so that the group works more efficiently?”
- “What unfinished business do we need to complete before we can be successful in our future collaborations?”
- “What do you recommend that would help you apply more effectively what you have learned?”
- “What changes would you suggest? Which of these suggestions is the highest priority?”
- “As you reflect on what we have said, what seem to be the next steps?”

A Concluding ORID Conversation. Finally, an ORID conversation should conclude with a supportive statement that summarizes the discussion and encourages future dialogue—for example:

You have all done excellent work reflecting on the process. I've gained some new insights into our experience, as I'm certain we all have. This has been a great discussion and a significant step in our journey. I trust you've all noticed how quickly we moved from learning about concepts to learning to use them. This has been very helpful to us all in getting the big picture and seeing where we need to move next. I'm very interested to see how we can implement what we learned to be even more successful as the course progresses. Thank you for your contributions and sharing with honesty.

The incorporation of the ORID model when facilitating TBL activities allows all students to become active participants in the dialogue. Objective and reflective questions are open ended and do not require one correct answer. Interpretive and decisional-level questions are also open ended but serve to focus the conversation and facilitate student learning through critical reflection. In addition to providing positive verbal and nonverbal feedback throughout the discussion, TBL facilitators must solicit student responses that synthesize and summarize the key points raised during the discussion. These summary statements are made by students but should tie directly back to the goals and objectives associated with the specific instructional activity sequence. Facilitation skills can be developed with increased effort and practice.

Active Listening as an Important Facilitation Strategy. Another valuable instructor facilitation strategy is active listening. Instructors who successfully incorporate active listening into classroom dialogues find that students are not only more willing to participate but also more committed to and excited about team-based learning. Active listening provides essential feedback to students that what they are saying and learning is of great

consequence to the instructor. Several key instructor behaviors are necessary for active listening to be effective:

- Listening to the content as well as the emotional meaning underlying the student's statements
- Assessing the student's nonverbal communication
- Monitoring personal nonverbal and emotional filters
- Listening to the student nonjudgmentally and with empathy, using restatements, paraphrasing, and probing as clarifying tactics

Listening to Factual Content and Personal Intent. When a student is answering a question, instructors need to make eye contact with him or her and suspend other things they might be doing. Instructors must listen to what the student is saying in terms of facts and ideas. When instructors listen to the content of the student comments as well as the emotional intent of the messages, they are more likely to give supportive feedback by sending appropriate verbal and nonverbal messages that communicate sincere interest in what the student is saying. In addition, it is important to listen to the emotional meaning underlying what the student is saying. If the student is frustrated or seems defensive, it is imperative that the instructor remains calm and does not respond defensively.

Assessing Student Nonverbal Communication. It is also necessary for the TBL instructor to read and interpret the student's body language and other nonverbal signals that may communicate more about whether a student has learned to apply the course concepts or is still struggling with basic content knowledge or other issues. Students who are engaged in the TBL learning process will have increased vocal variety, movement, and gestures; smiles and nods; eye contact; and a relaxed body posture.

Monitoring Instructor Personal Nonverbal and Emotional Filters. Students who are anxious or defensive have the potential to create a hostile TBL environment. The most important preventive strategy for dealing with student challenge behavior is for instructors to be aware of the nonverbal messages they might be sending as they react to student resistance. The key is giving feedback appropriate for the situation and offering it in a way that assists the TBL process and student learning. Instructors need to be aware of their own feelings and strong opinions. When they are cognizant of the emotional filters that affect their understanding of and reactions to student resistance, they quickly realize that 99.9 percent of all negative occurrences in any TBL classroom are directly related to the instructor and how student resistance is managed. One of the best strategies to dealing with student resistance is to listen to the student nonjudgmentally and with empathy.

Listening to the Student Nonjudgmentally and with Empathy. Instructors who put themselves in the student's shoes and understand what is shaping her or his feelings are especially successful in their attempts to manage student resistance. It is critical that instructors not prejudge students; rather, they

should restate, paraphrase, and ask additional probing questions that may clarify meanings and reveal underlying issues and potential barriers to learning.

Using Clarifying Tactics in Active Listening. Instructors who incorporate clarifying tactics as part of their facilitation strategies can be confident that they are using active listening effectively as part of the TBL process. For example, they might seek to clarify meanings with questions such as, “I hear you saying you are frustrated with factorial analyses, Pat. Is that right?” In addition, instructors may ask students, “Tell me more about a specific time when your group had a breakthrough,” as a way to probe student thoughts and feelings about how course concepts are being applied. Instructors may also encourage elaboration by asking students to talk about “what happened next” or “how that made you feel.”

It is important that instructors not attempt to complete student statements. Instead, they should ask questions that encourage discovery, for example, “What do you feel were the possible alternative solutions to the application activity?” and clarification questions such as, “What did you mean when you said that the group process affected you personally?” Throughout the active listening process, instructors should check their tone for sincerity and continue to ask open-ended questions that foster a variety of responses.

Remember that the purpose of active listening is to show interest in the student and the conversation by asking sincere, nondirective questions such as, “Tell me more about that” or “Keep going, I’m following you.” Whenever possible, instructors should use students’ own words and use signposts such as, “May I repeat back to you my understanding of what you just said so I do not get it wrong?”

Paraphrasing. Restating a student’s message in a way that sounds natural can be a difficult skill to master. Paraphrasing is feedback that restates, in the words of the instructor, the message he or she thought the student sent. There are three approaches to incorporating paraphrasing in team-based learning: changing the student’s wording (“Let me see if I’ve got this right. You’re confused about . . . ?”), offering an example of what the instructor thinks the student is talking about (“You think those two-way interaction effects were difficult to interpret, so you omitted them from your analyses?”), and reflecting the underlying theme of the student’s remarks (“You keep reminding me that the members of your team like each other and that you work well together. It sounds as if you are worried that you may be wasting time during some of your group work sessions?”). Paraphrasing is an excellent way to take the heat out of intense discussions (“Okay. Let me be sure I understand you. It sounds like you’re concerned about . . .”). Paraphrasing is also effective for managing student challenge behavior because it ensures the students of their instructor’s involvement and concern. When instructors take the time to restate and clarify a student’s message, their commitment to listening is hard to deny. TBL instructors need to remember that paraphrasing involves feedback of both factual information and personal information. Using ORID

and active listening will help build teacher-student relationships and ensure that students will not feel trapped or grilled during a TBL dialogue.

Personal Instructor Characteristics

Regardless of the teaching approach that instructors use, the personal characteristics of any teacher have both positive and negative impacts on student learning. For optimal results using TBL, instructors should be knowledgeable, flexible, spontaneous, and confident with the team-based learning process. They need not be flawless with the process, but there are some important instructor characteristics that are beneficial to the successful implementation of team-based learning.

When designing a TBL course, instructors must ensure that their knowledge extends beyond course content expertise to include an understanding of how the course is aligned with the curriculum, how to assess whether students comprehend and are able to apply the course content, and how the content is relevant to students. In addition, they should be patient, flexible, spontaneous, and able to anticipate potential problems and remove barriers when possible.

It is critical that instructors be confident enough with the TBL instructional activity sequence and readiness assurance process that they can avoid common traps. Instructors should take care that they do not eliminate necessary components (individual or group readiness assurance tests, formative or summative peer evaluations, the five-minute rule [being told when there is five minutes left within which to complete a test]), add detrimental assignments (group papers, too many take-home assessment tests), or ignore recommendations about openly forming groups that will remain permanent throughout the academic term. Another important point is that instructors should avoid the need for students to complete the application assignments outside regular class sessions. Finally, instructors need to be comfortable with student challenge behavior and enjoy the increased student interaction.

One of the primary sources of student frustration with TBL relates to personal instructor characteristics that are counterproductive and establish conditions under which team-based learning is less effective:

- *Deficient content expertise.* This condition involves the novice instructor who has not yet mastered the course content. Novice teachers typically rely heavily on a textbook to organize instruction and thus tend to stay only one chapter ahead of their students. When students ask questions that go beyond the reading—questions that a novice teacher is unable to answer—the instructor loses credibility and jeopardizes the successful implementation of TBL.
- *Teacher-centered focus.* Although the TBL instructor is always the content expert and should never relinquish this role, the impact of team-based learning is limited in the second condition where instructors are unwilling or unable to relinquish their instructional power as expert lecturers—

and thus prevent their transformation into classroom guides. Instructors who possess this personal characteristic also believe that losing control and allowing students to work in teams will result in the sharing of incorrect assumptions and understandings. This concern, however, is dependent on a narrow, and largely inaccurate, view of teaching as simple transmission. Research clearly demonstrates that increased student engagement and involvement are necessary for deep learning to occur. Just because we teach something does not mean that students have learned it. Conversely, because this group of teachers very much enjoys preparing and presenting lectures as a central performing aspect of teaching, it is doubtful that TBL will turn out well for them. Put simply, team-based learning is a student-centered instructional strategy that is unsuitable for exclusive teacher-centered approaches to instruction.

- *Anxiety and defensiveness.* The third condition under which TBL should not be used includes instructors who feel threatened by frequent student challenges, especially when the challenges come from students who are united in groups. Team-based learning fosters student engagement and increases challenge behavior. Instructors who are unable to effectively manage the increased interaction tend to react defensively, and students become frustrated.
- *No clarity about content application.* The desire for knowledge for its own sake is a lofty goal, but the use of team-based learning by instructors who are not confident about what they want students to do—beyond memorization—with the course content is a colossal mistake. The principal component of team-based learning is that it requires instructors to provide opportunities to students for learning how to apply basic course concepts in meaningful ways and to reward them. Instructors who fail to incorporate significant application-focused assignments will almost certainly experience unenthusiastic student reactions to team-based learning.
- *Insufficient time for course redesign.* Restructuring a traditional course for team-based learning, creating readiness assessment tests, developing effective application-focused team assignments, and designing an appropriate TBL grading system require that instructors invest a significant amount of time before students arrive for their first day of class. Team-based learning requires that courses be organized, clear, relevant, and prepared in advance. Instructors who are unable to invest the time needed to redesign their approach to teaching are cautioned against using team-based learning.

Students in TBL courses learn more, are much more prepared, and are better able to engage in lifelong learning. They simply need to understand that they are not doing it on their own. Student complaints and resistance can be minimized when students know that the course is relevant, the instructor is credible, and what they are learning ultimately matters. Student success therefore is moderated by the teaching competencies, facilitation strategies, and the personal characteristics of TBL instructors.

Perhaps the greatest benefit of TBL is that it has a tremendous positive impact on the instructor because it enlivens the classroom and makes teaching more fun, energizing, and nonrepetitive. Implementing the teaching skills for facilitating team-based learning identified in this chapter should translate into more meaningful positive experiences for both students and instructors.

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DEREK R. LANE is an associate dean in the College of Communications and Information Studies and associate professor in the Department of Communication at the University of Kentucky.