Chapter 1

Collaborative Learning

Coming to Terms with the Term

Interactive group learning has received wide attention and usage in higher education for decades. There are a number of terms for this kind of activity, each with particular elements that are thought or are demonstrated through research to enhance learning. *Cooperative learning* and *collaborative learning* are the most commonly used two terms, and each has a rich history and extensive theoretical and research base. Because our primary goal is to help college teachers implement group work effectively in a wide range of contexts, we drew from all approaches to provide the advice and activities in this handbook.

We chose collaborative learning as an overarching term for our broad, integrated approach to group learning, a decision that we describe more fully later in this chapter. The challenge with selecting this single term is that it may not help us understand differences among our instructional practices, some of which are deeply philosophical and some of which are simply practical in nature. Thus, in this first chapter, we offer an introduction to the extensive literature on interactive group learning to develop a more detailed description of the term collaborative learning that is still general enough to be useful yet specific enough to be definitional. In so doing, we address the following questions:

- What is collaborative learning?
- What is the difference between cooperative and collaborative learning?
- How might we use the terms cooperative and collaborative learning in practice?
- How did we decide to retain the term collaborative learning for this text?

The purpose of this chapter, therefore, is to establish the context for the rest of this handbook by first providing a definitional framework.

What Is Collaborative Learning?

Collaborative learning is used in the literature as a general expression for group learning. Smith and MacGregor (1992, p. 10), for example, note: "'Collaborative learning' is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. In most collaborative learning situations students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product." While we believe that a broad, flexible definition is best, some features are indispensable.

The first of these is intentional design. All too often, teachers simply tell students to get into groups and work. In collaborative learning, however, faculty members create intentional learning activities for students. They may do this by selecting from a range of prestructured activities, such as those included in Part 3 of this text, or by creating their own activities and assignments. In both approaches the focus is on *intentional* group activities carefully structured to provide opportunities for learning.

Also crucial to collaborative learning is co-laboring, a characteristic underscored by the literal meaning of the Latin-based term. In collaborative learning, all participants in the group must engage actively in working together toward the stated objectives. If one group member completes a group task while others simply watch, then it is not collaborative learning. Whether all group members receive the same task or complete different tasks that together constitute a single, large project, all students must contribute more or less equally. Equitable engagement is still insufficient, however, for true collaborative learning.

In collaborative learning, meaningful learning must also take place. As students work together on a collaborative assignment, they must increase their knowledge or deepen their understanding of course curriculum. The task assigned to the group must help them accomplish the learning objectives of the course. Shifting responsibility to students and having the classroom vibrate with lively, energetic small-group work are attractive, but it is educationally meaningless if students are not achieving intended instructional goals. Collaborative learning, then, is two or more students laboring together and sharing the workload equitably as they progress toward intended learning outcomes. See Exhibit 1.1 for an overview of how these defining features manifest in online classes.

EXHIBIT 1.1

What Is Collaborative Learning in the Online Environment?

Online collaborative learning comprises the same indispensable features as onsite collaborative learning, but they typically unfold differently. The first feature of onsite collaborative learning, intentional design, is arguably even more essential in online courses. Online instructors have the extra component of technology within that design, which requires an additional layer of planning. Indeed, researchers have found that online instructors believe that online design requires more planning and structure than onsite to be effective (Major, 2010).

The second feature of collaborative learning is the co-laboring of individuals: all students must contribute to the group processes and products. Accomplishing equitable workload distribution is challenging in onsite classes but even more so online, where students must collaborate without physical communication cues such as eye contact and body language to help them make sense of each other and their shared tasks. Additionally, communication is often asynchronous online, and thus planning time for co-laboring can be more challenging for these students. Moreover, they typically do not have as much experience working in collaborative groups online as they do onsite, and therefore how to go about co-laboring may not be as readily apparent to them (Major, 2014).

The third and final feature of collaborative learning is meaningful learning, which requires students to assume some authority and control over their learning. Measuring this goal and knowing that it has been met can be particularly challenging to achieve in an online environment where much of the learning is emergent. That is, learning happens on its own, without direction and without control. Because this creates additional obstacles in measuring its efficacy (Williams, Karousou, & Mackness, 2011), online instructors must find new ways to document the attainment of planned goals and be flexible, recognize, and account for both planned and emergent learning.

What Is the Difference Between Cooperative and Collaborative Learning?

Although to most educators—and indeed to the lexicographers who compile dictionaries—the terms *collaborative* and *cooperative* have similar meanings, there is considerable debate and discussion as to whether they mean the same thing when applied to group learning. Some authors use the words interchangeably to mean students working interdependently on a common learning task. To others, cooperative learning is simply a subcategory of collaborative learning (Cuseo, 1992). Likewise, Pascarella and Terenzini (2005, p. 103) stress that the two terms are not synonymous, but they "regard cooperative learning as a distinct and highly structured version of collaborative learning." Still others hold that the most sensible approach is to view collaborative and cooperative learning as positioned

on a continuum from most structured (cooperative) to least structured (collaborative) (Millis & Cottell, 1998).

Certain authors, however, insist on a sharp distinction between the two. In an article for *Change* magazine, subtitled "Cooperative Learning versus Collaborative Learning," Bruffee (1995) contends, "Describing cooperative and collaborative learning as complementary understates some important differences between the two. Some of what collaborative learning pedagogy recommends that teachers do tends in fact to undercut some of what cooperative learning might hope to accomplish, and vice versa" (p. 16). The essence of Bruffee's position is that, whereas the goal of cooperative learning is to work together in harmony and mutual support to find the solution, the goal of collaborative learning is to develop autonomous, articulate, thinking people, even if at times such a goal encourages dissent and competition that seems to undercut the ideals of cooperative learning.

Given the different epistemological reasons some scholars have for making a sharp distinction between the two forms of group learning, it helps to clarify the nature of their arguments for doing so.

Cooperative Learning

Cooperative learning arose primarily as an alternative to what was perceived as the overemphasis on competition in traditional education. Emerging as a formalized pedagogy in K–12 under the leadership of Karl Smith and brothers David and Roger Johnson, cooperative learning, as the name implies, requires students to work together on a common task, sharing information and supporting one another. The most straightforward definition of cooperative learning is "the instructional use of small groups so that students work together to maximize their own and each others' learning" (Smith, 1996, p. 71). After spending many years leading the cooperative learning movement in K–12, Smith and the Johnson brothers brought the term with them when they turned their attention to higher education.

Cooperative learning experts Johnson, Johnson, and Smith draw directly from behavioral and cognitivist learning theory to describe how cooperative learning promotes higher achievement than competitive or individualistic learning (1998b). Thus, cooperative learning is based in sound epistemological positions that are derived from important theories about the ways individuals learn.

Much of the research on and discussion about cooperative learning is based on the assumption that the teacher has acquired knowledge about a given subject matter and is more expert in that subject matter than the students. Our responsibility as teachers is to design learning activities that

guide our students in obtaining and deepening their own knowledge and expertise. Because different students will have knowledge about different aspects of the task, a synergy happens in group work that results in a process and product greater than the sum of the individual student contributions.

The literature also largely assumes that the teacher, as the content expert, is the authority in the classroom and is responsible not only for designing and assigning structured learning tasks but also for managing time and resources, monitoring students' learning, and checking to see that students are on task and that the group process is working well (Cranton, 1996; Smith, 1996). We find that most teachers using interactive student learning in their classrooms and writing about their experiences are talking about cooperative learning.

There is substantial agreement in the literature on what cooperative learning is as well as what it is not. Smith addresses nicely some common misunderstandings about cooperative learning by identifying what it is *not*. Cooperative learning, for example, is not having students sit side by side at the same table to talk with one another as they do their individual assignments. Cooperative learning is not assigning a report to a group of students on which one student does all the work and the others put their names. Cooperative learning is not having students do a task individually and then having the ones who finish first help the slower students. Cooperative learning is not just being physically near other students, discussing material with other students, or sharing material among students, although each of these is important (Smith, 1996, p. 74).

In contrast to what cooperative learning is not, many authors agree on some common essential characteristics, in particular *structure*. Davidson and Worsham (1992), for example, suggest that

> *Cooperative learning procedures are designed to engage students actively in the learning process through inquiry and discussion with their peers in small groups. The groupwork is carefully organized and structured so as to promote the participation and learning of all group members in a cooperatively shared undertaking. Cooperative learning is more than just tossing students into a group and telling them to talk together. (pp. xii–xiii)*

Kagan (1989–90) goes further in his focus on structure, proposing that it stands independently of content:

> *The structural approach to cooperative learning is based on the creation, analysis, and systematic application of structures, or content-free ways of*

> *organizing social interaction in the classroom. Structures usually involve a series of steps, with proscribed behavior at each step. An important cornerstone of the approach is the distinction between "structures" and "activities." (p. 12)*

In addition to the structured activity, Smith (1996, pp. 74–76) lists five elements that he considers essential for successful cooperative learning groups (see also Johnson, Johnson, & Smith, 1998a, pp. 21–23):

1. *Positive interdependence*: The success of individuals is linked to the success of the group; individuals succeed to the extent that the group succeeds. Thus, students are motivated to help one another accomplish group goals.
2. *Promotive interaction*: Students are expected to actively help and support one another. Members share resources and support and encourage each other's efforts to learn.
3. *Individual and group accountability*: The group is held accountable for achieving its goals. Each member is accountable for contributing his or her share of the work; students are assessed individually.
4. *Development of teamwork skills*: Students are required to learn academic subject matter (task work) and also the interpersonal and small-group skills required to function as part of a group (teamwork). Teamwork skills should be taught just as purposefully and precisely as academic skills.
5. *Group processing*: Students should learn to evaluate their group productivity. They need to describe what member actions are helpful and unhelpful and to make decisions about what to continue or change.

Virtually all cooperative learning methods emphasize the importance of these elements. Thus, to learn cooperatively, students must not only work together but also be held responsible for both their own and their teammates' learning. Cooperative learning advocates agree that the teacher holds great responsibility in ensuring the presence of these elements, although they have various ways by which to accomplish them. Slavin, for example, is insistent that successful groups must endorse individual accountability and team rewards. "It is not enough," he says, "to simply tell students to work together; they must have a reason to take one another's achievement seriously" (1996, p. 21).

Collaborative Learning

Collaborative learning as a pedagogical method was brought into higher education in the same time period as cooperative learning. Although collaborative learning is also a group work pedagogy, it is based on different epistemological assumptions. Collaborative learning has its home in social constructivism, which assumes that knowledge is socially produced by consensus among peers. Social constructivists believe that reality is not entirely external and independent of individual conceptions but rather is produced and understood through interchanges between people, shared objects, and activities as individuals make and experience meaning together. Constructionists argue that knowledge and the knower are interdependent and embedded within history, context, culture, language, and experience. "The conception of knowledge as a 'mirror of reality' is replaced by the conception of the 'social construction of reality' where the focus is on the interpretation and negotiation of the meaning of the world" (Kvale, 1996, p. 41).

Thus, social constructionists suggest that instead of focusing on the mind (the cognitive approach) it is important to recognize that groups construct knowledge by creating a culture of shared artifacts with shared meanings. Bruffee, who has made something of a brand name of collaborative learning in higher education, reflects this perspective when he states that knowledge is "something people construct by talking together and reaching agreement" (1993, p. 3). Knowledge at the college level, Bruffee says, is "likely to address questions with dubious or ambiguous answers, answers that require well-developed judgment to arrive at, judgment that learning to answer such questions tends, in turn, to develop… The authority of knowledge taught in colleges and universities should always be subject to doubt" (p. 15). He wants to avoid having students become dependent on the teacher as the authority on either subject matter content or group process. In his definition of collaborative learning, it is not up to the teacher to monitor group learning but rather it is the teacher's responsibility to become a member, along with students, of a community in search of knowledge.

Matthews captures the essence of the philosophical underpinnings of this stricter definition of collaborative learning: "Collaborative learning occurs when students and faculty work together to create knowledge.… It is a pedagogy that has at its center the assumption that people make meaning together and that the process enriches and enlarges them" (1996, p. 101).

Using Cooperative Learning and Collaborative Learning in Practice

While different epistemological assumptions underpin both cooperative and collaborative learning, and each method's advocates have delineated distinctions about features and elements, we view them as distinct yet useful with a significant amount of common ground. For this reason, we offer the following advice for choosing which term, and consequently which method, to apply in practice.

Recognize that the methods are not rigid but that both are in fact flexible and fluid.

Advocates for distinguishing between cooperative and collaborative learning approaches suggest that cooperative learning's use of groups supports an instructional system that maintains the traditional lines of classroom knowledge and authority (Flannery, 1994), whereas collaborative learning intentionally subverts such traditional lines of authority (Bruffee, 1995). Weimer (pers. comm.) challenges the validity of this premise, pointing out that although cooperative learning proponents propose that teachers provide structured processes for students to proceed through group activities, this isn't a truly traditional, authoritative teacher-centered approach as teachers aren't really controlling (indeed, are unable to control) what actually happens in the group. Furthermore, it is hard to imagine that even college instructors who subscribed strongly to the collaborative approach would find their group learning activities very effective if they completely abandoned providing students with any structure.

Additionally, while Bruffee (1995) assumes that cooperative learning does not involve conflict, Johnson and Johnson (1994, p. 67) assert that "within cooperative learning groups, intellectual conflict should be encouraged and nurtured, rather than suppressed or avoided." We speculate that many advocates on both sides would endorse a statement that college-level teaching aims at helping students become rational and autonomous thinkers who are able to subject various claims (including those made by their teachers) to critical scrutiny before deciding what to believe or do. Thus, few *always* or *never* statements can be applied to either term to signal a sharp or definitive distinction.

Recognize that you don't have to be a pedagogical purist but may select the term (or method) you think best given the specific situation.

We propose that an instructor's choice of term and approach is best based on the interaction of several factors. Weimer (pers. comm.), for example, indicates that a more highly structured cooperative approach may be a better place for teachers to start using groups. It may also be better for students who are resistant to group work, since the prescribed process can increase students' confidence that they know what they are supposed to do, thus avoiding the uneasiness and anxiety some students feel in more open-ended, exploratory discussion.

Weimer (pers. comm.) also observes that due to their different views on the nature of knowledge, collaborative learning approaches have been more popular with the humanities whereas cooperative approaches have worked better in science, technology, engineering, and math (STEM). She notes that much of the knowledge in STEM courses isn't "up for discussion. . . . Students can't construct their own meaning or make new meaning for differential equations, for the periodic table or the principles of accounting." Indeed, in these fields, "The construction of knowledge that is unique and done by individual students has to do with the connections that they make between what they know and the new knowledge they are learning, but they don't get to decide what differential equations are or mean in the way students can decide what they think a piece of literature might mean."

Bomstad (pers. comm.) suggests that the choice of one approach over another is situational rather than disciplinary. In areas where there is the possibility of doubt or multiple viewpoints (e.g., the morality of using robots in combat, the interpretation of the *Star Wars* trilogy, the explanation of sociological data that correlate viewing violence and committing violence, the reality versus arbitrary construction of number in math theory) a more collaborative model may be best. But in areas of settled judgment in whatever discipline (e.g., interval identification in music, rules of logic in philosophy, addition in math) a cooperative model may be more appropriate. Thus, the context—what do we want students to learn, both in terms of content and process—is worthy of consideration when deciding which term and method to choose.

Recognize that, for better or worse, the terms *collaborative* and *cooperative* often are used interchangeably.

In practice, scholars and researchers alike seem to use the terms collaborative and cooperative learning interchangeably. At times, they do so within the same written work. It is our view that when using either term, most faculty will mean group work that has the essential features

we described earlier in this chapter. Indeed, we believe that as a practical matter in planning and operating college classroom learning groups, most teachers will not be much concerned with the philosophical and semantic distinctions between the two. Instead, they will select learning activities that make sense to them and that accomplish their goals, and they will adopt the level of structure, authority, and control that feels comfortable for them within their particular teaching context, regardless of what the activities are called or how they are classified.

Our Decision to Retain the Term Collaborative Learning for This Edition

When we wrote the first edition of this handbook and struggled with what to call the techniques we describe in Part Three, we decided we wanted a single broad term to encompass a wide range of group learning activities. Searching through the extensive literature on group learning at the time, we found dozens of brand-name types of learning groups. Slavin (1996), for example, describes in detail five methods that have been developed and extensively researched.

Approaches to group work have continued to evolve in the literature of higher education over the last decade. More recent discipline-based pedagogical scholarship has led to new names for group work such as *process-oriented guided inquiry learning (POGIL)* and *peer-led team learning (PLTL)*. The evidence acquired through empirical inquiry associated with these newer permutations continues to make a compelling case for the benefits of group learning (Eberlein et al., 2008), but no proof has emerged in favor of a single, overarching term.

While inventing a new term would free us from the baggage accumulated by the advocates of both cooperative and collaborative learning, it would also add to the jargon of education, so we chose to avoid doing this. Our analysis a decade ago of the trend in clarifying the nomenclature of interactive group learning seemed to be in the direction of using the term *collaborative learning* in higher education and *cooperative learning* in K–12 education. Bruffee's (1999) advocacy for the term collaborative learning in higher education contributed an argument for our choice of the term. Since our intended audience for this book was teachers in institutions of higher education, collaborative learning at that time seemed the best choice.

In revisiting the labeling conundrum while preparing this second edition, we have decided to continue to use collaborative as the overarching term. We acknowledge that while there are distinctive differences in the purposes and philosophies guiding the formulation and operation

of group learning activities, we also believe that all approaches share two fundamental purposes: to engage students actively in their own learning and to do so in a supportive and challenging social context. Moreover, the three conditions that we identify as indispensable features of effective group work (intentional design, co-laboring, and meaningful learning) are epistemologically neutral and apply equally well to all approaches.

Thus, rather than getting entangled or sidetracked in definitional details, we hope that the collaborative learning techniques (CoLTs) label is sufficiently inclusive and that it honors both the collaborative and cooperative learning approaches since *Co* can stand for either cooperative or collaborative or some amalgamation of both. In an attempt to remain true to the literature, we acknowledge the distinctions that various authors have made by using whichever term they used when discussing their work.

Conclusion

We use collaborative learning as an umbrella term for interactive group work that has three essential elements: intentional design, co-laboring, and meaningful learning. It is a theoretically defensible instructional approach that has received wide attention and use in higher education. Indeed, in our next chapter, we survey the ample evidence that supports its efficacy in both onsite and online higher education settings.