CHAPTER THREE

THE ROLE OF THE TEACHER

I didn’t begin Part Two with this chapter in the previous edition. But I usually start here in my sessions with faculty because it’s an easy place to begin understanding what learner-centered approaches involve. For most, it is a familiar place. The facilitative teaching role has been proposed for years, and the ideas it represents are not philosophically at odds with what most faculty believe about teaching and learning. So it’s a good starting point.

That doesn’t mean it’s a role teachers find easy to execute. It is not the way most of us were taught and not the way we teach most of the time. Despite that, becoming a facilitator of learning is an essential part of being learner-centered. The success of the other four changes depends on how well the teacher can transition to this role. The goal for this chapter, then, is to describe what it means to be a facilitator of learning, document the continued reliance on roles that are more teacher-centered, offer a set of principles that illustrate how the learner-centered role looks when it’s executed, and conclude with questions raised when the role is implemented.

WHAT NEEDS TO CHANGE?

What happens in the typical college classroom? Who’s delivering the content? Who’s leading the discussions? Who’s previewing and reviewing the material? Who offers the examples? Who asks
and answers most of the questions? Who calls on students? Who solves the problems, provides the graphs, and constructs the matrices? In most classrooms, it’s the teacher. When it comes to who’s working the hardest most days, teachers win hands down. Students are there, but too often education is being done unto to them. Rather than being active participants in the process, they passively observe what the teacher is doing.

Learner-centered teachers work hard too, but they realize that students need to be working on learning-related tasks as well. They see the teacher’s primary task as facilitating or supporting the learning efforts of students. Even though this idea of the teacher as a facilitator is not new, there is a difference. When written about previously, it was proposed as an alternative, one among a number of roles a teacher might choose or rotate between. In the learner-centered classroom, being a facilitator of learning is more a requirement and less an option.

Previous descriptions of the facilitative role often use metaphors to reveal essential features of this approach to teaching. Fox (1983) compares a teacher who facilitates learning to a gardener. Gardeners deservedly get credit for what they enable flowers or fruits to accomplish, but they are not the ones who bloom and bear fruit. Teachers create conditions that foster growth and learning, but it is the students who master the material and develop learning skills.

Facilitative teachers have also been compared to guides, and many useful insights derive from this metaphor. Guides show those who follow the way, but those who follow walk on their own. Guides point out the sights; they’ve traveled this way before. Guides offer advice, they warn of danger, and they do their best to prevent accidents. Likewise, learner-centered teachers climb with students. Together they ascend what for many students are new and high peaks.

Hill (1980, p. 48) offers an especially eloquent description of the shared vulnerabilities inherent when teachers and students climb together: “The Teacher as Mountaineer learns to connect. The guide rope links mountain climbers together so that they may assist one another in the ascent. The teacher makes a ‘rope’ by using the oral and written contributions of the students, by forging interdisciplinary and intradisciplinary links where plau-
sible, and by connecting the course material with the lives of students." Marini (2000) revisited this metaphor and draws still more comparisons.

Relatedly, those who facilitate learning have been compared with coaches. Barr and Tagg (1995, p. 24) write, "A coach not only instructs football players . . . but also designs football practices and the game plan; he participates in the game itself by sending in plays and making other decisions. The new faculty roles go a step further, however, in that faculty not only design the game plans but create new and better 'games,' ones that generate more and better learning."

Spence (2010, p. 3), in his excellent essay on the incomparable UCLA basketball coach John Wooden, says that Wooden thought coaching was teaching: "He dealt with players individually, working to deliver instruction when it would produce learning. His success depended on knowing the limits and capacities of each player . . . He believed that if you didn’t pay attention to what students did and then correct and instruct them, there was no teaching. As he put it, if the students have not learned, then the teacher has not taught." Spence notes that "Our classrooms are a long way from Wooden’s practices. But shouldn’t they be more alike? Shouldn’t they be learning spaces where students can try, fail, and be instructed? What I learned from the coach was the necessity for a teacher to enter the learners’ experience. I needed to observe and listen until I knew their strengths, weaknesses, and uniqueness. That requires intense work, but doesn’t it reflect the duties of our profession?"

Eisner (1983) compares the teacher to a maestro before an orchestra. The teacher, like the conductor, stands behind a podium that holds a complicated score—the content to be taught that day. In front of the conductor there’s an orchestra composed of individuals who play different instruments, have different levels of ability, and have practiced to varying degrees. The teacher-conductor has fifty minutes to prepare the orchestra to make music with the score. I love the grand possibilities of this metaphor.

But my favorite metaphorical description of learner-centered teaching is the teacher as midwife. I’ve seen the metaphor attributed to a number of different authors, but I first read it in an
essay by Ayers (1986, p. 50). He writes, “Good teachers, like good midwives, empower. Good teachers find ways to activate students, for they know that learning requires active engagement between the subject and ‘object matter.’ Learning requires discovery and invention. Good teachers know when to hang back and be silent, when to watch and wonder at what is taking place all around them. They can push and they can pull when necessary—just like midwives—but they know that they are not always called upon to perform. Sometimes the performance is and must be elsewhere.”

I think of the teacher-midwife as being there at the birth of learning. The midwife isn’t giving birth. It is up to the learner to master and deliver this material, but the midwife is such a resource. She brings much previous experience, expertise, assurance, and calmness. She’s been alongside many other students as they’ve struggled with this material. She knows when it gets really hard and has strategies she can suggest that help learners break through to understanding. And when that understanding is finally born, she is there to celebrate all that moment means to the learner. It’s a beautiful metaphor.

These metaphors offer inspirational insights into the teaching role that facilitates learning. They are limited by their focus on what teachers are, as opposed to what they do; teachers are like gardeners, guides, coaches, conductors, and midwives. But how do teachers garden, guide, coach, conduct, or midwife in the classroom? In order to implement the role, teachers need to know what facilitators do, and a simple, straightforward summary is the best place to begin: they engage and support students in the hard, messy work of learning.

What makes this learner-centered role preferable to the more teacher-centered ones is that it more effectively promotes learning, and it does so for two reasons. First, teachers are focused on what the students are doing, instead of what they themselves are doing (Biggs, 1999a, 1999b). They see how students are learning or not learning the material, what learning skills they do and don’t have, and this input allows them to adjust teaching so that it more effectively promotes learning. Spence’s description of Wooden’s approach to coaching illustrates this perfectly. The coach is not worrying about how he’s coaching; he’s observing
the players, and that focused observation allows him to offer feedback that helps the players execute more successfully.

Second, perhaps even more important, facilitative teaching promotes more learning because students are engaged in learning tasks. They aren’t just copying down teacher-provided examples, but generating their own. They aren’t just recording what the teacher does as she works through a problem, they are working problems on their own or with other students. They are asking questions, summarizing content, generating hypotheses, proposing theories, offering critical analyses, and so on.

I really understood this concept after reading the work of Biggs (1999a, 1999b), and I remember my first attempt to make the change. I thought it would be easy to implement. I introduced an important concept, explaining it carefully, asking and soliciting questions, before saying to students, “Now, what we need are examples. They will help you really understand this. So, what would be an example that illustrates this concept?” Nothing. Wait patiently. Encouragement. “It doesn’t need to be a perfect example—share whatever’s coming to mind.” Nothing. More waiting. Time to reach for that back-pocket ace in the hole. “Well, you know often examples are used on the exams in this class. You really ought to have some examples in your notes.” Finally, Ali, who was a bit anal-retentive and always anxious when the action in the class slowed, tentatively raised his hand. “Thank you, Ali!” As soon as I heard the example, I had that sinking feeling. It wasn’t a good example. It took us another three or four minutes to get it to a place where I felt I could even write it on the board. After finishing, I remember looking down at my notes and seeing three really excellent examples there.

Should I have shared them? Yes and no. Perhaps I should have started by giving the students one of my examples—for the purposes of illustration and to get them thinking in the right direction. But the students should not just have teacher examples in their notes. They need some of their own—some that make sense to them—that connect what they already know with the new concept. And they don’t learn how to do the hard intellectual work that generating good examples requires if all they do is copy down examples provided by the teacher. Moreover, the best time to practice generating examples is in class, when the teacher is
there to suggest ways of finding them and with feedback that improves their quality.

Learner-centered teaching isn’t an all-or-nothing proposition. Sometimes teachers need to do learning tasks for students. They need to provide solutions, answer questions, illustrate points, and demonstrate critical thinking. That’s a legitimate part of teaching. But they shouldn’t be doing these tasks all or even most of the time. Ultimately, the responsibility for learning rests with students. Learner-centered teaching promotes learning by directly engaging students in those tasks that expedite deep and lasting learning.

WHAT HASN’T CHANGED?

Given the considerable attention learner-centered teaching has received and the salience of the premises on which it rests, we might expect that teaching in higher education has become more learner-centered. Unfortunately, little evidence supports that conclusion. Most of the data indicate continued reliance on teacher-centered instructional approaches. The evidence is not found in one comprehensive survey, but is persistently present in many different analyses, as these examples illustrate.

EVIDENCE OF TEACHER-CENTERED INSTRUCTION PROVIDED BY FACULTY

In 1998, 76 percent of faculty (including new faculty) listed the lecture as their instructional method of choice (Finkelstein, Seal, and Schuster). Although it is possible for students to be actively involved in lectures, more regularly lectures are teacher-centered, with students passive recipients of knowledge. Has that percentage changed during the intervening years? We don’t know. A survey like this has not been completed recently, so data are not available to compare with this historical benchmark.

Work has been done in some disciplines. A survey of faculty teaching undergraduate economics courses completed in 1995, 2000, 2005, and 2010 (Watts and Schaur, 2011) has investigated the teaching and assessment methods faculty report using in those courses. Amazingly, in each of these surveys faculty report devoting 83 percent of class time to lectures. Across the years
there have been some increases in the reported use of other
more learner-centered strategies, but the researchers conclude:
“Although it is possible to make a reasonable case for the assertion
that the gradual changes noted in teaching and assessment
methods (particularly in the last two surveys) can be expected to
continue, the larger and more powerful part of the picture . . . is
that the preferences, incentives, and constraints that lead most
economists to use ‘chalk and talk’ teaching methods should not be
underestimated” (pp. 307–308).

Walczyk and Ramsey (2003) surveyed full-time science and
math faculty at four-year institutions in Louisiana, asking about
learner-centered techniques (which they defined and illustrated),
and they found that use of these strategies was “infrequent” (p.
567). They concluded that “lecture-recitation-evaluation is alive
and well in college science and math classrooms, even in schools
whose primary emphasis is not on research” (p. 579).

In a qualitative interview study, researchers aimed to better
understand the views of inquiry held by faculty who teach under-
grade science courses (Brown, Abell, Demir, and Schmidt,
2006). Specifically, they were interested in faculty perceptions
of inquiry-based lab activities—those lab experiences where
students actually use the scientific method to investigate phenom-
enon and solve problems. This approach to lab work is often
contrasted with “recipe”-type lab exercises that produce predeter-
mined outcomes.

Faculty from a variety of different kinds of institutions were
interviewed, and their general conclusion was that inquiry-based
approaches are “more appropriate for upper level science majors
than for introductory or nonscience majors” (p. 784). “Although
faculty members valued inquiry, they perceived limitations of
time, class size, student motivation, and student ability. These
limitations, coupled with their view of inquiry, constrained them
from implementing inquiry-based laboratories” (p. 784).

**Evidence of Teacher-Centered Instruction Provided by Students**

A survey of 922 students asked for their assessment of under-
grade science classes (Kardash and Wallace, 2001). A factor
analysis of the eighty-item survey instrument yielded six factors,
including one called passive learning. “The mean of 2.81 [out of 6 on a Likert scale] on the Passive Learning scale clearly indicates that a majority of science classes remain primarily lecture driven and focused on the acquisition of facts” (p. 208).

The Terenzini, Cabrera, Colbeck, Parente, and Bjorklund (2001) study of engineering students referenced in Chapter Two asked students for feedback about courses that were using active and collaborative strategies, which they compared with feedback from students in regular courses. Listed next are a sample of items with the mean scores (out of 4.0) of students in the experimental courses and in regular courses and the effect size, which is calculated as percentile points. All the differences in these mean scores are statistically significant, and the percentile points favor students who were experiencing active and collaborative learning activities in their courses.

<table>
<thead>
<tr>
<th>Item</th>
<th>Experimental Mean</th>
<th>Regular Mean</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are opportunities to work in groups</td>
<td>3.51</td>
<td>2.20</td>
<td>+39</td>
</tr>
<tr>
<td>We do things requiring students to be active participants in the teaching-learning process</td>
<td>2.92</td>
<td>1.91</td>
<td>+35</td>
</tr>
<tr>
<td>Instructor encourages students to listen, evaluate, and learn from the ideas of others</td>
<td>2.98</td>
<td>2.11</td>
<td>+31</td>
</tr>
<tr>
<td>Instructor guides students' learning activities, rather than lecturing or demonstrating course material</td>
<td>2.74</td>
<td>1.99</td>
<td>+28</td>
</tr>
<tr>
<td>I interact with instructor as part of this course</td>
<td>2.71</td>
<td>2.01</td>
<td>+26</td>
</tr>
</tbody>
</table>

These data not only indicate students’ positive perceptions of learner-centered approaches, they also paint a contrasting picture of classrooms where professors are more active than students.

**Classroom Observation Data**

Research in the early 1980s documented that faculty devoted a small amount of time to classroom interaction. Fischer and Grant (1983) made 155 visits to 40 college classrooms at different institutions, across a range of disciplines, and at course levels from introductory to advanced. In those classrooms, professors talked almost 80 percent of the time, four times more frequently than
students in classes with an average size of forty-seven. Students were not participating more in upper-division major courses than in lower-division courses. A 1996 observational study (Nunn) of twenty social science and humanities classrooms found that teachers devoted only 5.85 percent of total class time to student participation. That’s approximately one minute per forty minutes of class time. Fritschner’s observational study (2000) of 344 class sessions reports that when interaction was occurring, 47 percent of the time teachers were asking questions or commenting in response to student questions or responses. Even when students were interacting in these classrooms, during those exchanges faculty were still doing almost 50 percent of the talking.

Among data based on classroom observations is perhaps the most disturbing study of all (Ebert-May, Derting, Hodder, Momsen, Long, and Jardeleza, 2011). It’s a large and complex study of biology faculty who attended workshops designed to move them from teacher-centered to more learner-centered ways of teaching. The workshops involved several days of instruction, and in response to survey data collected subsequently, a significant majority (89 percent of one cohort) said they had implemented reforms like those proposed during the workshops. A cohort of participants were asked to videotape their teaching (four times at designated intervals up to two years after their workshop experience). These tapes were analyzed using an instrument designed to measure the degree of active learning and student involvement observed in the classroom. “Observations . . . indicated that a majority of faculty (75 percent) implemented a lecture-based, teacher-centered pedagogy” (p. 555). These findings raise questions about the viability of workshop experiences and about the disconnect between faculty perceptions of their teaching and the reality of what was observed, but the study is cited here as observational evidence supporting the continued use of teaching methods that are not learner-centered.

**Analysis of an Artifact of Teaching for Evidence of Active Learning**

Archer and Miller (2011) assembled a collection of syllabi from “gateway” political science courses, the large introductory courses
that are often the only courses taken in the discipline. They were interested in how much active learning occurred in those courses and decided to take a look at syllabi, pointing out that “while syllabi cannot fully convey what occurs in the classroom, they do provide a summary of instructor intentions, desired learning outcomes, and pedagogical approaches” (pp. 429–430).

Using Google and the Syllabus Finder tool, they acquired 491 syllabi from 238 different institutions, including a representative sample of institutional types. They analyzed these syllabi, looking specifically for indications that simulations, structured debates, and the case method would be used in the course. They explain why these particular techniques are well suited to the content of these courses and generally well known within the discipline. They found these activities were rarely proposed in their collection of syllabi; simulations were included 7.7 percent of the time, structured debates 4.7 percent, and case methods 3.7 percent. “Overall, 14.7 percent of all gateway courses in the sample employed one or more of these three active learning techniques” (p. 431).

What’s referenced here is representative of a much larger collection of studies done in different fields and using a variety of methodologies. No single study establishes that college teaching remains teacher-centered, but the absence of data documenting widespread use of learner-centered approaches and evidence like that highlighted here support the contention that what’s occurring in most college classrooms has not changed all that much since the first edition of this book was published.

WHY HASN’T TEACHING BECOME MORE LEARNER-CENTERED?

If learner-centered approaches more effectively promote learning (documented by research in Chapter Two) and the idea of facilitating learning makes good intuitive sense to faculty, then why aren’t we seeing more change in the way students are being taught? Perhaps what makes sense intellectually has turned out to be tougher to implement than most of us expected. Here are some reasons why teaching has not become more learner-centered.
WHY FACULTY PREFER MORE TEACHER-CENTERED ROLES

The transition to learner-centered teaching has showed many of us just how much we like being the center of action in the classroom. With a captive audience, we simply cannot pass up the opportunity to show our stuff. With me, it's telling stories. I love to spin a tale (always true, of course), and as the years have accumulated, so have my stories. Some I've told enough to have perfected the punch lines. On a good day, even with a dead class I can tell one of those stories and suddenly the class comes to life. I feel such a sense of accomplishment when raucous laughter sweeps across the room. And students remember my stories. Years later when I meet them, they remind me of the "dishwasher" story. The problem, of course, is they rarely have retained the point of the story, so all my rationalization about stories being nails on which I hang all sorts of conceptual stuff (I love that metaphor—Amstutz, 1988) is really just an excuse for me to flaunt my storytelling prowess.

I don't believe learner-centered teachers are forever forbidden from telling stories or whatever else they enjoy and do well in the spotlight. That's like trying to diet and saying no chocolate ever, under any circumstances. Besides, some of my stories work—they make the points easier to understand and remember. Rather, it's about honestly analyzing my motives for telling a story and making sure I'm telling it to facilitate learning, not because I want to see if I can still make people laugh.

A second reason faculty stay with the more traditional roles finds voice in King's (1993) often quoted article title, "From Sage on the Stage to Guide on the Side." The facilitative role seems less glamorous, possibly even less important. Is that so because we tend to think the teaching role is more important than it actually is? Despite our involvement in and control over virtually all aspects of instruction, we cannot guarantee delivery of the product. A student cannot be forced to learn. A teacher cannot learn anything for a student. Students completely control the most important part of any educational experience. We might like to think that the instructional universe circles around us, but students are the stars in the larger learning galaxy.
With a more realistic understanding of our place in the educational universe, we can revisit our notion that facilitative teaching roles are somehow diminished or less essential in the learning process. Quite the opposite is true. Most women panic at the thought of giving birth without some sort of guide alongside. Only daring hikers ascend new and treacherous peaks alone. No orchestra makes music long without a conductor. Teams without coaches do not have winning seasons. True, facilitative roles are less about the thrill of performance, but they do offer the chance for teachers to be more intimately involved with students' learning. Teachers are credited with what made learning possible. Students learn because of us, not in spite of us.

There is another darker reason that prevents some faculty from moving to more facilitative teaching. Teacher-student relationships can become entangled with issues of codependency and the various psychological benefits that accrue to both parties when relationships are dependent. For the student, there is freedom from responsibility. Assignments are easier when the teacher has decided on all the details. For faculty, there are more unpredictable teaching variables nailed down, fewer loose cannons, and less vulnerability, plus the feeling of importance associated with making decisions for others. But for both parties, dependent relationships are basically unhealthy, ultimately limiting the potential for personal growth on both sides.

The Facilitative Role is More Difficult
Facilitating learning involves skills rarely practiced. It can feel awkward and uncomfortable. Because teachers think only or mostly about their performance, they aren't terribly objective or insightful as to why the new role causes discomfort. They just know it didn't feel right, didn't seem to go all that well, so they probably can't teach this way and had best go back to what they do know before they end up looking foolish in front of students, God forbid. Understanding how this role works and what makes facilitation a more difficult way to teach partly explains why more teachers haven't embraced the role and why many report less-than-positive first experiences.

First off, this is a much less scripted way of teaching. You don't go into the classroom with everything planned. You do go to class
well prepared, but if part of the plan is to ask students for examples, you don’t know what they’ll come up with, and chances are good they’ll propose an example that you’ve never considered or they’ll offer one of marginal quality. Either way, you’ll need to respond, and you’ll be doing that without the benefit of advance preparation.

More challenging for me was the regular confrontation with the messiness of learning. Lecture content may be causing great confusion, but students are so good at faking attention and not asking questions that we discover there’s a problem when we grade their exams. If students are engaged in group work and executing the assigned task poorly, that feedback is in your face. And recognizing the mess is only the first step. You’ve got to do something about it. Should you point it out? Do you clean it up? Make them clean it up? As we’ll discuss in the upcoming Implementation Issues section, the answers to those questions aren’t always easy or obvious.

These challenges are made worse by student resistance to teaching focused on facilitating learning. They don’t want teachers who expect them to come up with the examples, do the problems, or explain concepts to each other. That’s the teacher’s job, and it’s what “good” teachers are supposed to do, more than one student has pointed out to me. This way of teaching means more work for students. It’s much easier to copy examples than to come up with them. It’s also safer because there’s less chance for error. You’ve got the teacher’s examples—how could they possibly be wrong? All of Chapter Eight is devoted to student resistance, including how it manifests itself, how teachers can constructively respond to it, and how it usually dissipates when the teacher remains committed to the role. It deserves mention here only because student resistance is one of the things that makes the facilitative role more difficult to implement. You’re trying something new, feeling a certain amount of trepidation, and at the very time you need support, you’re having to deal with all sorts of objections.

Learner-centered teaching is not an easier way to teach. Some teachers sense this and avoid it; others experience it and back away. Interestingly, though, when asked, many faculty offer another reason for not trying learner-centered approaches. I hear it all the time in my workshops: ‘My students just can’t handle the level of
responsibility you're proposing. There's no way I could use this approach. They're just not ready for it." There are developmental issues involved, to be sure, and all of Chapter Nine is devoted to the discussion of them. But I also think that sometimes this objection is more an excuse and less a reason. The real reasons are discussed in this section, and they are more about the teacher than the students. After all, as I already pointed out in Chapter One, Freire and Horton successfully used these approaches with the poorest of poorly prepared students.

**Facilitative Teaching:**
**Principles That Guide Its Implementation**

Implementing the role of teacher as facilitator can be guided by a set of principles that describe what learner-centered teachers do when they teach. As with any role, there is not one single, correct way to execute it. The principles are what make the role recognizable, but examples are what make it individually unique. There are all sorts of ways individual teachers can engage students and support their efforts to learn. The role is most effectively executed when teachers find ways that work for them, fit with the content they teach, and serve the learning needs of their students.

**Principle 1: Teachers Let Students Do More Learning Tasks**

I've already previewed this principle. Teachers need to stop doing so many of the learning tasks for students. Teachers should not always be organizing the content, generating the examples, asking the questions, answering the questions, summarizing the discussion, solving the problems, and constructing the diagrams. The key word here is "always." On occasion (and in some classes there may be lots of occasions) teachers need to do all of these things for students. The principle is about gradually doing them less, until the point is reached when doing them is the exception, not the rule.
For example, at the end of a class discussion, it shouldn’t always be the teacher who summarizes. I once observed a teacher letting students summarize via a unique but very effective strategy. It was an English lit class, and students were discussing part of a novel. They were seated in a U formation and contributed their ideas without being recognized. As they spoke, the teacher jotted their comments on the board. She did not speak, but focused on getting the essence of their contributions recorded. After about ten minutes, she said to the class, “Where are we? We need to think about this exchange and see if we can come to some sort of conclusion. Please review these notes I’ve made on the board.” After a minute of silence, she said, “Anybody see any connections between these comments?” As students ventured connections, she drew lines, circles, added numbers, occasionally revised and sometimes erased. Gradually some conclusions emerged. She asked students to get them in their notes in their own words and then she had three students put their summary statements on the board. The class proceeded to discuss the merits of each. They finally generated one that integrated several of their individual ideas.

The part of the demonstration that spoke to me was how effectively the recording role removed her as the focal point of the discussion. Students were directing their comments and responses to each other. On most days in my class, it does not matter where I stand in the classroom, students only talk to me, but then I realized that I was the only one responding to their comments. Sure enough, once I stopped doing that so regularly, they started talking to each other.

Black (1993) avoids doing all the problem solving work in his organic chemistry class with the following strategy. He arrives in the room early and writes problems on all the available board space. As students arrive, pairs of them are randomly assigned to work one of those problems. By the time class begins, eight to ten students are at the board working problems and they continue to do so for the first five or ten minutes of class. Black circulates around the classroom talking with other students and checking with those doing the problems. If they are stuck, he may offer a hint or ask a leading question.

“As work finishes, students other than those at the board are called upon . . . to analyze or comment on a given problem and
its answer . . . I help by providing questions to direct their assessment of the answer. Is the solution correct? Could it be better? If they do not think it is right, then what is the problem and how can it be fixed? What is the central idea? What principle is involved? How would you have done it?" (Black, 1993, p. 143). Note how his questions focus on the problem-solving process, not just the right answers.

Once you start thinking about them, there are all sorts of learning tasks teachers can get students doing—summarizing at the end of the period, reviewing at the beginning of the next, predicting experimental results, proposing possible theories, generating hypotheses, evaluating results. Will they do these tasks as well as the teacher? Almost guaranteed they won’t, but with practice they will improve. This way of teaching promotes learning by simultaneously developing learning skills and fostering content acquisition, as is fully explained in Chapter Five.

**Principle 2: Teachers Do Less Telling So That Students Can Do More Discovering**

Teachers have a terrible propensity to tell students too much. Say we have planned an in-class demonstration. We tell students what we’re going to do, we do it, and then we tell them what happened. We tell students when and how they should study and we tell them not to cram or procrastinate. We tell students to do the reading or the homework problems and not to come to class unprepared or late. We tell them how long their papers should be, what font they should use, and exactly how to submit their online submissions. What do students have to figure out for themselves? Does this much telling promote learning? How does it affect the development of students as learners?

This much telling can become a vicious circle. Most of us spend a lot of time preparing detailed syllabi that describe every aspect of the course. But we still have to “go over” it in class because students won’t read it. Sure, we editorialize, elaborate, and answer any questions, but mostly we’re repeating the written text. After we’re finished, it’s not so much that students won’t read as they don’t have to. I sometimes wonder whether this lengthy
discussion of what’s written in the syllabus isn’t part of the reason
students continue to ask us questions that are answered in the
syllabus. And, of course, most of us answer those queries.

There are alternatives that are more learner-centered. The
syllabus for my entry-level speech communication course is long
and complicated (see Appendix One). I pass it out as students
walk in on the first day. They have ten minutes to give the syllabus
a quick read, after which I encourage them to ask questions.
Invariably, there are no questions, even though this class has
many unusual features—students select the assignments they will
complete, they may take a group exam and self-assess their par-
ticipation. But students are cool; they act laid back. I sense they
don’t want to ask questions on the off chance they’ll get out of
class early.

The first year I tried this approach I had no backup plan, so
in the absence of any questions I caved in and went over the sy-
labus. I was so disgusted with myself that almost immediately I
settled on a different approach. Next semester, there were also
no questions. “Fine,” I said. “Understanding the syllabus is a very
important part of being successful in this course, and because
part of my job is to help you be successful, let’s do a short quiz
and see how well you do understand the syllabus.” I routinely use
this approach now, and the response is always less than enthusi-
astic. But I keep smiling. They don’t know that I don’t intend to
grade the quiz. Once they’re finished, I encourage them to compare
answers with those around them and to change any of their
answers if they wish. Next I put the quiz up and have the class
vote on the answers. For items without a clear majority, I instruct
students to check the syllabus and we’ll begin with those questions
next class period.

This approach to not “going over” the syllabus produces two
results that make me think it’s successful. It generates good discus-
sion about the class and its structure. At some point students do
start asking questions, which I challenge the others in the class to
answer. If they aren’t coming up with the answer, I direct them
to the relevant passage, they to read it, and then I ask someone to
answer in their own words. Second, students start the course having
looked at the syllabus for course-related information. I reinforce
this behavior when I introduce new assignments. Students take
out their syllabi, read the description of the assignment, and then ask any questions they have about it. If a student asks me a question that is answered in the syllabus, I use humor, mentioning my advanced age and impending retirement, and saying that if they want the right answer they should take a look in the syllabus. But my favorite indication of success is what the students’ syllabi look like at the end of the semester. They look used—not the clean, unmarked virgin text I used to see.

We should be hearing the “let them discover” mantra in many instructional situations. If a student asks a question that’s ably answered in the text, refer them to the text. You might follow up with a question the next day to see if they looked up the answer. If previously covered course content emerges in a new context, have students find the previous information in their notes. Students also need to “discover” and accept responsibility for the decisions they make that affect their learning. Chapter Six discusses this topic in detail.

To help break the “telling” habit, I love an approach that Shrock (1992, p. 8) uses: “Students say that my office reminds them of granny’s attic: books and papers share space with political posters, Depression-era advertisements, campaign buttons, and ERA pennants . . . But the most important sign is not politely historical, but fiercely oriented to the present and future. It refers to the constant challenge of student-centered teaching; it is deliberately placed at the side off my office door (above the light switch) so that it is the last thing I see before I head for class. In my own plain writing, the sign silently but simply insists: ‘Why are you telling them this?’ ”

**Principle 3: Teachers Do Instructional Design Work More Carefully**

When students are busy working during class and the teacher is not, many of us feel guilty, as if we somehow aren’t fulfilling our professional obligations. During those moments we tend to forget all the time and effort involved in the design and preparation of the activities that now engage students. The instructional design aspects of the teacher’s role are an integral part of learner-centered approaches. They are the vehicles through which learning occurs.
Fink (2003) describes the process as “creating significant learning experiences,” which is very different from having students do what they did last semester and what they do in most other classes.

Well-designed learning experiences have four characteristics. First off, these learning experiences (be they assignments or activities) motivate student involvement and participation. The objective is to draw students in, so that they are engaged and energized almost before they realize it. Second, as suggested previously, one of the best ways to accomplish the first objective is with assignments and activities that get students doing the authentic and legitimate work of the discipline. Wiggins and McTighe (2005) explain: “Instead of reciting, restating or replicating through demonstration what he was taught or already knows, the student has to carry out exploration and work in the discipline” (p. 154). Students are doing (at their level, of course) what biologists, engineers, philosophers, political scientists, and sociologists do. Third, well-designed assignments and activities take students from their current knowledge and skill level to a new place of competence, and they do so without being too easy or difficult. Also essential here is the need to sequence a set of learning experiences so that they build on each other. Some examples of how to do this are included in Chapter Nine. And finally, these are experiences that simultaneously develop content knowledge and learning skills. There is much more about this aspect in Chapter Five.

These characteristics set high standards, and it is unrealistic to achieve them all with every activity and assignment. Nonetheless, they should be benchmarks for the activities and assignments we currently use and the new ones we design. Learner-centered teachers do not underestimate the intellectual challenges involved in designing experiences that promote deep learning and skill development.

These kinds of learning experiences necessitate approaching design tasks with creativity and ingenuity, as well as with the recognition that good designs are evolutionary. After trying them out, original plans are changed, using feedback from students and the teacher’s own sense of what did and didn’t work. Let me illustrate with an activity I developed that went through at least six iterations before I got it to the place where I felt it achieved the learning goals I had set for it.
I use a case study that Silverman and Welty (1992) developed to stimulate faculty discussion. It involves a student who charges the teacher gave him a racially motivated grade at the same time a learning disabled student got preferential treatment. Students read the case before coming to class and they come prepared to take a side. I structure the discussion using Frederick’s (1981) forced debate method. I create a center aisle in the room and then face the chairs toward this open space. As students arrive, they sit on the side that corresponds with the position they have decided to take. They then talk to each other about the reasons they are on one side or the other. If they change their minds at any time during the discussion, they move to the other side of the room.

I am the recorder, dividing the board in half and noting the arguments on their appropriate side. Once I stop hearing new arguments, I have each side convene to discuss which of the arguments on their side they think are strongest and how they would answer what they believe are the best arguments on the other side. Then a volunteer from each side role-plays a discussion between the teacher and the student who is challenging his grade.

Usually the discussion starts slowly, but because students care about the fairness of grades, they warm up and pretty soon the ideas are flying back and forth. They argue, refute arguments, summon evidence, make points, and state opinions, with many more students participating than is usually the case in class. Some change their minds and move to the other side. Others inch their seats closer to the other side, indicating that they aren’t quite as convinced as they were when the discussion started. I hear great examples that I use subsequently when we are learning about arguments, fallacies, and evidence.

It’s a great strategy and can be used with many kinds of content. If it’s of interest, I’d recommend the work of Herreid (1994, 1999, 2007), who proposes a number of related strategies for using cases in science classes. The activity I developed combined a couple of existing resources into an experience designed to develop argumentation skills. I added the role-play component at the end because the activity seemed unfinished, and the role-play allows students to see how “preparing” for a conversation improves the quality of it. I fussed with how to set up the room.
and assumed several roles myself before opting to be the recorder. My written record helps students review the arguments. All of these design features make a difference. None of them is particularly unique, but experiences that promote learning are carefully constructed so that their various components work together to enhance the learning potential of the activity.

**Principle 4: Faculty More Explicitly Model How Experts Learn**

Teacher-facilitators demonstrate how skillful learners approach learning tasks. This is most successfully modeled by doing some legitimate learning in the class, but if it’s an entry-level course that’s been taught multiple times, a lot of new learning for the teacher may not be possible. We tend to know the content in these courses very well, but every now and then a student asks a new question or offers a different example and our response can demonstrate how an experienced learner handles new ideas and information.

Almost as effective as “learning” in a course are explicit discussions of the learning processes the teacher uses. When solving a problem, you can say out loud what is going through your mind. You can tell students how you confront a difficult and confusing problem, and explain what you do when you get stuck or come up with the wrong answer. It also helps to remember what it was like when you first confronted this material. Was it confusing? Was it frustrating? Did you understand it right away? What mistakes did you make? What helped you finally figure it out? Students are encouraged and helped when teachers model by recounting their first experiences with the material.

Students also need to see examples of learning as hard, messy work, even for experienced learners. An English colleague once shared how her students found the revising and rewriting process time-consuming and depressing. They had written the paper, thought it was finished, and now they had to make all these changes. They must be terrible writers. Their perspective changed considerably when she shared feedback from an editor on one of her papers. By golly, the teacher had to revise and rewrite virtually her whole paper, and that wasn’t because she was a poor writer.
Teachers provide students with a powerful model when they, too, are engaged in learning, and I don’t mean more learning of that discipline-based knowledge already known and loved. When teachers are learning new material in different fields and outside their comfort zones, students are helped in two ways. First, new learning reconnects teachers, who can easily forget what it feels like to be a student, with those feelings of confusion, frustration, despair, and accomplishment. I completed two undergraduate science courses after this book was first published. I remember the first time in astronomy when I raised my hand and asked what seemed to me a perfectly cogent question about something I didn’t understand. The teacher replied that he didn’t understand the question. I rephrased it. He answered, but what he said made no sense to me at all. To my amazement, I smiled, noded, and said thank you. Since that day, I’ve tried to follow up with every student who smiles, nods, and says thank you for an answer.

A couple of my very favorite pedagogical articles report the experiences of faculty members taking courses with students in disciplines other than their own. English professor Starling (1987) takes a three-course business sequence as part of a learning community, and English professor Gregory (2006) enrolls in an acting class. Both articles are rich with insights gained through the experience, and I would have to agree. My experiences in undergraduate astronomy and chemistry were the most exhilarating and humiliating of my recent professional life. They took me and my teaching back to bedrock.

To sum up, then, students benefit when their teachers are learning (whether it’s in a course they’re teaching or taking, or on their own), because those teachers have fresh experiences being students. The students also benefit because they see that learning anything new takes work, isn’t all that easy, and often involves errors. My lab partners “outed” my ignorance in the first-year seminar I taught that accompanied the chemistry course. At the end of each lab exercise there was an extra-credit “thinking” question, and as lab partners we could collaborate on the answer. I proposed a possible answer to my partners, and they agreed without question. After all, they had a teacher in their lab group. Of course, the answer I proposed was wrong, and as one of my
partners announced in seminar, “We just found out that Maryellen doesn’t know how to answer the thinking questions.”

**Principle 5: Faculty Encourage Students to Learn From and With Each Other**

Faculty frequently underestimate the value of group work. When I recommend it, there are always a variety of reasons suggested why teachers should avoid it. Teachers are welcome to their opinions, but those opinions are at odds with a substantial amount of empirical evidence. Much research (just a bit of which is highlighted in Chapter Two) establishes that a range of different group structures enable students to learn from and with each other. It is absolutely true that good group-learning experiences require planning and effort from the teacher. Again, the design of the group task is one of the keys to making it successful, as is the willingness to help students learn how to function effectively in groups. None of us is born knowing how to work in groups. It is another skill that has to be learned.

Many students resist group work, and often the very best students are the most vocal in their objections. They have a litany of stories to tell about bad experiences in groups—most involving other members not doing their fair share of the work, missing deadlines, and otherwise letting the group down. A lot of these experiences are the result of poorly designed group work and teachers not empowering students to deal with group dynamics issues. Students end up believing they can do better work on their own and are only persuaded by a group experience that visibly demonstrates how groups can do more and better work than individuals.

I try to demonstrate the value of collaboration in a venue that students take seriously: exams. In my course, they can choose to be assigned to a study group that participates in a group exam experience. Each study group prepares some review materials for the rest of the class, and beyond that it’s up to the group to decide if they will spend time studying together. Some do; others don’t. Those who spend more time working together tend to do better, as research on cooperative learning documents (for an example, see Hsiung, 2012). Because group exams are a new experience
for most students, I keep the grading stakes low. Good group performance gets rewarded; poor group performance is not punished. The grading bonus works like this. All students take and turn in the forty-question multiple-choice exam during the first half of the period. Then they convene as a group and do the same exam together. I grade the individual exams first and calculate an average score for the group. Then I grade the group exam. If the group score is higher than the individual average, that difference (usually between four and twelve points on this eighty-point exam) gets added to each individual score.

Group exams and various scoring mechanisms have been used by others. Benvenuto (2001) uses an approach like this in chemistry but with weekly quizzes. In his engineering course, Mourtos (1997) pegs the grading bonus to the amount of independence among group members. A bonus is awarded only if all students in the group score at a certain level on the exam.

I love watching students do the group exam. They hunker down together around it. Their discussion starts out with a quiet intensity, but almost immediately disagreements erupt and the debate starts. It’s nearly impossible to get my beginning students to disagree with each other. They don’t like conflict with their peers and try hard to avoid it in class. In this case, it happens without them even noticing. Best of all, they are discussing course content with passion, and that, too, is a nearly impossible accomplishment.

Students analyze this group exam experience after their exams have been returned. Those who have received bonus points have tangible evidence that being in a group helped them. Most can explain why the group did or didn’t do better than they did individually. Participation in the group exam is an option (I’ll be explaining assignment selection in Chapter Four), and routinely it’s the very brightest students who select not to participate in the group exam experience. When I ask them why, they are quick to explain: “I just learn better on my own, Dr. Weimer.” “I don’t really have time to work with a group.” I respect their choice but do my best to confront them with evidence that I hope causes some dissonance. For example, during the exam debrief I list the five highest exam scores and then I check off which are group scores and which are individual scores. Invariably three or four are group
scores. And I’m not beyond sending those very bright independent operators an e-mail suggesting they might want to comment on those scores when they write their learning log entry on the exam.

Negative beliefs about group work merit revisiting by both students and faculty. The pedagogical literature is replete with descriptions of substantive group tasks that faculty have designed and implemented with success. A number of those are referenced in Chapter Two, and others will be described in subsequent chapters. Bottom line: students can and do learn from and with each other.

**Principle 6: Faculty and Students Work to Create Climates for Learning**

This principle is explored fully in Chapter Six, so it only needs an introduction here. Learner-centered teaching is much less about discipline (or classroom management, as it is euphemistically called) and much more about creating climates that promote learning. Teachers do take a leadership role in creating those climates, and they also bear some responsibility for maintaining them. But the climate in the classroom is something jointly created by the teacher and the students. The goal is to get students to the point where they start accepting some of the responsibility for what happens in class.

**Principle 7: Faculty Use Evaluation to Promote Learning**

This principle is also the subject of a subsequent chapter (Chapter Seven). However, up front I need to be clear that the principle does not mean that faculty do less grading. That responsibility remains as it always has been. The difference is that teachers see that learning is potentially present whenever they evaluate student work. They can provide feedback and design follow-up activities that increase the likelihood that students will learn from the experience and be able to improve as a consequence of it. Part of this involves the recognition that students need to learn to assess their own work as well as that of their peers. No, they don’t
give themselves and others grades, but they can be engaged in activities where they look critically at their own work and that of their peers.

These seven principles provide an illustration of what learner-centered teaching looks like in action. They further delineate the various aspects of the facilitative teaching role: resource person, mentor, instructional designer, and expert learner. It is a different role, but it is no less important, less essential, or in any other way a diminished form of teaching. It is a role that directly and effectively links teaching to learning.

INTERESTING IMPLEMENTATION ISSUES

Several intriguing implementation issues emerged during my early attempts to teach in more facilitative ways. In one class I was using a fairly straightforward group activity, and what transpired seemed equally straightforward, but I struggled to answer the questions it raised. Later I realized that these questions are central to the successful implementation of teaching roles that focus on students and what they are doing. But let me start with what happened.

I was using an in-class, two-period, small-group activity. Students had completed the first half of the task and now needed to take their work to the next level. To guide that process, I had responded to each group’s work with a several-paragraph memo. I handed each memo to someone in the group as I quickly reviewed the task. They had twenty minutes to read the memo, discuss the issues it raised, and then revise what they had submitted previously. All groups but one proceeded the same (sane) way: one member read the memo to the rest of the group.

Up front to my left sat a group populated (by accident) with a very shy crowd. The person to whom I had given the memo proceeded to read it to herself while the rest of the group waited patiently. When she finished, without comment, she passed the memo to the person sitting next to her, who also proceeded to read the memo silently.
At first I was amazed. What were they thinking? Well, clearly they weren’t thinking. Why weren’t they looking around at the other groups? Usually students so reliably take their lead from what everyone else is doing. Why didn’t somebody in the group say something? Could they all be that reticent? I went from amazed to perplexed. What should I do? Should I intervene? That seemed like a step back—the teacher jumping in and fixing the problem every time students make a bad decision. But the quality of their work and their potential to learn from it were being compromised by this silly approach.

The dialogue in my head continued. What should I do if I intervened? What could I say without conveying how stupid I thought their approach was? Maybe they should know I thought they had made a poor decision and somebody in the group had to have figured that out. More important, what could I say that wasn’t just telling them they had a problem. I was afraid if I asked, “How are you doing?” they would all nod and say “fine.” Maybe I could ask, “Do you understand the task?” “Yes.” “Well, how much time do you have left, and how much do you still have to do?” That still seemed pretty close to teaching as telling.

I ended up doing nothing, and they ended up doing poor work. I don’t know if they ever made the connection between the way they approached the task and their resulting low grade. I’m not optimistic. I expect most of them had yet another experience that confirmed what they already suspected about the futility of trying to get anything done in a group. But my inept response to this group and their conclusion about the experience are not really the salient issues here. What happened in that group raises three fundamental questions about executing the facilitative teaching role.

**Do You Intervene and, If So, When?**

Those two questions are so interconnected they can be considered jointly. If this approach to teaching is about letting students discover and experience the consequences of their decisions, should teachers intervene? You could argue that they should not. Every intervention compromises the potential of students
to learn from their mistakes, and we can all list powerful lessons learned from our own mistakes.

With beginning students (the student population I know best), I have to believe the answer isn’t strictly yes or no. Most certainly I can and should intervene less than I did when teaching as telling was my modus operandi. But with beginning students (or maybe all students) there are occasions that warrant intervention. The trick is deciding which occasion and when in the course of the event the intervention should occur. In some cases the need is more obvious than in others. We intervene when a decision will hurt a student—they want to sign up to take eighteen credits and work thirty-five hours a week. We intervene when the decision of some students compromises the learning potential of others—the students in the back row who routinely chat and disrupt class. We intervene when students’ efforts to figure something out produce such enormous frustration and anxiety that the learning potential of the experience is compromised—anger regularly gets in the way of learning. But in other situations the need for teacher action is less clear, and the consequences of intervening are more mixed. Would a set of guidelines help? Possibly. Even better might be more thinking about and discussion of examples like the one just shared. It illustrates how teachers must make difficult decisions about isolated, context-dependent, and frequently ambiguous situations that simply happen.

**HOW BEST TO INTERVENE?**

If the ethical responsibilities and compromised learning potential of an experience necessitate intervention, what form should that teacher intervention take? I have pretty much described just telling them. Perhaps that’s appropriate occasionally, but when we do it all the time students come to rely on the teacher to tell them what they should and shouldn’t be doing. Mature learners need to be able to figure that out for themselves. It’s better to ask students questions that lead to the needed insight and understanding.

There’s an additional timing question linked to the question of how. Should you intervene while students are making the error or wait until after they’ve made the mistake? That’s another “it
depends” answer, but you can make the case for waiting until after if they are trying to figure out what went wrong and there’s the potential of learning from their mistakes. I must admit that I don’t have a lot of good answers to this question, even for this second edition. As with the previous two questions, this one also deserves thoughtful analysis before and after it happens in class.

As the many topics addressed in this chapter illustrate, the role of learner-centered teachers is not all that easy to execute. It demands that teachers move from teaching that focuses on what they are doing to teaching that responds to what the students are doing. The goal is to engage and support students in learning. A set of principles have been proposed as a way of showing more concretely what teachers who facilitate learning do. Examples also illustrate the role in action, and those offered are but a few of many possible applications.

Some teachers avoid the role because it seems to diminish the importance of the teacher, but as I’ve endeavored to show in this chapter, it is an equally important and essential role. Students can learn on their own, but for the vast majority of today’s college students, teachers are a must. We haven’t yet figured everything out yet, but we’ve figured out enough to know that learner-centered teaching offers intriguing challenges and unique rewards. We also know it’s a role that promotes learning.