


Inspired College Teaching

A Career-Long Resource for
Professional Growth

Maryellen Weimer

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Feedback for Teachers That Improves Learning for Students

Rewriting the ratings story is an important and necessary first step toward valuing and constructively using student input, but it's not enough. To provide the kind of feedback that supports the reflection described in Chapter Two, as well as to sustain a teacher's growth and vitality across a career, a new chapter in the ratings story needs to be written. The story line no longer focuses on making judgments about teachers but on processes relevant to the learning experiences of students and the role teachers have in designing and delivering instruction so that learning outcomes are enhanced. This makes students and faculty beneficiaries of a positive and constructive feedback process. It strengthens the commitment to feedback by giving teachers information that fosters growth—both theirs and that of their students.

Like summative evaluation, this feedback is solicited by teachers from others—generally students but sometimes colleagues. However, that's where the similarities end. Formative feedback as described in this chapter of the book is more likely than summative feedback to motivate change and to make the changes faculty implement more likely to improve learning. It is feedback that reaffirms the value of student input and proposes that students are central players in a process from which they benefit directly. One of the most interesting parts of the new evaluation story is the many different mechanisms that can be used to collect formative

feedback. And finally, the chapter concludes with a discussion on interpreting the results and implementing change as a consequence of what has been learned from formative feedback.

For too long the emphasis has been on summative assessments of teachers and courses. These end-of-course ratings systems value teaching by systematically assessing it. They may have even improved instruction in an overall, aggregate sense, but the focus on summative assessment has also had negative consequences, as discussed in Chapter Three. Too many faculty are now reticent to solicit feedback. They question its value and are doubtful of its potential to improve their performance in the classroom. They don't even think about how this feedback exchange might benefit students. That's the old story and the reason we need to write a new one.

Characteristics of Formative Feedback

A collection of characteristics differentiate formative feedback from summative evaluations. These characteristics show how formative feedback enables teachers to learn more about the impact of their teaching on learning than they typically learn from summative results. First, formative feedback from students is relevant. Teachers ask about what teachers want to know. They ask questions about those aspects of instruction that directly relate to their situation and preferred pedagogical approaches. If it's a senior capstone course, then questions about integrative, culminating educational experiences can be asked. If the class is discussion based, then questions about interaction can be asked. When teachers can use the evaluation process to address areas directly relevant to their instructional practice, that motivates them to solicit feedback, makes the results meaningful, and increases the likelihood of follow-up action.

Next, formative feedback is more specific than summative evaluation in two different senses. It is more specific because, as

contrasted with summative evaluations, it provides feedback on instructional nuts and bolts—those concrete actions involved in the daily delivery of instruction. And, it is more specific because it can be used to solicit input about a particular aspect of instruction. Summative evaluations look at the whole course; formative assessments allow teachers to ask about the specifics, whether that's the course text, class presentations, a small group activity, class participation, the guest speakers, the log assignment, teacher feedback on the homework, or the exam review session. Students can be asked to provide feedback on any aspect of their learning experiences in class or outside of it.

Still further, formative evaluation can be used to provide just-in-time feedback. In contrast to end-of-course results that are delivered when it feels as though that water has not just passed under the bridge but is now well downstream, formative feedback can be solicited any time during the course. It should be collected regularly, but scheduled times (say at midcourse or just after the first exam) do not preclude asking for feedback whenever the teacher and students would benefit from reflection about learning. The quality of just-in-time feedback tends to be higher because students are responding to an event or experience just after it happened when their recollections are fresh. Furthermore, in the case of ongoing experiences (like more tests to come, or more papers to write, or still other small group activities), the feedback is received when there is still time for teachers to make adjustments, to do things differently, or to redesign so as to diffuse the positive aspects of an experience more broadly.

Next, formative feedback is not as judgmental. It may contain judgments but often they are embedded in the details. For example, students can offer feedback on how they are (or are not) accomplishing a task, like the assigned reading. They report how much time they are devoting to it, when they read (despite the teacher's admonition to read material when it's assigned), how they interact with the text (make notes, underline), whether they talk about

the reading with classmates, and what they see as the relationship between the reading and what happens in class. Howard (2004) reports surveying his students along these lines and discovering that 40 percent of them weren't doing the reading and were still doing pretty well in the course. Those data "judged" how well assigned readings were promoting learning in that class. However, knowing how students are or are not accomplishing a course task, like the assigned reading, enables a teacher to take actions that can correct problems. Howard's article offers a thoughtful and effective solution—one likely to work in a variety of courses with assigned readings.

Formative feedback is also characterized by its ability to be iterative, as in connected, circular, and ongoing, as opposed to summative feedback that tends only to be repetitious (same instrument, course after course, semester after semester). One set of formative responses prescribes a particular set of alterations; soliciting responses to those alterations leads to further change and the need for still more feedback. Formative feedback can be connected to summative results. As indicated in the previous chapter, the summative results raise questions, and formative mechanisms can be used to generate answers. In the largest sense, formative feedback is circular and ongoing in that it is always necessary and never provides all that might be useful to know.

Because the aim of formative feedback is individual improvement, not personnel decision making, teachers can control the process. When they do take charge, formative feedback becomes an effective mechanism for career-long growth and development. As principle 6 in Chapter One points out, improvement begins and ends with the faculty member. Only the teacher can implement changes, do things differently in the classroom or with students. Teachers are more likely to do so when they have the freedom to solicit feedback in areas they consider relevant, to use the feedback mechanisms they deem appropriate, and to involve

students to the degree they are comfortable doing so. Teachers do stand to learn more when they explore feedback results with others. Colleagues and faculty developers can help with interpretation of student feedback, offer advice, identify resources, and brainstorm solutions. Still, in the classroom, it is the teacher alone who makes the changes. Given that ultimate control and the empowerment that results when faculty take charge of their development, it makes sense to let faculty direct their own formative assessment activities.

Finally, formative feedback is most effective when it is separated from summative evaluation. Despite the bridges that can be built between these two kinds of evaluations, their goals are fundamentally different and cannot be accomplished effectively when combined in one evaluation activity. Unfortunately, at many institutions they are. Teachers are expected to improve using the same assessment results that administrators are using to make decisions about raises, promotions, and tenure. Chapter Three's discussion of the abstract, judgmental nature of summative assessments, contrasted with this delineation of formative feedback characteristics, should make it clear that summative, global assessments offer little help when faculty must make specific decisions about what to change and how.

In addition to seriously eroding its improvement potential, using the same data compromises the quality of the summative data. If student ratings are being used to inform personnel decision making or to determine merit increases, then teachers are motivated to solicit and present feedback that puts their teaching in the best light. If given the option of adding questions, as some ratings systems do, teachers will add questions that ask about known strengths. These data then offer a distorted picture of the teaching, diminishing their potential to accurately inform personnel decision making. As a mechanism for career-long development and as a vehicle to improve learning, formative assessment is more

effective when that process operates independently of institutionally mandated rating systems.

A review of the characteristics of formative feedback reveals why it is such a potent force in improvement efforts. It can provide relevant and specific information that teachers can use to positively affect the learning experiences of students. It can provide this input when it is most needed—just in time, not after the fact. The feedback is mostly descriptive. It's not about the definitive worth of a teacher or overall quality of a course. It is about how different aspects of instruction affect the learning experiences of students. What teacher would not find this feedback of interest and value? It is hard to imagine a lot of teachers passing up the learning opportunities formative feedback makes possible when its potential is understood.

The Value of Student Feedback

One of the saddest chapters in the ratings story is how the use of summative assessment has caused faculty to question the value of student feedback. Some teachers have resorted to demeaning student responses and accusing them of using ratings to get even with teachers who give low grades—an action that research has failed to verify (Boysen, 2008). It is true that students do not always take the process seriously. Beyers (2008) says that his observation of students (800 of them) completing rating forms answered most of the questions he had about rating results. The students he observed raced through the forms, discussed their evaluations with each other, and pressured those students trying to complete the forms conscientiously. From his perspective, actions like these explain why some scores don't make sense and provide justification for a larger discounting of student feedback.

If Beyers had gone further and asked why students don't take the process seriously, that analysis would have revealed a set of problems and issues that give students a number of good reasons

to handle the process with dispatch. First, students are asked to evaluate courses after the fact. Any changes they recommend are for the benefit of others. That call for altruistic motivation occurs at a time during the course when students are tired and pressured. They are also asked to evaluate course after course, using the same form time after time. It gets to be old hat pretty quickly. Most telling, students see little evidence that faculty or the institutions take their feedback seriously (Spencer and Schmelkin, 2002). They talk with peers or discover on their own that teachers they evaluated poorly carry on, teaching the same courses, using the same ineffective strategies. Given these circumstances, is it all that surprising that students don't devote much time or energy to the process? But do these realities justify abandoning any effort to solicit and use feedback from students?

The new ratings story we are trying to write must include a reaffirmation of the value of feedback that students can provide. If they take the process seriously (getting them to do so is the subject of the next section of this chapter), they can contribute much to a teacher's understanding of how instruction affects learning. They are, after all, the objects of instruction. Teachers don't have to make assumptions about how students are experiencing a course; students can describe those experiences. They can be asked directly how a particular policy, practice, assignment, or in-class activity affected their efforts to learn. They can say whether what happened in class, the way the teacher presented material, the discussions they had online, or what happened in lab helped or hindered their attempts to master course content. Students can report on how instructor feedback (be it a response to a comment made in class, in a conversation after class, on a paper, in an e-mail, or on a homework assignment) aided or abetted their motivation and efforts to improve.

Students' commitments to learning should figure into the story. If they're not in class to experience small group activities, they are not in a position to say whether or not they found those activities

helpful. Nonetheless, even students who don't expend much effort deserve a voice. However, their feedback should not be heeded to the same degree as those students working hard to learn and master material. Providing anonymity encourages students to honestly report specifically whether or not they were in class for an activity and more generally the degree of effort they are expending, such as when they studied, how much they studied, and what they did when they studied.

Finally, student insights should be valued because students observe so much of a teacher's instruction. Except in unusual cases, students see and experience more of a class than any external observer. They will know if what happened one day is typical or unusual. They will know if most students were in class regularly or not. They will know if a day without much participation is the norm or an exception. Nine to fifteen weeks in a course enables students to move beyond impressions to a place that qualifies them to offer feedback on the entirety of a course experience.

One way to begin this new chapter in the ratings story is to solicit feedback from students about their perceptions of how the evaluation process works. Sojka, Gupta, and Deeter-Schmelz (2002) report the results of just such a survey that asked questions like, "Students base their course ratings on how entertaining a professor is, and not necessarily on how much they learned in the course," and "To get favorable evaluations, professors demand less from students" (p. 46). They found considerable disagreement between student and faculty perceptions. The items they used in the survey are included in their article; students and their teachers could profitably respond to them. Doing so might help teachers and students find their way to a new page in the ratings story.

Students need to experience how constructive feedback to an instructor can change the quality of their learning experiences in a course. Teachers need to experience how much they can learn from students who take the process seriously and provide construc-

tive feedback. Both parties need their faith in the process renewed. Formative feedback aimed at improving learning can be an exchange that benefits those who give the feedback and those who receive it, especially if teachers allow students to fill the role described in the following section.

The Role of Students

In the formative feedback realm, students can be so much more than anonymous judges. They can be collaborators. The rationale for giving students a larger role rests on this fact. It's in their best interest to care—this approach seeks better learning experiences for students. Teachers may need to point out this vested interest, which they can do by telling students, but actions taken based on student feedback speak louder than anything a teacher might say. If students think sample test questions, online discussions of text content not covered in class, evening office hours before the exam would support their efforts to learn, and the teacher provides those, students discover firsthand how much it is in their best interest to care.

Beyond benefitting directly, students can provide support when faculty make changes. Being collaborators motivates that level of student involvement. I have written elsewhere that students set the participation policy in my basic communication courses. Regularly they have a plank in that policy that the teacher will call only on students who volunteer, those who raise their hands. More than once, I've had a class in which I've asked a question, gotten no response, asked again, waited patiently, rephrased the question, written part of it on the board, and still there are no hands. More than once someone in the class has come to my rescue, reminding the class of their responsibility. "We didn't want her to call on us. She's following the policy. But it's our job to answer her questions. Somebody needs to take a stab at this one."

Being collaborators in this process also encourages students to own part of the responsibility when something the teacher tries doesn't work. Once when debriefing a group activity that hadn't gone very well, someone in my class acknowledged, "I don't think we were as prepared as we should have been for that activity. I know I didn't really spend much time doing the reading." When I asked if that was an opinion anyone else in the class shared, a number of heads nodded. Another student noted, "I think we were all a bit down. It was the day after we finished the problem employee assignment. I know I felt I had already spent too much time on this class this week."

When students are empowered to speak honestly about their experiences and when they realize teachers listen and take their comments seriously, students can help teachers make activities, assignments, labs, exams, indeed all aspects of the course better. They have good ideas! They also have ideas that aren't so good, but either way the teacher is not left to figure everything out on her own. When students are collaborators, it not only empowers them, it can motivate teachers.

In addition to the benefit of better learning experiences, students learn valuable lessons from participating in formative feedback activities. In fact, students may learn as much from the instruments, prompts, and activities discussed in the next section of the chapter as faculty learn from the feedback students provide. Providing this kind of feedback reveals aspects of the classroom environment, behaviors of the teacher, and characteristics of classmates that students may not have thought about previously. Most students know little about learning in general and often less about themselves as learners. Best of all, what students come to learn about learning applies not just in the course in which the questions are being asked, but in other courses and beyond them to the personal and professional arenas students will occupy after college.

Formative feedback activities can also be a vehicle through which students learn the principles of constructive feedback. I once heard a teacher debriefing some midcourse feedback with students. He shared and responded to several anonymous comments. "Here's one I really don't know what I should do about. 'I don't like this class. I get really bad vibes from the teacher.'" He compared the comment to what some teachers write on student papers—"redundant," "avoid vague generalities," "incoherent"—and then ask students to revise based on this feedback. They said it was hard. And he said, "So, I don't how to fix these bad vibes. I don't mean to vibrate badly. I don't know what I'm doing that vibrates badly. I'd be happy to try to fix the problem, but I need better feedback."

Learning to deliver constructive feedback is such an important skill. When students are providing feedback aimed at improving what happens in class, teachers have a golden opportunity to help students develop skills that will serve them in good stead the rest of their lives. However, the lessons of constructive feedback are not easily learned. Delivering feedback well is a skill acquired through practice. Even if you share some of the basic principles (balance positive and negative feedback, describe more often than judge, focus on the behavior not the person, use words without strong emotional connotations, and so on), even well-intentioned students may not always be able to apply what they are just learning. In other words, even under these new terms and conditions, all student commentary may not be constructive.

When students realize that they play an important a role in determining how a class session, indeed the whole course, turns out, they have learned something important. Sometimes they discover this accidentally and use their knowledge to the detriment of the teacher and fellow classmates. When teachers guide the process and invite students to collaborate in it, then chances are good that

teachers and students will journey together to new places of learning.

Formative Feedback Mechanisms

So far the goal has been to develop or deepen commitments to acquiring this kind of feedback by sharing its characteristics, reaffirming the value of student feedback, and describing students' role as collaborators. The next objective is sharing mechanisms whereby the formative feedback can be collected. Given what can be learned from formative feedback and the fact there are so many mechanisms for acquiring it, the case for collecting it should be compelling, but it probably won't be before we answer an underlying question and raise another procedural one.

Why should teachers engage in formative feedback activities when at many institutions there are few or no incentives for doing so? Institutional policies don't stand in the way of faculty undertaking these activities, but in the absence of norms that expect growth and development for teachers, few external points, kudos, raises, or promotions come to those who regularly collect and use formative feedback. However, even without these institutional rewards, the value of the feedback to teachers and students is undiminished. If nothing else, the lack of reward makes the motivation pure. The only reason for undertaking a process like this is that it benefits students, learning, and teaching. That does not justify institutional neglect of teacher growth but affirms that these activities are worth doing for larger reasons.

However, the absence of much endorsement for formative feedback activities broaches another question. Maybe it doesn't matter how faculty engage in the process? If the commitment isn't all that heartfelt and what's done happens a bit haphazardly or superficially, who's going to care? In reality, the faculty member should care and the students will care. Being sloppy with the details compromises the quality of the feedback received, and that directly

affects the decisions about what to change and how. Engaging half-heartedly erodes the already tentative commitments students have to the feedback process. The old adage applies: if it's worth doing, it's worth doing well. That doesn't rule out starting slowly or being too busy some semesters to solicit feedback on every aspect of instruction worth exploring, but it does propose that teachers who decide to undertake this approach do so having made a serious commitment to the process.

In the case of formative feedback mechanisms, most faculty (especially those likely to be reading this book) will not start from ground zero. A wide variety of formative activities are shared in the literature and exchanged by colleagues. Best known are the now time-tested collection of classroom assessment techniques (CATS, as they are sometimes called) proposed by Angelo and Cross (1993). I can't think of a collection that has done more to demonstrate to faculty the value of learning-focused feedback. It's an awesome family of techniques that continues to grow and provide teachers with insight into how well students are understanding various aspects of content as well as how they are using learning strategies like problem solving and critical thinking. However, CATS are not the only option for collecting information with the potential to improve learning and teaching. What follows is a selection of instruments of various sorts as well as other creative queries and activities. They jointly benefit teachers and students by prompting the kind of reflection that develops students as learners and faculty as more effective teachers.

Acquiring Formative Feedback with Instruments

For faculty whose experience with instruments is limited to the end-of-course summative ones, there is good news. Many other options exist. Whether the instrument is created by the teacher, adapted from one that already exists, or borrowed from research, the examples that follow are but a sample of the many aspects of

teaching and learning that can profitably be explored with student surveys.

DIY: Do It Yourself (as in Make Your Own)

When the feedback is formative, teachers can be encouraged to create their own instruments. Because these results are collected for individual use and not for public consumption, the reliability issues are not as crucial. Items can be borrowed from already existing instruments. They can be revised so that they pertain directly to whatever they are being used to assess. Many books contain sample instruments: Arreola (2007), Braskamp and Ory (1994), Centra (1993), Chism (2007), and Seldin and Associates (2006).

What faculty need to know about instrument construction for formative purposes can be gleaned from a thoughtful analysis of items on instruments. If the instrument is well developed, its items will address a single aspect of instruction, not combine several. "Problems on the test were what you expected and were prepared to answer." In this case, it would not be clear from the feedback whether the problems were expected, whether the student was prepared for those problems, or both. Items should not be worded negatively, and language should be neutral. "Instructions for the assignment were clear" makes an assumption. Better to have students "rate the clarity of the instructions for the assignment." Just like tests administered to students, faculty can develop a pool of items, using some for certain kinds of courses and not others, as well as track responses across courses. They can design instruments that use the same machine-scorable forms used to score exams.

Both the generation of items and instrument format can be aided by various online resources, most notably the service provider (meaning there's a charge that depends on the size of the survey, number of respondents, and kind of analysis) www.surveymonkey.com. That site has a variety of survey templates, including some specifically for course evaluation. It offers sample items and allows the insertion of instructor-provided questions as

well. The results can be tabulated and presented in a variety of formats. It's a resource that makes designing your own instrument truly a breeze.

Besides the advantage of using an instrument that contains items relevant to your teaching situation, creating an instrument can be a learning experience in and of itself. The collection of items on a rating instrument can be thought of as an operational definition of good teaching. They indicate which aspects of instruction a teacher considers important and offer insights about expectations for students. You might look at whether the items ask for feedback on what regularly happens in class or what you hope happens in class. How many of the items focus on students and what they are doing in and out of class? Does the instrument emphasize teaching more than learning or the opposite? How does this collection of items compare and contrast with those appearing on the institutionally mandated form?

An interesting, down-the-road iteration might involve students in the creation of the form. Early in my career, I worked with a faculty member who gave students a collection of seventy-five items and had them decide which twenty should make up the instrument. He said that he learned as much from the items that students selected as from the results of the instrument.

Many instructors complain about the forms used by their institutions. They object to the inclusion of certain items and the exclusion of others. They find fault with the rating scale and quibble over the wording of items. But would they be happy with any form? I regularly tell the story of a faculty member I worked with who didn't have very good ratings. He blamed those low scores on the instrument used to evaluate his teaching. I suggested we try another instrument and shared with him our collection of seventy-five different rating forms. He spent over an hour looking through what we had and announced when he was finished he still hadn't found a "good" instrument. For this instructor and many others, the solution is to create their own form, one that reflects

their teaching concerns and priorities for students. It's a positive process that clarifies what instructors think really matters at the same it raises questions about those priorities. Because the feedback provided by self-created instruments is more meaningful, it strengthens the motivation to act on what has been learned.

Instruments Focused on an Aspect of Instruction

Here the instrument (usually created or adapted by the instructor) asks a series of questions (usually a combination of open and closed ones) about a particular aspect of a course. It might be focused on an assignment, an in-class activity, instructor-provided feedback on written work, or an assessment experience like an exam. The goal of these assessments is to discover how that particular aspect of the course affected (or is affecting) student efforts to learn course content. Questions on these instruments solicit descriptive details, the kind of specifics that help an instructor understand student experiences. A selection of questions that might be asked about class participation appears in Exhibit 4.1. There are questions on different aspects of participation and questions formatted in different ways. It's not an instrument *per se* but rather an illustration of the range of questions that might profitably be asked about participation.

Empirically Developed Instruments on Selected Topics

Instruments of various sorts have been developed for use in research projects and are included in articles that report the results of the studies. Many explore aspects of classroom experiences of interest to instructors and generate results worth knowing. In general, these instruments can be used by individual faculty who are collecting data for their own use. However, e-mail addresses, now included in most articles, makes it easy to contact an author and request permission to use the instrument to solicit data for purposes other than publication.

Exhibit 4.1. Participation: How Does It Happen in This Class?

About how many different students have participated in this class so far?

On a typical day, how much class time is devoted to student participation?

Most often, what do students do when they participate in this class?

Answer questions? Ask questions? Share opinions? Share experiences? Respond to what other students have said?

How does the instructor typically respond to student answers?

Agree with them? Restate them? Correct them? Disagree with them?

How well does the instructor listen to student comments?

How does the instructor handle wrong answers?

Rate the extent to which the instructor shows respect for students when they speak.

Rate the effectiveness of the instructor's efforts to encourage participation.

What might the instructor consider doing to improve participation in this class? Please offer specific suggestions.

What might students do to improve participation in this class? Please offer specific suggestions.

Estimate how long this instructor waits after asking a question before doing something else (like calling on a student or restating the question).

What criteria is this instructor using to grade student participation?

How well do you listen to the comments of other students in class?

How often do you learn something from a comment made by another student in this class?

Why do instructors have students participate in class?

When an instructor calls on students (when they haven't volunteered), does that encourage students to participate more often? Does it increase the amount you participate?

Compared with other classes, are you participating more or less in this class? Why?

I considered including some of these instruments in the book. Most of them are not reproduced in the research articles as ready-to-copy-and-distribute surveys. Instead, the items are listed in tables that present findings with the scale discussed elsewhere in the articles. If the instruments were included in the book with permission for individual use already secured, chances are good the forms would get at least some use. But then the original research would not be consulted, and more than just the instrument is of interest in these studies. These instruments (and they are the tip of the iceberg) were developed to explore research questions relevant to the classroom practices of most faculty. The findings provide benchmarks against which the data you collect can be compared. Finally, replicating and using the instrument exactly as it was used in the research is not necessarily the objective. Rather, I'm hoping a description here of an eclectic sample of instruments will effectively illustrate how many avenues of teaching and learning can be profitably explored with instruments.

Classroom Climate Inventory (Fraser, Treagust, and Dennis, 1986)

I have recommended this instrument for years, and it's still as relevant today as when it was developed. Classroom climate is an interesting metaphor. It's one of those cases in which the metaphor has become the referent. In workshops I give on the topic, participants readily agree that we're not talking about the "weather" in the classroom. But when I ask what *classroom climate* refers to, there is usually a long silence followed by one-word answers: "safe," "comfortable," "rapport." The Classroom Climate Inventory defines classroom climate as a series of psychosocial relationships that do not cause learning but create conditions known to affect it positively. One of the features of the instrument is that it asks students to rate the "climate" for learning in a particular class at the same time they identify their preferred classroom "climate" for learning. The power of the instrument to prompt insights and

promote reflection is enhanced further when instructors complete the inventory along with the students. That way, teachers discover if the classroom climate they're experiencing is the same one being experienced by students.

Measure of Teacher Power Use (Schrodt, Witt, and Turman, 2007)

This instrument looks at how teachers use power as evidenced by observable behaviors. It is a low-inference instrument, meaning the items do not ask about abstractions but rather identify concrete things that teachers say and do. What you will discover from the results will be descriptive, not judgmental, although it will likely be provocative. The way power is categorized in the research raises all sorts of interesting questions related to the role of power in the classroom and its impact on efforts to learn. Most teachers have given little thought and are not explicitly aware of how the power dynamic plays out in a class even though it is a potent force that can compromise both the attempt to learn and to teach. Even just reading the items on the instrument stimulates the kind of reflection and introspection advocated in Chapter Two.

Study Process Questionnaire (Biggs, Kember, and Leung, 2001)

Originally developed by Biggs, this revised version of the Study Process Questionnaire allows teachers and students to identify whether students are using deep or surface approaches to learning. Deep learning is associated with understanding and long-term retention. Surface learning is superficial, with knowledge typically acquired through memorization and forgotten quickly. Often students have not thought carefully about these distinctions. Consequently survey results offer students important insights about how they approach learning.

Approaches to Teaching Inventory (Trigwell and Prosser, 2004)

Other work referenced previously (Gow and Kember, 2003)

establishes that there is a relationship between the approaches to learning selected by students and the instructional methods teachers employ. The Approaches to Teaching Inventory has been used in fifteen countries and many academic disciplines to determine whether instructors are teacher focused (intent on transmitting information) or student focused (intent on changing student conceptions and levels of understanding).

It would be very interesting for an instructor to have students complete the Study Process Questionnaire at the same time the instructor completes the Approaches to Teaching Inventory. If students are relying on surface approaches to learning, that may be the result of the teacher using methods consistent with the transmission approach.

Measures of Academic Integrity (Allen, Fuller, and Lockett, 1998) Promoting academic integrity is about more than just preventing cheating. Previous research has documented that students and faculty don't share the same views of what constitutes cheating. Completion of a survey that explores various cheating behaviors can identify those areas of disagreement. Especially useful in this survey is a section that describes twelve activities. In the study, students were asked if they considered the activity cheating and how frequently they thought it occurred. Another section offers short scenarios—they are great discussion prompts—that confront students with a cheating situation and ask what they would do. The entire instrument is an excellent source of ideas and items that can be used to help students and teachers better understand the dynamics of cheating. With that understanding, teachers can more effectively design instruction that promotes academic integrity. For students, it's an activity that clarifies definitions of cheating at the same time it shows why academic integrity is so valued in higher education. Given its date of development, this instrument does not contain items addressing new forms of cheating,

such as those that can occur with text messaging and the various ways students can circumvent online quizzing mechanisms. Items that address these present-day realities can be added to the instrument.

Characteristics of Assignments That Encourage Procrastination (Ackerman and Gross, 2005) Do some assignments actually encourage the tendency students have to procrastinate? That's what this research set out to explore. Would you be surprised to learn that the design of an assignment does influence the decision to and degree of procrastination? I was. Like other instruments in this collection, this one can provide both students and teachers with a raft of important insights—whether those come from simply reviewing the findings of this research or from an instructor's evaluation of his or her own students.

Low-Inference Instruments

A low-inference instrument is one that focuses on behaviors: things teachers do (like, “asks questions to the whole class”) as opposed to things teachers are (like “clear,” “organized,” or “interactive”). The rationale behind the low-inference instruments is that teachers can more easily change what they do than what they are. If a teacher knows that certain behaviors are associated with being organized, rather than just trying to be “organized” in some generic, amorphous way, the teacher can try using those behaviors.

One of the best (as in widely used and referenced) low-inference instruments was developed by Murray (1983). More recently Keeley, Smith, and Buskist (2006) have developed a Teacher Behaviors Checklist based on the characteristics of outstanding teachers and student identified behaviors associated with those characteristics. Both of these instruments identify behaviors that can empirically be linked with effective didactic instruction.

That means these are the behaviors that students think of when they judge whether an instructor is organized, for example. Many teachers (probably a lot reading this book) use other approaches in addition to didactic instruction. If you do, these instruments are still valuable as models.

Open-Ended Formative Queries

Beyond instruments, a wide variety of open-ended queries can generate useful feedback about course-related learning experiences. The queries advocated here differ dramatically from those frequently asked as part of the summative end-of-course evaluation. The very common “What did you like most/least about the course?” are the ones that most need to be avoided. As discussed in Chapter Three, they are poor questions because they allow students to offer commentary completely irrelevant to learning and about issues over which instructors have no control. Moreover, asking questions like these does not help students learn the principles of constructive feedback.

It is only the very open-ended questions that need to be avoided—not these queries in general. Open-ended queries can be focused and still be open enough to garner the range of responses that makes them so beneficial. Focus can be provided by asking students to report on specific events or experiences. For example:

What did the instructor do that was most/least helpful to your learning?

What did classmates do that was most/least helpful to your learning?

When did you feel most/least intellectually stimulated in this course?

When were you the most/least sure that you understood course content?

From which assignment did you learn the most/least and why?

Creative kinds of open-ended queries can also be used to obtain feedback about an entire course. Sometimes the creativity motivates students to answer more at length. Here’s a fairly common example. “Write a letter to someone who is taking the course next semester. Tell them what they need to do to succeed in the course. Knowing what you know about the course now, tell them what you would do differently.” Not only do teachers find responses to a prompt like this instructive, so do students just starting a course and so do the students who write these letters. It’s a task that prompts reflection and encourages students to take responsibility for their learning (or lack of it) in the course.

When I use this prompt, I ask students to put the letter in a sealed envelop with their name on the front. When they turn it in, I record the five points offered for doing the letter. I read the letters after I’ve submitted grades. Yes, students can get five “free” points if they turn in a blank sheet of paper, but across many years I had only one student take advantage of the opportunity. I have a colleague who uses an abbreviated approach. He asks several students succeeding in the course to list the five most important things a student needs to do in order to do well in the course. He includes one or two of the lists on the syllabus in an effort to help new students develop accurate expectations for the course. If you haven’t asked a question like this, you might learn more by constructing your own list before looking at student lists.

I have also learned much from a question proposed by VanderStoep, Fagerlin, and Feenstra (2000):

I am interested in what students remember from this course. Let your mind wander freely as you do this assignment. Think back on the semester as a whole, and report to me the first ten things that come to your mind as you answer the question: *What do you remember from*

this course? Don't "edit" your thinking as you report your memories; don't worry about your memories being "correct." Simply review the course in your mind and report to me what you remember. (pp. 89–90)

This prompt also stimulates more thinking and reflection when you make a list along with students, either anticipating what they will list or what you hope they will list. The article containing the prompt is worth consulting—it allows you to compare what your students listed with what the research team discovered.

Related is another query that goes something like this: "Five years down the road we run into each other in the mall. At that moment, what do you think you'll remember about the course?" The especially courageous can add a second question: "What do you think you'll remember about the instructor?" One instructor I know who uses a version of this query solicits the responses anonymously; when they are turned in, he shares a document with his own answers—what he hopes students will remember about the course and its instructor in five years.

Open-ended queries do generate a plethora of responses, most repeating what others have already written, a good number of questionable value. Going through them is a bit like panning for gold. There's a lot of shaking, sorting, and not too many nuggets. However, given the price of gold, that one truly perceptive comment, insight, idea, or suggestion justifies the effort needed to find it.

The mechanisms available for securing feedback from students are limited only by the imagination of the teacher. A different instrument, some new questions on an old form, an open-ended query, or a creative prompt can generate new insights and understandings for the teacher and for students. Taking control of the formative feedback process by deciding how to solicit the feedback helps teachers enlarge their understanding of how their teaching affects learning. Are you beginning to see why using formative

feedback is a key ingredient in the recipe for career-long teaching vitality?

Dealing with the Results

The wealth of topics and ways to solicit feedback from students is matched by the paucity of advice on interpreting and deciding what to do about the results. In some cases, the results are clear. If no or very few students are doing the homework problems and no or very few see the value of the homework, then something needs to be done about the homework. Maybe it needs to count for something. Maybe the instructor needs to point out all the problems on the exam related to or derived from the homework. Maybe student solutions need to be presented in class. There are plenty of potential solutions, but the feedback results have identified a problem: homework is not being used in ways that expedite learning.

With responses to closed questions or statements (like those that appear on surveys), establishing the means and standard deviations is also pretty straightforward, although some teachers will need to be reminded to calculate the standard deviations. It's important to remember that outliers are students who didn't experience whatever is being assessed the way most others experienced it. That doesn't deny the validity of what they experienced, but their reactions to it are not typical. Statisticians recommend discarding very low and very high scores. Because low scores generate anger and irritation, they're easy to toss, sometimes not so easy to forget. It's more difficult to discard those assessments indicating that the teacher walked on water. They may still deserve to be framed, but only because they merit review on those days when the water is knee-deep and the teacher is clearly in it.

With open-ended feedback, the objective is to look for trends, the most common responses. Some faculty try too hard to categorize open-ended data. By its very nature, it doesn't sort neatly. The

real value of these data lie in particularly insightful comments—the ones that make you think, or that help you figure something out so that you know with some certainty what needs to change and how. On a very lucky day, a student proposes a change that neatly solves a problem.

Feedback with mixed results is certainly the most frustrating. Some students want it one way; some want it another way. Some thought the activity was tremendously beneficial; some thought it was a colossal waste of time. In most cases there are also a bunch in the middle who didn't feel strongly either way or don't feel strongly any way. Mixed results can leave instructors in a quandary, sometimes wondering why they bothered asking.

But there are things an instructor can do when the results are mixed and the follow-up action needed is unclear. First is the recognition that few things that happen in a classroom are going to please everyone. Mixed results are the reality most of the time. They arise from differences among students in terms of preferred approaches to learning, background experiences, personalities, and a host of other variables beyond an instructor's ability to control. It's back to principle 10 in Chapter One: teachers need to set realistic expectations for success. If the bar is set too high—success equals everyone having a top ten learning experience—teaching careers can be long and profoundly disappointing. The best place to start dealing with mixed results is by recognizing that they are the norm more often than not.

Still, you want to change the proportions—to move students in the not-very-good learning experience group to something better. Movement in that direction can be achieved by taking the results back to the students. If this doesn't seem like a good use of class time (a position that might need to be rethought), the online environment makes possible exchanges other than face-to-face interactions. Rethinking the student role (along the lines discussed earlier in the chapter) justifies involving them in the interpretation process. Students learn an important lesson when they realize

that not everyone in class experiences assignments, activities, feedback, and such the same way they do. They mature as learners when they understand that teachers can't provide course experiences that are equally valuable to all students.

An instructor benefits in two ways when conflicting results are returned to students. First, students can elaborate on their experiences in light of the experiences of others. That does benefit students, but their elaboration can enlighten the instructor still further. Second, an instructor can ask students to propose ways the activity might be changed—many times students do have good ideas. Moreover, other students can offer feedback on proposed changes, previewing for an instructor how they might work. Do students need the cloak of anonymity during these discussions? I think part of teaching students the principles of constructive feedback involves providing opportunities to discuss (as in describe, not judge) experiences and possible changes. However, if the class is exceptionally large or if students seem reluctant to share openly, reporting the results and then asking students to complete a follow-up survey is certainly a viable alternative.

After a good brainstorming session with students and some instructor reflection, it makes sense to develop a game plan. "Here's how we're going to do this next time." "Based on your feedback and our discussion, here's three things I've decided to change." Students feel part of the process if they are kept in the loop. Their commitment to the feedback process grows as they see teachers grappling with and responding to their feedback.

When dealing with the feedback, instructors need to understand that not every student objection is a mandate for change. In some cases, the instructor still knows best or has good reasons for proceeding with something not highly valued by students. Across my years of teaching, I've always had a strong commitment to essay exams. Students have never "liked" them. They have always been the number one item listed in response to my institution's "What did you like least?" question. Convinced of their value,

I continued to use essay exams. Once I got past the “like” issue and started asking if and how essay exams contributed to learning, the results enabled students to see some of what makes this assessment method valuable, but that acknowledgment never resembled anything like an enthusiastic endorsement. One thing I did learn from formative feedback queries was that students didn’t know how to study for essay exams. I could help them with that—but more effective than my advice was a set of guidelines generated by the class after the first essay exam. Students who did well on the exam (I let them decide if they were in that group) offered advice. We also included a section of “ways not to prepare” offered by anyone who tried something that they felt was not a useful strategy. Suggestions were offered in class. Others were shared electronically and added to the guidelines list. We refined the guidelines throughout the course, even after the last exam. The students asked for this final review because as someone in the class aptly observed, “What we’ve put together here is useful in any course where you have to write in-class essays.”

In those cases when students object and the teacher determines to continue, it often helps to share the educational rationale behind the decision. “I understand the various issues you have with the essay exams. I realize that they cause a lot of anxiety and are not a popular part of this course. Despite this feedback, I’m not doing away with the essay exams. Now let me explain why.” If that discussion is followed with one about how the teacher and fellow classmates might support individual efforts to study and write in-class essays, students may still not “like” the essays, but they will understand why the teacher is using them and that the teacher stands ready to help them learn to write good essay exam answers.

Soliciting and then dealing with rating feedback in the ways proposed throughout the chapter, ways that are thoughtful and systematic and ways that make students collaborators in the process does change assessment experiences. These approaches make receiving feedback something teachers value as opposed to dread

or find not very useful. This feedback enables teachers to implement changes with confidence, knowing the chances of success are good. Even in those cases when the change does not achieve the desired result or does so less than spectacularly, teachers have mechanisms they can use to help them understand why. When the goal of formative feedback is improved learning, the approach teaches students about learning at the same time faculty are learning about teaching. And that makes this chapter in the ratings story a positive and hopeful one.