

# **Essays on Teaching Excellence** *Toward the Best in the Academy*

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## **Building Assignments that Teach**

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We have come to take assignments for granted as a necessary part of undergraduate education, largely because they provide the basis for a student's grade. But assignments can accomplish much more. In addition to helping students learn course content, assignments can enable students to practice the most essential skills of a discipline. Further, assignments can offer an opportunity for students to become better evaluators of their own academic work.

Most college teachers, when asked to identify the disciplinary skills that an undergraduate student in their course ideally would master by the time s/he completes the final project, name compound skills, for example, "critiquing an argument," "identifying a good research topic," "formulating an hypothesis," or "offering original ideas." Proficiency in these skills is often needed not only to complete the final project, but also to succeed in the course's early assignments as well. Naturally, this disadvantages students in the course who are new to the discipline. A more equitable way to offer assignments is to arrange them in a sequence that builds the students' proficiency in essential disciplinary skills. Most college assignments reflect teachers' efforts to build sequentially the students' proficiency in course content, while the students' acquisition of skills happens according to a less consciously structured plan. Like a course's content, the complex skills of a discipline can be separated into simpler, discrete

units that can then be arranged in a rough sequence or chronology. At the beginning of such a chronological list are the simplest skills that students must possess in order to master the more complex skills that appear further down the list. For example, skills near the top of the list include: describe, gather, sort, classify. Near the middle of the list are skills like: combine, integrate, apply, assess. Toward the bottom of the list are: experiment, create, convince.

Despite disciplinary differences, faculty from across the disciplines can usually agree that the skills on such a sequential list fall into four categories that are essential to all disciplines and that can best be taught and learned in sequence from simplest to most complicated. Those four categories, in sequential order, are:

- 1) analyze
- 2) synthesize
- 3) evaluate
- 4) create (practice the discipline by producing new scholarship).

This simple, four-part sequence seems logical to many college teachers, and is furthermore supported by research on higher education pedagogy. Benjamin Bloom's 1956 *Taxonomy of Educational Objectives* offered a strongly similar if more complex, seven-part trajectory, revised in 2001 by Anderson and Krathwohl to include an additional final step, "creating." William Perry's work in the 1960s (revised by later researchers including Belenky and Clinchy in the early 1980s, Baxter Magolda in the late 1980s and King and Kitchener in the 1990s) suggested phases of college-students' intellectual development that can be seen as tracking chronologically in parallel with the four-part trajectory of skills offered here.

Four assignments in a course, then, might seem to be the minimum recommended number. This would offer students at least one opportunity to

practice each important set of skills in the four-part sequence before tackling the next skill that depends upon or incorporates the previous skills. A teacher could design each assignment with the conscious purpose of helping students practice a particular group of disciplinary skills. Resources (like those from the University of Victoria and John Maynard) that chart Bloom's taxonomy by matching particular skills with suggested assignment activities help to minimize the time spent building such assignments. The purpose of each assignment in such a sequence should not be hidden from students, but rather explained to them and stated explicitly in the assignment itself. Understanding the specific benefits gained by doing an assignment (apart from earning a grade) increases the student's learning and motivation.

But in large classes, it may not be practical or possible for the teacher to grade and respond to four assignments by each student. Fortunately, a formal and graded "assignment" is not the only way for teachers to guide students in practicing essential disciplinary skills. Ungraded assignments, or what Peter Elbow (1997) calls "low stakes" assignments, can be built into any course and provide an opportunity for students to practice a new skill, perhaps with greater success precisely because the stakes are lower and the risk is reduced. Such assignments or exercises can be conducted in class, out of class, or in a combination of both realms. Five sequential steps are essential to their success:

- 1) teacher identifies the skill
- 2) teacher models the skill or provides another model of it (like another scholar's work or a past student's successful assignment)
- 3) student tries the skill
- 4) student receives feedback according to mutually accepted standards for evaluation
- 5) student tries the skill again, incorporating the feedback.

Despite the fact that revision (step 5) is essential for the best student learning, few college courses include it. When a teacher provides clear guidelines and examples regarding standards of evaluation for such an exercise, the feedback (in step 4) can be provided by other students in the class, so that revision (step 5) can happen without overtaxing the teacher. In fact, research by Richard Light (1990) shows that many students tend to learn better when, over the duration of a course, they receive feedback not only from their teacher but also from other students in the course. Peer feedback on low stakes assignments multiplies the number of sources from which each student receives responses to his or her work. This in turn multiplies the likelihood that each student will receive feedback offered in a way that complements the student's particular style of thinking and learning. While a minimum of four assignments during a course will provide students with one opportunity to practice each of the four basic skill sets, it is most effective if some of those assignments are low stakes exercises that include peer feedback. Thus the teacher needn't formally grade every one of the four assignments.

Assignments that involve peer feedback offer yet another important educational opportunity for students: the chance to practice evaluating their own academic work. When the teacher transparently provides a clear account of the learning aims for an assignment/exercise, of the criteria for evaluating its success, and of the acceptable norms for offering feedback, students can provide useful feedback for one another. Thus over the course of the academic semester, each student receives feedback not only from the teacher, but also from a peer. Receiving feedback from at least two different sources will encourage students to compare the feedback and the sources; to evaluate the content of the feedback, and thus to practice the skills necessary to becoming better evaluators of their own academic work. A corollary benefit to teachers who provide clear criteria for evaluating student work and who encourage peer feedback is that students are more likely to understand and agree with the grades they receive from the teacher on formal, graded assignments.

A further advantage of the ungraded or low stakes assignment is that it frees the teacher to experiment with a variety of assignments during the course. Some assignments may follow the more traditional format of a lab report or problem set or research paper, while others may take less traditional formats and may be designed intentionally to appeal to a broader array of students' learning styles. This benefits both students who struggle with traditional assignments and students who excel at them. As researchers like Kolb (1984) and Gregorc (1984) suggest, learners of all styles benefit from stretching their capacity to learn in ways that are less habitual. When teachers explicitly communicate to students the learning aims for assignments, then a variety of assignments both challenges students to learn in new ways, and stimulates students' awareness of *how* they learn. Further, varied assignments help to avoid the common pitfall of favoring students who excel at one particular type of assignment.

Thoughtfully structured assignments offer teachers an opportunity to build students' mastery of essential disciplinary skills alongside their content knowledge; to improve students' ability to evaluate their own academic work; and even to heighten their awareness of how they learn best. Achieving these lofty goals need not absorb vast amounts of a teacher's additional effort or time in designing and responding to students' assignments. And once the course is over and the assignments have enabled these many pedagogical benefits, the assignments may also be used as a basis for calculating each student's grade!

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