Pre-Reading Strategies: Connecting Expert Understanding and Novice Learning

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When I first started mentioning pre-reading strategies to the students I work with, they responded with looks of panic. In one class, a student raised her hand and pleaded, “Please don’t tell our instructor to give us any more reading. I am begging you.”

Much to the relief of this student and all the others, I suspect, pre-reading strategies are not about more reading assignments. Rather, they involve activities that are used before students tackle the existing readings for a given course. When used regularly, pre-reading strategies provide a great way for instructors to make their expert understanding accessible while encouraging students to gain a novice intellectual foothold within a new discipline. Next time you announce a reading assignment, try one of these strategies to spark a discussion before your students read:

1) Build a framework: Asking students to take a look at the syllabus is an easy way to help them understand an instructor’s design for a course. I have my students scan the syllabus and then venture a guess as to why the next class period’s topic has been planned for that particular week. To promote that discussion you might ask: What readings from the previous class periods might help you to understand this new topic? Why do you think this topic comes before some of the others planned for later in the semester?

2) Scan for the low-hanging fruit: Consider introducing students to a textbook by asking them to open to an assigned chapter and scan the pages. Encourage them to look for pictures, headings, bolded words, and any charts/graphs. After a minute or two, ask them to suggest what they think the particular chapter addresses. Try asking: What are some of the most important aspects of this chapter? How do you think this chapter is organized? What would you highlight on a given page and why?

3) Make connections: To help when students encounter an assigned group of readings, have them take those readings out and set them side by side. Give students a couple of minutes to think about how this group of readings might fit together. They might ascertain that by skimming the titles, the headings, and the abstracts (if any), and deciding on the purpose of each reading. You could promote that discussion with these questions: How do these readings support the next class period’s topic? Do the readings provide opposing perspectives or different disciplinary traditions? Would any of the readings be better understood if approached in a particular order? Why or why not?

4) Search for roadblocks: Many times, instructors assign an integral reading that is packed with lots of discipline-specific terms and/or acronyms. The use of specialized language can prevent students from understanding and finishing assigned readings. During a pre-reading session you might have students scan an article and circle any terms that might signal a “roadblock” to understanding. You could compile a list of theses terms and make them the focus of a discussion.

5) Uncover the structure: As students progress through a discipline, they will eventually encounter academic writing. An easy way to acclimate students to this kind of professional writing might be to ask them to analyze the parts of a peer-reviewed article. Then, talk about why this format would be required by an academic journal. I often ask my students this summarizing question: How do these specific parts, when taken together, create a compelling academic argument?

6) Contrast the style: When instructors assign readings from a range of genres, the rationale behind the choices is not always clear to students. After giving students a chance to scan the structure, tone, and format of each reading, they can be asked to talk about appropriate occasions for certain writing approaches. Try asking students these questions: What does one particular style provide that another might not? Why would one of these styles be more compelling for certain audiences?

This list represents a few of the possible strategies teachers can offer so that students learn to make sense of challenging reading material on their own. By allowing the frameworks of a discipline and the careful choices of an instructor to become clear, the “disconnect” between expert understanding and novice learning begins to disappear.
Dealing with the Interested but Noncompliant Student

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If you have been teaching for any time at all, I’ll bet you’ve encountered what I call the interested but noncompliant student (hereafter, the INC). Here are some examples encountered in my courses: In an ancient language course, one INC would not take the trouble to learn her noun forms and verb endings but, fascinated by the language, went online to find an inscription that she tried to decipher. Another INC read more than I have in a subdivision of my field. He wanted to talk about it endlessly before and after class, so much so that I had to chase him away to give other students a chance to talk to me. Still another INC turned every writing assignment into a paper on his pet subject about which he had read dozens of books. Am I describing student behaviors that sound familiar?

Sometimes, INCs are the brightest students in the class, but they may have the poorest attendance records. They may not read what’s been assigned because they’ve discovered something else in the field that interests them more and are busy reading that. They may shine in class discussion, but have not mastered the specifics they need to know in order to understand the content.

The question is how do you deal with INCs? Teachers can take an authoritarian approach and treat them like any other students who don’t do the assigned work. I don’t recommend this approach because it will likely kill their interest in the course. Maybe it’s better to follow their interests and let them set their own agenda for the course. I don’t endorse this approach either, because every field has basic concepts that anyone interested in the field is expected to know. It seems to me we need to come at these INCs from two directions at once. Let me explain.

Student interest in a subject is a beautiful and fragile thing; it shouldn’t be squandered. In some situations and with some areas of study, we can allow an INC to customize the assignments, so long as that student has already covered the basics in his or her own reading. Based on my experiences, I’d like to offer some suggestions and advice:

- Assign the INC a nonstandard research project and have him or her present it to the class.
- Allow the INC to substitute one reading for another.
- Ask the INC to tutor students who may be struggling with course material that the INC has mastered.
- Give the INC an opportunity to facilitate or share more at length in classroom discussions when he/she knows a lot about the topic.
- Above all, treat the INC with respect as a fellow learner.

At the same time, INCs must be held to standards determined by the teacher. We are the content experts and know what knowledge students need to take from our courses, if they are to do well in subsequent courses or the field in general. In addition, we open ourselves up to charges of favoritism when we allow one student to do what he or she wishes or appear to give that student instructor-like status.

If the course has an attendance policy, it needs to apply equally to everyone. All tests are graded the same way. It may be wise to let alternative assignments and readings negotiated with the INCs be a private matter between those students and the teacher. We must not forget that it is still possible for a bright, interested student to fail a course. That student may not be willing to meet the goals and objectives of the course, even if that student and the instructor have agreed upon alternative ways of meeting those goals and objectives. Instructors do not give grades, passing or otherwise. Students earn them.

Interested but noncompliant students: are they a source of annoyance or an instructional opportunity? Both, I think, but with a little forethought we can minimize the annoyance and maximize the opportunity.
Recent issues of the *Journal of Management Education and Teaching of Psychology* look at the status of scholarly work on teaching and learning in each of those disciplines. This kind of stock-taking is very necessary. I so wish it was happening in more fields. Gaining respect for scholarly work on teaching and learning is a struggle that has just begun. Those of us who care about college teaching, about having it respected as a profession, and about having a vibrant literature associated with its practice must advocate for its acceptance. To advocate effectively, we must be informed.

The guest editorial in the *Journal of Management Education and Teaching of Psychology* devotes an entire issue (vol. 35, no. 4) to an exploration of the scholarship of teaching within this field. The opening article (reference below) reports results of a survey designed to ascertain the status of this work within the field. Respondents included 142 psychology professors from across the country, contacted through the professional organization. They answered questions about the level of departmental and institutional support for scholarly work on teaching and learning, about whether this kind of work was regarded favorably in personnel decisions, and about obstacles that prevented greater faculty involvement in the work.

In discussing results, these authors (part of a special task force working for the Society for the Teaching of Psychology) write that despite optimistic expectations “the survey respondents failed to report a prevailing sentiment of support for the ‘systematic, literature-based inquiry into processes and outcomes involved in the teaching and learning of psychology’ either among members of psychology departments or among the institutions that house them.” (p. 257) This particular definition for the scholarship of teaching had been proposed by another task force and appeared in a report published 10 years earlier.

Not all of their results were negative. Most respondents did believe that their departments encouraged reflective teaching practices. More than one-third “perceived widespread support for the scholarship of teaching and learning at their institutions.” That means the other two-thirds did not. The authors wonder if the cup is half full or half empty.

These authors see the lack of reward structures as a major obstacle to the advancement of the scholarship of teaching within psychology (and everywhere else). Until the work “counts,” faculty have nothing but altruistic motivation for doing it. But as these authors point out, faculty do have some (at most institutions, a lot of) say about what gets rewarded and what doesn’t. Clearly, sometimes it’s a case of critical mass, but any faculty member who does this work and thinks it should count needs to be an outspoken advocate for it—on promotion and tenure committees, in faculty governance organizations where policies are set, and with academic administrators from department chairs on up to deans and provosts.

Progress has been made, but we’re still a long way from arriving. That means that what has been gained could be lost and the efforts expended so far need to continue without abatement. Someone called me recently saying that a local P & T committee was against counting an article published in *The Teaching Professor*. The caller thought it should count and won-
Student Feedback When It Helps the Most

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Course evaluations are a regular component of most university courses. Students provide anonymous ratings along with written commentary about the course, its content, and the professor. Generally, the results arrive sometime after the semester has ended. Although this process can provide constructive feedback that the faculty member can use the next time he or she prepares and teaches the course, it does not benefit the students who provided the feedback, since they have already completed the course.

The use of Web-based evaluations during a course can benefit students and the instructor. It allows students to offer suggestions that enable an instructor to act during the course.

Web-based survey technology allows a faculty member to solicit student input at any time during a course. Online survey sites, some of which provide basic survey options at no cost, allow faculty members to create their own course evaluations or use the standard forms required by their institutions. If they like, they can adapt those forms so that they better meet their particular needs.

Let me share how I use this real-time course feedback. Prior to the start of my course I prepare a course evaluation survey. I use the main components of my university’s standard end-of-course evaluation, but I supplement them with questions specific to my course. For example, I frequently use in-class activities involving small groups, so I include several questions in my Web-based survey to address this. Several weeks into the course, far along enough that students know the general rhythm of how the course is progressing, I invite students to provide comments. In my invitation I emphasize that the evaluation is anonymous, confidential, and voluntary. Students can offer feedback more than once and at any time of their choosing during the semester.

I have offered this option in four separate courses, at the first-, third-, and fourth-year levels, and find the feedback I receive is beneficial for several reasons. It provides another overall indication as to how well the course is going, beyond what I learn from informal cues during class and from conversations with students. More than that, a structured, anonymous evaluation provides feedback about a range of general and specific topics. For example, several comments from students in a recent course evaluation indicated concerns about the way their participation was being graded. Their feedback made it clear to me that there was an issue, among at least some students, and because I learned about it in a timely manner, I was able to address the issue during the course.

While some students feel comfortable asking questions and/or providing constructive criticism in and out of class, others are less comfortable. A Web-based survey ensures that all students have the opportunity to provide feedback in a safe environment. As a result, students feel that they have a voice about the direction of their learning experiences and that professors are sensitive to their students—at least this has been my experience. I believe this feedback opportunity creates a deeper sense of ownership for the course among students and, perhaps, increases their commitment to learning.

There are some issues associated with using these in-course evaluations—the primary one being ensuring that student feedback is anonymous, confidential, and voluntary. It also takes time to construct the survey and analyze the results. Service providers such as Survey Monkey (www.surveymonkey.com) offer course evaluation templates that can be adapted easily for personal use. The time and energy required is offset by the effective way Web-based surveys allow teachers to identify and respond to issues during (not after) a course. If the course is going well, Web-based survey results will inject your teaching with enthusiasm and make the evaluation process a much more positive and constructive one.

Online Seminar Call for Proposals

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References:

Cramming for Exams

Do students cram for your exams? More pointedly, in the bygone days when you were a student, did you ever cram for an exam? Maybe the answers depend on how cramming is defined. How about this definition from a 1968 study: cramming is “a period of neglect of studying immediately before an exam.” (Find this definition on p. 227 in the article referenced below.)

It will probably not shock any instructor to learn that research does document that students still do cram. What may be a bit surprising is the percentage of students who do: somewhere between 25 percent and 50 percent, depending on the study. In the research reported in this article, approximately 45 percent of students were on the agree side of a scale measuring the extent of cramming.

However, there is one unexpected and unfortunate surprise: cramming as a study strategy is effective, at least by some criteria. This article’s review of the literature section lists five different studies conducted between 1968 and 2001—all of which found that cramming did not affect course grades negatively. This study did find more mixed results. If students agreed that they used cramming “for most of my courses,” those students tended to have lower GPAs, with the converse also being true. However, this study looked at a particular course, Principles of Marketing, and for that course “the course grade is not significantly related to the degree of cramming reportedly used in the course.” (p. 233)

The problem with cramming has to do with retention and it is here that previous research, including this study, offers conclusive results. When students cram, the information is stored in short-term memory and information stored there doesn’t stay there long. The results reported in this study illustrate this finding in a very graphic way. A student in the high-cramming category with a course grade of 85 would, at 150 weeks after the course (based on predictions derived from repeated test scores), be retaining only 27 percent of what he or she learned in the course. Several different models are used to project the progression of this “learning decay.” Results are equally bleak in all cases.

Despite the fact that many currently used assessment strategies promote cramming and the short-term memory acquisition of content, it is not a case of one testing format promoting cramming more than another. Researchers worried that maybe multiple-choice testing methods actually encouraged cramming. That hypothesis was not confirmed by their results. Students crammed just as often for essay exams as they did for multiple-choice exams.

There is a bit of cause for optimism, though. Students in this study “resoundingly agree” that cramming is not a strategy that enhances long-term learning and retention. They know it’s not the way to really learn the material. But because so many of their peers study this way, because college students tend to procrastinate, and because they now lead busy, busy lives, cramming is an appealing alternative.

This is another one of those articles packed full of good information on an important topic. It includes the 49-questions instrument developed to determine if students crammed and if they thought the approach was effective. Mean responses for individual items are also included. Administering an instrument like this to students can be as revealing to them as to the instructor. If time prevents that, sharing some of the responses to individual items on the survey could stimulate a lively discussion of this study strategy. Researchers also developed three different definitions for cramming that differentiate degrees that relate to the extent of cramming students reportedly do.

It’s also one of those few research articles with a thoughtful (and helpful) section of recommendations. Some are recommendations regularly advocated in this newsletter.

Teachers are taken to task for their teaching methods in the recommendation section. “The all-to-common use of PowerPoint slide lectures, even with in-class handouts of the slides, does not engage students to take notes in their own language and handwriting, which shunts the processing of the material, leaving all effective learning to the cramming period at the end of the term.” (p. 237) In other words, it’s not just test formats that assess deep learning that forestalls cramming; how material is presented in class can also make a difference.

A Course Redesign that Contributed to Student Success

Required introductory courses, especially those in math and science, offer special teaching challenges. Frequently, these are courses that must be completed before students can proceed to their chosen majors. Many of today’s college students struggle with these courses. A recent article in Change describes an algebra course like this offered at the University of Missouri-St. Louis. In 2002, the success rate in this course (a C-or above) stood at 55 percent. Three years later, 75 percent of the students were succeeding in the course without any diminution of course standards, as measured by performance on a final exam that contained the same types of problems.

Instructors attribute the change to a thorough redesign of the course. They went from three 50-minute lectures a week to one lecture plus two computer lab sessions. In the lab students used a software program to complete homework assignments. Students had to find the information needed to solve the problems on their own. The software (provided by the textbook publisher) aided them with explanations, tutorials, practice problems, and guided solutions. Students could complete the assigned homework at home or in the lab. They could use the lab anytime the facility was open, but during the two scheduled sessions, the instructor and graduate assistants were present to help students. Computers in the lab were arranged in circular pods, which encouraged interaction among students.

This course redesign changed the roles of the instructors and teaching assistants significantly. “They used to spend their time lecturing, writing assignments and exams, and grading. Now they focus on guiding students through the course via the weekly meeting in the lecture room and then working with students individually in the learning center. The greater emphasis on individual instruction and one-on-one interactions with students is a change that most instructors find very rewarding.” (pp. 46-47)

Although the example described here is specific to one discipline, the authors propose six guidelines that they believe contribute to success in any introductory course that students find difficult.

**Principle 1: Provide a structure for the course that guides students in their active learning.** It doesn’t matter what the course, students are responsible for doing the learning. “The instructors are there to provide structure and guidance to help them learn. The lecture session provides an anchor and structure for the course that helps the students focus on the task they need to complete that week.” (p.47)

**Principle 2: Provide sufficient time on task and enforce deadlines.** When students aren’t interested or lack motivation, they need a schedule that keeps them on task. In this example that was provided by using the technology to open and close access to assignments, the tutorials and problems could still be accessed by students after they were closed, but students lost points if assignments were not completed on time.

**Principle 3: Reward students for their efforts.** The new course design lets students retry a homework problem as many times as they like. Instructors have found that when given that option, many students will work as long as it takes to get the right answer, and the right answer counts no matter how many tries it took to solve the problem correctly. Homework scores equaled 1/8 of the final grade in the course. Students quickly discovered that in this course they could improve their grades by working harder.

**Principle 4: Provide regular assessment of progress.** The online homework and quizzes offered students immediate feedback. The software also keeps an online grade book that students can access at any time. This was not a course where students had to wonder what they’re getting. They knew.

**Principle 5: Accommodate diverse styles.** Some students do work better on their own. In this course they were not required to come to lab. Most students taking the course did benefit from resources provided in the learning center, especially the presence of the instructor and teaching assistants during the regularly scheduled sessions. Still, it is important to be flexible and provide opportunities for students who prefer to work independently.

**Principle 6: Stay in touch.** Often, students who aren’t particularly interested in a course prefer to remain unknown. Unfortunately, that ends up hurting most of them. With this course design, the technology allowed instructors to keep track of students. If an assignment was missed, a quick message noting its absence and including an offer of help was sent out. “The personal attention of the instructor often provides all the motivation a student needs to complete the assignments.” (p. 48)

The authors note that this redesign process was not easy. Both faculty and students resisted the changes. It cost money to reconfigure the learning center. They point out the need for administrative support at all levels. But results like the ones generated by this course redesign are very convincing. “Ironically, one of the prices we pay for the success of our students has been a decline in overall enrollment in college algebra, attributable to the fact that many students now take the course only once. This is a loss of income we welcome.” (p. 49)